



Painting and Decorating Contractors of America

PDCA INDUSTRY STANDARDS

Introduction to the PDCA Standards

The most important function of an association is to establish industry standards. Defining what constitutes the proper way of doing things and communicating those standards removes the “veil of secrecy” that so often exists between an industry and the public. When the terms by which an industry’s members communicate with the public and each other are clear to consumers, chances for confusion and disagreements are greatly reduced.

PDCA seeks to make the painting and decorating industry less opaque both to those who work within it and to those who invest in its services. Standards are organized into seven sections: (1) scope, (2) significance and use, (3) reference documents and standards, (4) definitions, (5) standard specification, (6) comments, and (7) disclaimer of liability. They cover a range of issues that often become the subject of misunderstandings or contract disputes and provide guidance for both the contractor and the layman.

Comments or questions regarding the Standards or their interpretation should be addressed to the Chairman of the Standards Committee at PDCA headquarters.

PDCA Standards

- *PDCA Standard P1* establishes criteria for determining a properly painted surface, defines touch up and repair, and determines which party to an agreement should bear the *financial responsibility* for such work.
- *PDCA Standard P2* establishes criteria for determining the qualifications and responsibilities of third parties charged with conducting *inspections* of coatings application work performed by painting and decorating contractors, as well as the procedures to be followed by inspectors in the performance of their duties. The establishment of “inspection hold points” by all parties to the agreement are an important part of this standard.
- *PDCA Standard P3* describes the impact on the *costs* associated with and *time* required to complete a project as the number and placement of paint colors and types of finishes grow. The standard is intended to provide guidance in those instances where the number and placement of paint colors and color ranges are either not specified in the bid documents or are unclear.
- *PDCA Standard P4* establishes criteria for determining which of the parties to an agreement has responsibility for inspecting and *approving surfaces* prior to their being painted or decorated.
- *PDCA Standard P5* establishes a procedure for the submission and approval of benchmark samples which will serve to determine achievable quality from specified preparation, paint and coating systems.
- *PDCA Standard P6* establishes criteria for determining the acceptance of completed wallcovering installations and defines the responsibilities of the parties to an agreement.



PDCA P22

Cleaning Surfaces Using Pressurized Water

1.0 Scope

- 1.1. This standard establishes consistent procedures for the specification of utilizing pressurized water to clean surfaces or prepare surfaces for painting.
- 1.2. This standard establishes a concise methodology for the use of pressurized water in cleaning and preparing surfaces.
- 1.3. This standard establishes performance criteria using a consistent protocol to be followed when pressurized water is used to clean surfaces.
- 1.4. This standard establishes performance criteria when the project specifications do not provide explicit (adequate or complete) instructions regarding the elements that affect cleaning action when using pressurized water.

2.0 Significance & Use

- 2.1. There are many overlapping and conflicting terms used in the specification of cleaning with pressurized water and in general within the construction industry, which may create confusion in both estimating and performing work. For the scope of this standard, the term pressurized water refers to cleaning and paint preparation; terms commonly used are “power washing”, “pressure cleaning”, “pressure washing”, “water cleaning”, “water blasting”, and/or “water jetting”.
- 2.2. This standard applies to all surfaces, both previously painted and unpainted.

3.0 Reference Standards & Documents

- 3.1. ASTM (American Society for Testing Materials) D4258-05 Standard Practice for Surface Cleaning Concrete.
- 3.2. EPA (Environmental Protection Agency)

Model Ordinance.

- 3.3. MPI (Master Painters Institute) Repainting Manual Surface Preparation Standards.
- 3.4. MPI, The Master Painters Glossary Version- Painting and Decorating Terminology Version 4.0, 2004.
- 3.5. PDCA (Painting and Decorating Contractors of America) Standard P5 Benchmark Sample Procedures for Paint and Other Decorative Coating Systems.
- 3.6. PDCA, Estimating Guide, Volume 1, Practices and Procedures 2009.
- 3.7. PDCA, Estimating Guide, Volume 2, Rates and Tables, 2009.
- 3.8. PWNA’s (Power Washers of North America) Cosmetic Cleaning BMPs based on the EPA’s Model Ordinance 2011.
- 3.9. SSPC (Society for Protective Coatings)-SP12/ NACE (NACE Internation- The Corrosion Society) No. 5 Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating, Joint Standard 2002.
- 3.10. SSPC-SP1 Solvent Cleaning.
- 3.11. SSPC-SP13/ NACE No. 6 Surface Preparation of Concrete.
- 3.12. SSPC Good Painting Practice Vols. 1 & 2.

4.0 Definitions

- 4.1. ABRASIVES: Materials used for wearing away a surface by friction, such as powdered pumice, silica, sandpaper, metal shot, mineral slags, steel wool, or glass beads. Also, used for abrasive blast cleaning, e.g. sand, grit, carborundum, baking soda, rice hulls, ground walnut shells, etc. [MPI]
- 4.2. CLEAN: Free of dirt or pollution [Merriam-Webster’s]

- 4.3. CONTAINMENT: The act, process, or means of containing. [Merriam- Webster’s]
- 4.4. CONTAINMENT: Something that contaminates [Merriam- Webster’s]
- 4.5. CONTAMINATE: To soil, stain corrupt or infect by contact or association; to make inferior or impure by admixture; to make unfit for use by the introduction of unwholesome or undesirable elements. [Merriam- Webster’s]
- 4.6. EFFLUENT: A discharge of a pollutant into a water source. [MPI]
- 4.7. GOUGE: A groove or cavity scooped out; an excessive or improper extraction. [Merriam- Webster’s]
- 4.8. HOT WATER: Water Temperature over 110° F. (EPA)
- 4.9. OSCILLATING: Swinging backward and forward like a pendulum; moving or traveling back and forth between two points. [Merriam- Webster’s]
- 4.10. POWER WASHING: See water blasting – Methods using pressurized water to remove surface contaminants from a substrate in preparation for painting or coating. Standards for wood, masonry, concrete, metal, etc. for Architectural projects are included in MPI RSP-5 and are published in MPI. Included are:
 Power washing 100-600 psi @6”
 Power washing 600-1500—psi @6”
 High pressuring washing 1500-4000 psi @ 6”-12”
 Hydro blasting 4000-10,000 psi
 Jet blasting 10,000+ psi
 Standards for steel and other hard materials for industrial projects are included in SSPC SP-12 and are published by SSPC. Included are:
 Low-pressure water cleaning <5000 psi
 High-pressure water cleaning 5-10,000 psi
 High-pressure water jetting 10-25,000 psi
 Ultrahigh-pressure water jetting >25,000 psi [MPI]
- 4.11. PRESSURIZE: To confine the contents under a pressure greater than the atmosphere [Merriam- Webster’s]
- 4.12. PROFESSIONAL: Of or relating to or characteristic of a profession; characterized or conforming to the technical or ethical standards of a profession; exhibiting a courteous, conscientious and generally businesslike manner in the workplace; having a particular profession as a permanent career. [Merriam- Webster’s]
- 4.13. SCORING: Lines (as scratches or incisions) made with or as if with a sharp instrument. [Merriam- Webster’s]
- 4.14. SPALLING: The chipping or fragmenting of surface or surface coating caused, for example, by differential thermal expansion or contraction. Spalling, in concrete substrates, is generally attributed to the absorption of water with subsequent freezing, although also occurs due to the rusting and subsequent expansion of reinforcing bar (rebar) close to the surface. [MPI]
- 4.15. SUBSTRATE: A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can therefore be bare or covered. A previously unpainted surface sometimes is called the “original substrate”. [MPI]
- 4.16. SURFACE: An area, or substrate, to which paints, coatings, or wall coverings are applied.
 1) The character of the area. [MPI]
- 4.17. SURFACTANT: An acronym for Surface Active Agent. Used to break down the surface tension of liquids to make them more miscible, such as in oil and water emulsions. Surfactants are divided into smaller classes that are relative to their functionality such as dispersants, emulsifiers, detergents, defoamers, etc. Surfactants have a electrochemical charge associated with them and can be classified by the polarity of the charge; anionic – negative, cationic – positive, nonionic – no charge and amphoteric – positive or negative depending on certain conditions (pH, phase, etc.). [MPI]
- 4.18. TRAINED: Having undergone instruction, discipline or drill [Merriam- Webster’s]

5.0 Standard Specification

- 5.1. Cleaning with pressurized water is performed both for cleaning surfaces only and as preparation for both sealing and painting.
- 5.2. The cleaning action achieved when utilizing pressurized water is a function of nine elements;
- 1) the pounds per square inch (PSI)
 - 2) the gallons per minute (GPM)
 - 3) the tip size (the appropriate tip size selection is determined by GPM & PSI)
 - 4) the distance of the tip from the surface being cleaned and angle in which the gun/tip is held in relation to the surface
 - 5) nozzle type
 - 6) chemicals (pre-spray or injection into the pressure stream)
 - 7) temperature of the water
 - 8) abrasive injected into the water stream, i.e. blasting media such as silica sand, baking soda, and volcanic ash)
 - 9) speed at which the tip passes over the surface
- 5.2.1. In general, as the PSI is increased, while keeping all other elements the same, the cleaning intensity is increased. However, as the PSI is increased, damage to softer or malleable substrates may occur. A trained professional/operator must understand the cause and effect of changing the PSI. Gun/tip distance and angle and speed at which water stream passes over substrate must be adjusted accordingly.
- 5.2.2. In general, as the GPM is increased, while keeping all other elements the same, the cleaning production is increased with less potential damage to softer or malleable substrates. A trained professional/operator must understand the cause and effect of changing the GPM. Gun/tip distance and angle and speed at which water stream passes over substrate must be adjusted accordingly.
- 5.2.3. Various tip sizes may be utilized when cleaning with pressurized water. For effective cleaning performance, appropriate tip size and type must be matched to the surface material, substrate material, and contaminants being removed. Consideration of PSI and GPM is essential.
- 5.2.4. The specification and/or trained professional operator of the equipment using pressurized water must determine:
- 5.2.4.1. the optimal distance that the tip must be held from the surface.
 - 5.2.4.2. the gun/tip angle in relation to the surface.
 - 5.2.4.3. the GPM and PSI of the equipment.
 - 5.2.4.4. the size and type of tip.
 - 5.2.4.5. the chemicals/surfactants if necessary.
 - 5.2.4.6. the temperature range of the water.
 - 5.2.4.7. the appropriate containment and disposal of the effluent water.
- 5.2.5. Various tips (nozzle) types are used when cleaning with pressurized water including:
- 5.2.5.1. Fan tips between the approximate angles of 15 to 40 degrees may be used for general cleaning of all surfaces to remove loose surface contaminants. These tips may be used to avoid damage to relatively soft or malleable substrates.
 - 5.2.5.1.1. Common spray angles are: 0, 15, 25, and 40 degrees. Many American and European manufacturers color code tips: red (0°), yellow (15°), green (25°), and white (40°).
 - 5.2.5.1.2. As fan tips progressively decrease from 40 degrees, the impact produced is increased, which may damage softer or malleable substrates and remove more tightly bonded contaminants.
 - 5.2.5.1.3. Zero degree tips typically produce a bullet point pattern with the greatest surface impact. For effective cleaning and/or preparation, zero degree tips must only be used at distances far enough away from the surface being cleaned so that damage does not occur.
 - 5.2.5.1.4. The use of a larger tip size lowers the PSI.
 - 5.2.5.2. Zero degree oscillating or spinner tips, commonly called turbo nozzles, rotate so that the cleaning is maximized. Oscillating tips combine high impact with a larger cleaning area and may commonly be used to remove loose and marginally adhered paints and coatings. These tips may be most effective on substrates

that have sufficient hardness, such as concrete and steel, so that scoring and gouging damage does not occur.

- 5.2.5.2.1. Zero degree oscillating nozzles have different grades similar to the grades of sand paper grit; soft, medium, and hard, varying water impact.
- 5.2.5.2.2 Some zero degree tips have an adjustable spray angle.
- 5.2.5.3. Hand held or walk behind surface cleaning heads may be used for cleaning horizontal or slightly sloped surfaces. These units usually contain multiple rotating tips that may be positioned close to the surface being cleaned. Surface cleaning heads may be commonly used to clean concrete, masonry, tile and roof surfaces.
- 5.2.5.4. Chemical injector tips are commonly used to apply chemical cleaners using machines equipped with downstream and nozzle chemical injection systems. These tips siphon the chemical cleaner into the water stream for application to the surface. Injector tips often have variable fans so that chemical cleaner distribution may be maximized and surface/substrate damage may be minimized. Chemical injector tips are commonly low pressure tips.
 - 5.2.5.4.1. X jet tip (Nozzle Injection System): The X-Jet is the original injector, and comes with a short range tip for close-up work. The M-5 is a variation on the original X-Jet and features a variable nozzle that allows the operator to change patterns without stopping, moving closer to, or farther away, from the surface/substrate. The nozzle has the capability to inject and proportion strong cleaners at high or low pressure without chemically exposing the pump, hose, gun, or lance. The M-5/XJet tip propels chemicals up to 40' and holds its pattern for cleaning and rinsing.
 - 5.2.5.4.2. Downstream injection system: In order for downstream injection systems to work, the pressure must be dropped at the nozzle, which creates a venturi vacuum at the chemical injector often located at the beginning of the high pressure hose. The pressure is normally dropped at the nozzle with one of the following methods:
 - 1) changing the high pressure nozzle for a low pressure nozzle (normally #20 or larger,

sometimes called a soap nozzle, frequently color coded black).

2) using a roll over or double headed nozzle.

3) using a double lance wand (sometimes referred to as variable pressure wand or a dual wand).

5.2.5.4.3 Double (dual) wand or variable pressure wands: This is a wand that has two lances, one high pressure nozzle, and one large low pressure nozzle, and a valve for turning the wand on and off. As the valve is opened, the pressure lowers; the dual wand on/off feature allows the pressure to be controlled at the wand. Double wands are most often used for chemical injection with a venturi feature providing pressure control at the wand.

5.2.6. Chemical cleaners are commonly used with pressurized water to remove various contaminants. Chemicals may be applied with special tips, described above, mixed in holding tanks/reservoirs at an appropriate concentration and pumped into the pressure washing equipment or cleaners may be applied directly to the surface prior to washing by some other means (i.e. low pressure spray applied, brush applied or flooding). Commonly used chemical cleaners include:

5.2.6.1. Sodium hypochlorite- frequently applied for removing exterior mildew and mold.

5.2.6.2. Degreasers are used to remove oily contaminants including airborne pollutants and road grime.

5.2.6.3. Muriatic acid- frequently applied for etching cementitious surfaces, removing efflorescence, and surface cleaning.

5.2.6.4. Sodium metasilicate, a phosphate free alternative detergent which may often be applied where trisodium phosphate was formerly used.

5.2.6.5. Citralic acid, which may often be used to restore the natural color to wood.

5.2.6.6. Sodium carbonate- frequently applied for light or mild cleaning of wood.

- 5.2.6.7. Sodium hydroxide- often used for heavy duty removal of wood finishes.
- 5.2.6.8. Oxalic and citric acid, which may often be used for removing ferrous rust stains.
- 5.2.6.9. Surfactants composed of various soaps and chemical combinations including, but not limited to the chemicals listed above.
- 5.2.6.10. Specialized chemicals are used to remove non-visible forms of contamination such as chloride, sulfate and nitrate (CSN) soluble salts. CSN salts that are left on the surface/substrate typically cause newly applied coatings to fail by osmotic blistering.
- 5.2.7. Hot water and/or high temperature water is often employed when pressurized water is used for cleaning. On some substrates or with some contaminants, hot water may replace chemical cleaners or hot water may accentuate chemical cleaner's effectiveness including contaminate emulsification. Caution may must be used on surfaces and substrates that soften when heated to avoid damage.
- 5.2.8. Silica sand, soda, or other types of abrasives, may be injected into the stream of pressurized water. The abrasive action created may be used to remove well adhered contaminants including, but not limited to graffiti. Injecting abrasives to existing paints and/or softer substrates may cause damage.
- 5.2.9. It is not recommended to rest a tip, regardless of size, in one place since a pattern in the surface or substrate is likely to occur. A trained professional must establish a consistent motion that does not cause surface damage.
- 5.3. Performance criteria:
- 5.3.1. Cleaning for Repainting/Restaining:
- 5.3.1.1. The cleaned surface must be free of visible contamination such as chalk, mildew, dust, dirt, oil, grease, etc. to the level recommended by the coating manufacturer.
- 5.3.1.2. The cleaned surface must be free of all loose substrate such as spalling concrete, rust on steel, mill scale, rotten wood etc. to the level recommended by the coating manufacturer.
- 5.3.1.3. The cleaned surface must be free of all loose and peeling coating or any other loose detrimental foreign matter.
- 5.3.1.4. Surface integrity must not be damaged in any way such as gouging of wood or raising of the wood grain.
- 5.3.2. Cleaning Only:
- 5.3.2.1. The cleaned surface must be free of visible contamination such as chalk, mildew, dust, dirt, oil, grease, etc.
- 5.3.2.2. Some stains may be visible after cleaning is performed due to penetration into substrate. Removal of substrate to eliminate these stains is not required unless explicitly specified.
- 5.4. When details of the nine elements listed in paragraph 5.2 are not explicitly specified, then the trained professional operator is authorized to determine the combination of the nine elements to meet the desired performance criteria.
- 5.5. It is recommended that a benchmark sample(s) showing specified level of cleaning be prepared and approved according to PDCA Standard P5.
- 5.6. The acceptability of the cleaning performed shall be determined when viewed without magnification, at a distance of thirty-nine (39) inches or one (1) meter or more, under finished lighting conditions and from a normal viewing position.
- 5.7. Cleaning with pressurized water is subject to containment requirements. According to EPA and HUD regulations, the work area must be isolated so that no dust, debris, or waste water leaves the work area. Erected containments must not interfere occupant and worker egress in an emergency. The integrity of containments must be maintained ensuring that any plastic or other impermeable materials are not torn or displaced. The appropriate containment and disposal of the effluent water shall be in accordance with the PWNA's Cosmetic Cleaning BMPs based on the EPA's Model Ordinance.
- 5.8. The contractor shall comply with all applicable OSHA and other regulations regarding the health and safety of workers. All protective equipment shall be supplied and worn as necessary.

6.0 Comments

- 6.1. Since the cost of using pressurized water to clean surfaces is greatly influenced by many factors, the specifications must clearly define project requirements and intended results.
- 6.2. This standard is a nationally recognized consensus document for the Painting and Decorating industry's work practices.

7.0 Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.



PDCA P21

Designation of Stain and Clear Coating on New Interior Wood

1. Scope

- 1.1. This standard establishes consistent procedures for the specification of stain and clear coating on new interior wood surfaces.
- 1.2. The purpose of this standard is to prevent misunderstandings and conflicts when the application of stain and clear coating to interior wood surfaces is required.
- 1.3. This standard establishes criteria for estimating purposes.

2. Significance and Use

- 2.1. An inadequately written specification can create confusion in both the bidding and the application of stain and clear coatings to interior wood surfaces. Prior to specification, the specific appearance, wood species, grain, grade, and color should be assessed and specified in the bid documents in accordance with this standard.
- 2.2. This standard establishes systems of stain and clear coating on interior wood surfaces.
- 2.3. This standard establishes the responsibilities of various parties when stain and clear coatings are applied to new interior wood.

3. Reference Documents and Standards

- 3.1. AWS, Architectural Woodwork Standards, First Edition, 2009.
- 3.2. Dictionary of Architecture and Construction, Fourth Edition, 2005.
- 3.3. MPI, The Master Painters Glossary Version – Painting and Decorating Terminology Version 4.0, 2004.
- 3.4. PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems.
- 3.5. PDCA Standard P11, Painter’s Caulk, Implied Requirements.
- 3.6. PDCA Standard P18, Recommended Protocol for Documenting Extra Work to a Contract.

4. Definitions

- 4.1. CLEAR COATING: The application of a transparent coating to provide protection from abrasion, stain-

ing, chemicals, or solvents, etc. [MPI]

- 4.2. CUSTOM GRADE: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project’s quality of materials, workmanship, or installation. [AWS]
- 4.3. DYE: A coloring agent that is soluble in the medium in which it is mixed (e.g. water, oil, solvent). This makes a dye distinct from a pigment, which is not soluble. A type of color soaks into the fibers of the wood instead of being left on top like pigment. Often used to evenly color wood before staining. [MPI]
- 4.4. ECONOMY GRADE: Defines the minimum quality requirements for a project’s workmanship, materials, or installation and is typically reserved for woodwork that is not in public view, such as in mechanical rooms and utility areas. [AWS]
- 4.5. FINGER JOINT: A heading joint having interlaced, finger-like projection on the ends of the joined members. [Dictionary of Architecture and Construction]
- 4.6. PAINTING AND DECORATING CONTRACTOR: An individual or firm whose primary business is providing surface preparation and wallcovering and coating application service. [MPI]
- 4.8. PRE-CONDITIONER see wash coat.
- 4.9. PREMIUM GRADE: Selectively used in the most visible and high-profile areas of a project, such as reception counters, boardrooms, and executive areas, providing the highest level of quality in materials, workmanship, or installation. [AWS]
- 4.10. PRE-SEALER: See wash coat.
- 4.11. SANDING SEALER: A clear or pigmented lacquer or alkyd used to seal a porous wood substrate or an applied wood filler. Designed to be easily sanded prior to application of finishing lacquer or varnish. (New sanding sealers have been developed based on other solvents.) [MPI]
- 4.12. SHADING: In finishing, transparent color used for highlighting and uniform color. [AWS]
- 4.12. STAIN: A solution or suspension of coloring matter

in a vehicle designed to color a surface by penetration without hiding it or leaving a continuous film. True stains are classified as water stains, non-grain raising stains, oil stains, or spirit stains, according to the nature of the vehicle. [MPI]

- 4.14. **TONERS:** Transparent or semitransparent colors used in wood finishing to even the color or tone of the wood. [AWS]
- 4.15. **WASH COAT:** A thin solution applied as a barrier coat to wood. Used prior to wiping stains for color uniformity. [AWS]
- 4.16. **WOOD FILLER:** An aggregate of resin and strands, shreds, or flour of wood, which is used to fill openings in wood and provide a smooth, durable surface. [AWS]

5. Standard Specification

- 5.1. Wood is a natural material with variations in color, texture, and grain which are a result of the natural growing process. The color of wood within a particular tree varies between the outer layers of the tree and the inner layers. There will be variations of grain patterns within any selected species. When the applied finishes are transparent or semitransparent, some visual differences between and within individual wood members is to be expected.
- 5.2. Interior wood specified to receive stain and clear coating shall have the following characteristics:
 - 5.2.1. The wood shall be free of finger joints.
 - 5.2.2. The wood shall be made essentially finish ready by other trades including sanding and the removal of blemishes, scuff marks, water stains, mill marks, and other surface imperfections.
 - 5.2.3. The painting and decorating contractor shall be required to perform light hand sanding only as preparation for finishes.
- 5.3. This standard establishes the following systems of stain and clear coating to be assumed when the specifications do not clearly define the number and coats types of clear finishes:
 - 5.3.1. On rough sawn wood – One coat of stain only.
 - 5.3.2. On smooth wood – One coat of stain and two coats of clear finish.
- 5.4. Stained wood shall have differences in appearance due to natural variations of wood, including hard wood, soft wood, veneers, composites, and coloration of wood species.
- 5.5. All wood members should be previously unfinished.
- 5.6. Wood samples used for color matching purposes shall be made from the same wood to be utilized on the project.

- 5.7. If the application of wood filler, wash coat, multiple coats of stain, a shading coat, toners, or a dye are required, these items constitute extra work.
- 5.8. If the painting and decorating contractor is required to remove blemishes, scuff marks, water stains, mill marks, and other surface imperfections when not strictly specified, these items constitute extra work.
- 5.9. The painting and decorating contractor shall perform light hand sanding prior to application of finishes and between coats, as required, with appropriate sandpaper.
- 5.10. Additional compensation to the painting and decorating contractor shall be invoiced in accordance with PDCA Standard P18.
- 5.11. On smooth wood, the painting and decorating contractor shall either putty nail holes with colored putty that approximates the color of the finished wood or utilize a stain accepting wood filler. Putty shall be applied before the final coat of clear finish.
- 5.12. The acceptability of finish on smooth wood shall be determined when viewed without magnification, at a distance no less than thirty-nine (39) inches or one (1) meter under finished lighting conditions and from a normal viewing position. The surface shall be smooth in appearance and feel with only minimal evidence of brush strokes and/or orange peel.

6. Comments

- 6.1. Since the level of stain and clear coating impact the painting and decorating contractor's costs, the project specification should incorporate the appropriate system(s) of stain and clear coating as defined by this standard.
- 6.2. It is recommended that benchmark samples be employed in accordance with PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems. Multiple samples of the same finish could indicate the range of appearance differences to be expected. Approval of samples should be in accordance with the provisions of that standard.
- 6.3. See PDCA Standard P11 as regards caulking responsibilities.
- 6.4. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P20

Recommended Protocol for Job Close Out of Painting and Decorating Projects

1. Scope

- 1.1. The purpose of this standard is to establish procedures for the close out of painting and decorating projects.
- 1.2. This standard assigns responsibilities to the various entities involved when the project specifications do not define specific job close out procedures.

2. Significance and Use

- 2.1. It is important that the close out of painting and decorating projects be accomplished in an orderly and timely procedure to eliminate misunderstandings and conflicts.
- 2.2. This standard applies when job close out procedures are not detailed in the contract documents.

3. Reference Standards and Documents

- 3.1. AIA, The American Institute of Architects Document G704-2000, Certificate of Substantial Completion.
- 3.2. Dictionary of Architecture and Construction, Fourth Edition, 2005.
- 3.3. Merriam-Webster's Collegiate Dictionary, Eleventh Edition, Copyright 2003.
- 3.4. MPI, The Master Painters Glossary – Painting and Decorating Terminology, Version 4.
- 3.5. PDCA Standard P9, Definition of Trade Terms.
- 3.6. PDCA Standard P18, Recommended Protocol for Documenting Extra Work to a Contract.
- 3.7. If there is a conflict between any of the references and this standard, this standard shall prevail.

4. Definitions

- 4.1. ATTIC STOCK: Extra materials indicated in the contract documents to be provided to the owner for maintenance after completion of the project. [PDCA Standard P9]
- 4.2. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P9]
- 4.3. EXTRA: Performed work or a desired item of construction which is beyond the intent of the drawings and specifications contained in a construction

contract; an item of work involving additional cost. [Dictionary of Architecture and Construction]

- 4.4. EXTRA MATERIALS: see attic stock.
- 4.5. FINAL COMPLETION: The completion of work and all contract requirements by the contractor. [Dictionary of Architecture and Construction]
- 4.6. GENERAL CONTRACTOR: The prime contractor who is responsible for most of the work at the construction site, including that performed by the subcontractors. [Dictionary of Architecture and Construction]
- 4.7. PAINTING AND DECORATING CONTRACTOR: An individual or firm whose primary business is providing surface preparation, and wallcovering and coating application service. [MPI]
- 4.8. PRIME CONTRACTOR: Any contractor on a project having a contract directly with the owner. [Dictionary of Architecture and Construction]
- 4.9. PUNCH LIST: A checklist of all items on a construction project that are unfinished, or incomplete, have not been done at all, require replacement or repair, or require additional work to achieve an acceptable level of workmanship. Such a list is often established as a result of periodic inspections at the job site during construction and may be included in field reports. All items must be corrected by the contractor in a timely fashion so that the finished construction job conforms to the contract documents. [Dictionary of Architecture and Construction]
- 4.10. PROPERLY PAINTED SURFACE: A surface uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the painting and decorating contractor's workforce. [PDCA Standard P1]
- 4.11. OWNER: The architect's client and party to the owner-architect agreement; one who has the legal right or title to a piece of property. [Dictionary of Architecture and Construction]
- 4.12. SUBCONTRACTOR: A person or organization that has a direct contract with a prime contractor to perform a portion of work at the site. [Dictionary of Architecture and Construction]

- 4.13. **SUBSTANTIAL COMPLETION:** Substantial completion is the stage in the progress of the work when the work or designated portion is sufficiently complete in accordance with the contract documents so that the owner can occupy or utilize the work for its intended use. [AIA]
- 4.14. **WORK LIST:** A vague term sometimes implying an initial punch list generated to provide an indication of work remaining to be completed. [PDCA Standard P9]

5. Standard Specification

- 5.1. Projects where the painting and decorating contractor is a subcontractor:
- 5.1.1. The owner or its designated representative may prepare an initial punch list.
 - 5.1.1.1. The initial punch list, if any, shall be prepared prior to substantial completion.
 - 5.1.1.2. Unless otherwise agreed, the painting and decorating contractor shall work diligently to complete the items on the initial punch list within a reasonable amount of time and will, upon request, provide documentation that will support completion of the initial punch list
 - 5.1.1.3. If the painting and decorating contractor determines that some of the items on the initial punch list are extra to its work, then the painting and decorating contractor shall notify the general contractor or its designated representative that these items constitute extra work and that the painting and decorating contractor is entitled to additional compensation.
 - 5.1.1.4. The additional compensation shall be invoiced in accordance with PDCA Standard P18.
 - 5.1.2. At the time of substantial completion, a final punch list shall be prepared by the owner or its designated representative.
 - 5.1.2.1. Unless otherwise agreed, the painting and decorating contractor shall work diligently to complete the items on the final punch list within a reasonable amount of time and will, upon request, provide documentation that will support completion of the final punch list.
 - 5.1.2.2. If the painting and decorating contractor determines that some of the items on the final punch list are extra to its work, then the painting and decorating contractor shall notify the general contractor or its designated representative that these items constitute extra work and that the painting and decorating contractor is entitled to additional compensation.
- 5.1.3. Punch lists should address specific items at specific locations rather than general descriptions.
- 5.1.4. If the final punch list is redistributed after its initial distribution, it shall be based solely on the items listed on the final punch list.
- 5.2. Projects where the painting and decorating contractor is a prime contractor:
- 5.2.1. The painting and decorating contractor shall prepare an initial punch list, a comprehensive list of outstanding items to be completed or corrected when the painting and decorating contractor deems the project to have attained substantial completion.
 - 5.2.1.1. Unless otherwise agreed, the painting and decorating contractor shall work diligently to complete the items on the initial punch list within a reasonable amount of time and will, upon request, provide documentation that will support completion of the initial punch list.
 - 5.2.1.2. If the painting and decorating contractor, upon his inspection, determines areas of completed work require additional corrective work that are extra to its work, then the painting and decorating contractor shall notify the owner or its designated representative that these items constitute extra work and that the painting and decorating contractor is entitled to additional compensation.
 - 5.2.1.3. The additional compensation shall be invoiced in accordance with PDCA Standard P18.
 - 5.2.2. When the painting and decorating contractor deems the project to be complete, a final punch list may be prepared by the owner or its designated representative.
 - 5.2.2.1. Unless otherwise agreed, the painting and decorating contractor shall work diligently to complete the items on the final punch list, if any, within a reasonable amount of time and will, upon request, provide documentation that will support completion of the final punch list.
 - 5.2.2.2. If the painting and decorating contractor determines that some of the items on the final punch list are extra to its work then the painting and decorating contractor shall notify the owner or its designated representative that these items constitute extra work and that the painting and decorating contractor is entitled to additional compensation.
 - 5.2.2.3. The additional compensation shall be invoiced in accordance with PDCA Standard P18.

- 5.2.3. Punch lists shall address specific items at specific locations rather than general descriptions.
- 5.2.4. The appearance of painted surfaces shall be judged in accordance with the definition of a properly painted surface.
- 5.2.5. If the final punch list is redistributed after its initial distribution, it shall be based solely on the items listed on the final punch list.
- 5.3. The punch list process may be performed for various phases of the project in accordance with the project schedule. The punch lists provided shall be unique to that phase.
- 5.4. At final acceptance of the work, the painting and decorating contractor shall provide the following:
 - 5.4.1. Attic stock or extra materials as required by the contract documents.
 - 5.4.2. As built drawings, generally a schedule of paint and wallcovering finishes as required by the contract documents.
 - 5.4.3. Maintenance instructions as required by the contract documents.
 - 5.4.4. Warranties as required by the contract documents.
 - 5.4.5. Final releases of lien as required by the contract documents.

6. Comments

- 6.1. This standard establishes a protocol for the close out of painting and decorating projects.
- 6.2. This standard is intended to establish a consensus document for the painting industry's practices.

7. Notes

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P19

Definition and Application of Decorative Finishes

1. Scope

- 1.1. The purpose of this standard is to define the field of Decorative Finishing
- 1.2. It is also the intent of this document to:
 - 1.2.1. Identify a representative sample and describe its use.
 - 1.2.2. Establish criteria for acceptance of substrate and surface preparation for decorative finishing.
 - 1.2.3. Establish criteria for acceptance of a decorative finish.
 - 1.2.4. Define responsibilities of the various parties of a contract when decorative finishes are to be applied.

2. Significance and Use

- 2.1. The decorative finishes on a project should be applied by the painting and decorating contractor or another contractor that specializes in decorative finishes.
- 2.2. Conflicts often arise between the contractor providing decorative finishes on a project and other entities regarding the responsibility for providing surface preparation and base coats.
- 2.3. The contractor providing decorative finishes and other contractual entities must have criteria upon which to base the division of work responsibilities and criteria for the acceptance of completed work.

3. Reference Standards and Documents

- 3.1. Black's Law Dictionary, 7th Edition, Bryan A. Garner, 1999.
- 3.2. MPI, The Master Painter's Glossary-Painting and Decorating Terminology, 1997.
- 3.3. Parry's Graining & Marbling, Brian Rhodes & John Windsor, 1949, Crosby, Lockwood & Sons, Ltd. 1985, Collins Professional & Technical Books.
- 3.4. Professional Painted Finishes, Ina Brosseau Marx, Allen Marx, 1991, Watson-Guptill Publications.
- 3.5. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 3.6. PDCA Standard P3, Designation of Paint Colors.
- 3.7. PDCA Standard P5, Benchmark Samples Procedures

for Paint and Other Decorative Coating Systems.

- 3.8. PDCA Standard P9, Definition of Trade Terms.
- 3.9. PDCA Standard P18, Recommended Protocol for Documenting Extra Work to a Contract.
- 3.10. Recipes For Surfaces, Mindy Drucker & Pierre Finkelstein, 1993, Quarto, Inc.
- 3.11. The Art of Faux, The Complete Sourcebook of Decorative Painted Finishes, Pierre Finkelstein, 1997, Watson-Guptill Publications.
- 3.12. The New Paint Magic, Jocasta Innes, 1981, Pantheon Books.

4. Definitions

- 4.1. ACCEPTANCE OF SURFACE: See PDCA Standard P4, Responsibilities of Inspection and Acceptance of Surfaces Prior to Painting and Decorating, paragraph 5.1.
- 4.2. ACCEPTANCE: An agreement, either by express act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]
- 4.3. DECORATIVE (PAINT) FINISHES: Application of paints or glazes to adorn, decorate or embellish a surface as compared to a plain solid color, stain or varnish finish and as opposed to performing a protective function. This general group of decorative paint finishes includes a number of "subgroups" some of which overlap and others of which have more than one name by which they are recognized. These include:
 - Faux (false) Finishes: In French, "false" finish. These seek to imitate products found in nature such as wood, marble, granite, stone, etc. These include wood graining, marbling, gilding, etc.
 - Special Effect Finishes: Broken color effects (as opposed to imitation effects), such as ragging on, ragging off, sponging on, sponging off, strié, splat-tering, stippling, etc.
 - Graphic Finishes: Detailed effects such as stenciling and graphics that are in accordance with "mathematical rules."
 - Pictorial Finishes: Decorative effects such as murals, scenics, portraits, etc.

- **Trompe d'oeil:** In French, “trick of the eye.” That which creates such a strong illusion that it is difficult to ascertain whether it is real or a representation. Usually, but not always, three-dimensional, giving the impression of depth and perspective. [MPI]

Other decorative finishes include but are not limited to:

- **Decorative Veneer Plaster** – A thinly applied layer or multi-layer application of various plaster compositions to attain a decorative effect. This category includes but is not limited to stucco Veneziano, commonly called Venetian plaster, stucco marmorino, natural lime based veneer plaster, synthetic plaster, and gypsum plaster.
 - **Textures** – Textures may be visual and/or physical.
 - **Visual Texture** – Multiple tonal properties giving a purposeful and visual impression of dimension.
 - **Physical Texture** – A finish that creates a profile that has a tactile quality as opposed to a visual texture.
 - **Gilding** – The decorative effect attained by bonding thin metallics. Metallics can be strips or leaves of gold, silver, brass, bronze, metallic powder or mica powder, etc. to a substrate for an authentic look. May also be used as a base for other finishes like tortoiseshell. See also Dutch metal and gold leaf. Bonding is achieved through sizes and adhesives
- 4.4. **DECORATIVE PAINTING:** Painting done primarily for appearance rather than protection. [MPI]
- 4.5. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.6. **SPECIAL FINISHES:** Paints and coatings requiring special tools or techniques for application; e.g.: faux finishes, decorative finishes, graphics, multi-color or murals. [MPI]
- 4.7. **SPECIFICATION:** A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [PDCA Standard P9]

5. Standard Specification

- 5.1. Prior to the application of primer and base coats, surfaces shall be inspected and approved in accordance with PDCA Standard P4.
- 5.2. The specifications shall indicate the number and type of primer and base coats to be applied by the painting and decorating contractor in the contract

documents.

- 5.3. The painting and decorating contractor shall apply the specified paint coats to produce a “properly painted surface” as defined in PDCA Standard P1.
- 5.4. The contractor that will apply decorative finishes on the project shall inspect painted surfaces for suitability to receive decorative finishes. If additional surface preparation or base coats are required, this work shall be performed by either the contractor providing decorative finishes or the painting and decorating contractor and shall be invoiced as extra work to the contract in accordance with PDCA Standard P18.
- 5.5. **Representative Sample**
 - 5.5.1 A sample board or mock-up can be rendered in scale to give a representation of how the completed finish should appear. The size should be at least 11” x 14” or large enough to illustrate one full repeat of the design.
 - 5.5.2. The sample board or mock up is used to determine whether the colors and technique(s) are acceptable before any related work commences.
 - 5.5.3. The representative sample is owned by the company or person who produced the sample.
 - 5.5.4. Upon mutual agreement of the contractor providing decorative finishes and the contracting entity, a benchmark sample shall be produced in accordance with PDCA Standard P5. The contractor providing the benchmark sample shall be entitled to additional compensation utilized a method detailed in PDCA Standard P18.
- 5.6. **Criteria for Acceptance of a Decorative Finish**
 - 5.6.1. If the approved sample board or mock up is a reasonable representation of the completed work throughout the area of application, then the work shall be deemed to be acceptable.
 - 5.6.2. If, on the approved board or mock up, the pattern size had to be scaled down due to dimensional limitations, but the predetermined scale to actual scale is accurate, then the finish is deemed to be acceptable.

6. Comments

- 6.1. This standard is intended to define the field of decorative finishing.
- 6.2. This standard is intended to establish criteria for acceptance of the substrate and surface preparation for decorative finishing.
- 6.3. This standard is intended to establish criteria for acceptance of a decorative finish.
- 6.4. This standard is intended establish a consensus document for the painting industry’s practices.

7. Notes

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.



PDCA P18

Recommended Protocol for Documenting Extra Work to a Contract

1. Scope

- 1.1. The purpose of this standard is to define criteria for the documentation of extra work to a contract for painting and decorating.
- 1.2. This standard assigns financial responsibilities to the various entities involved when extra work is performed to a contract for painting and decorating work.
- 1.3. It is the intent of this document to apply to extra work performed that is beyond the scope of the original contract for painting and decorating work.

2. Significance and Use

- 2.1. It is common that extra work is performed beyond the original scope of a painting and decorating contract.
- 2.2. Conflicts often arise between the painting and decorating contractor and the contracting entity regarding the authorization and payment of extra work performed that is beyond the scope of the original contract for painting and decorating.
- 2.3. The painting and decorating contractor must have methods and criteria that are agreed upon in advance on which to base the value of extra work that is beyond the scope of the original contract for painting and decorating.

3. Reference Standards and Documents

- 3.1. Black's Law Dictionary, 7th edition, Bryan A. Garner, 1999.
- 3.2. Dictionary of Architecture and Construction, 4th Edition, Cyril M. Harris, 2005.
- 3.3. PDCA Estimating Guide Volume 1, Practices and Procedures, First edition, 2004.
- 3.4. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility.
- 3.5. PDCA Standard P10, Measurement of Surface Area for Estimating Painting and Decorating Work.
- 3.6. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. ACCEPTANCE: An agreement, either by express

act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]

- 4.2. ASSOCIATED COSTS: Miscellaneous job related direct costs including, but not limited to, expenses such as equipment, travel expenses, permits, bonds, specialized insurance, subcontracts, hazardous waste expenses, etc. [PDCA Estimating Guide Volume 1]
- 4.3. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P1]
- 4.4. EXTRA: Performed work or a desired item of construction which is beyond the intent of the drawings and specifications contained in a construction contract; an item of work involving additional cost. [Dictionary of Architecture and Construction]
- 4.5. LUMP SUM: A contract in which a specific amount is set forth as the total payment for the performance of the contract. (Also known as stipulated sum) [Dictionary of Architecture and Construction]
- 4.6. MATERIAL: Any consumable purchased for and used on a given project including, but not limited to paint, wallcoverings, masking materials, sundries, etc. [PDCA Estimating Guide Volume 1]
- 4.7. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P1]
- 4.8. TIME AND MATERIAL: The time and total cost of all materials required to complete a construction job; often used where the cost of the job is difficult to estimate. [Dictionary of Architecture and Construction]
- 4.9. UNIT PRICE: An amount stated in a contract as the price per unit of measurement for materials or services as described in the contract documents. [Dictionary of Architecture and Construction]

5. Standard Specification

- 5.1. Unless directly specified otherwise, there are three recommended methods for the valuation of extra

work performed that are beyond the scope of the original contract for painting and decorating:

5.1.1. Time and material basis:

- 5.1.1.1. The painting and decorating contractor shall provide to the contracting entity a schedule that lists hourly or daily labor rates for all classifications of workers. Both regular rates and overtime rates should be listed. Unless listed separately, these hourly rates include all costs for labor, overhead and profit.
- 5.1.1.2. Also submitted are invoicing rates for specific materials, equipment, subcontractors and other associated costs; or percentages to be added to materials, equipment, subcontractors and other associated costs invoices. Unless listed separately, these rates include overhead and profit.
- 5.1.1.3. A subtotal for labor for each worker is calculated by multiplying the number of hours worked by each worker by the corresponding labor rate for that worker classification.
- 5.1.1.4. The total amount of labor is a result of adding the subtotals for the various workers.
- 5.1.1.5. The total value of the extra work is determined by adding the totals for labor, materials, equipment, subcontractors, and associated costs.

5.1.2. Lump sum basis:

- 5.1.2.1. The painting and decorating contractor submits a lump sum value for the extra work to be performed. This lump sum value includes all costs for labor, material, equipment, subcontractors, associated costs, overhead, and profit.

5.1.3. Unit price basis:

- 5.1.3.1. The painting and decorating contractor submits a schedule of unit prices for completing the painting and decorating of various types of extra work items that are beyond the scope of the contract for painting and decorating.
- 5.1.3.2. Unless listed separately, the unit price for each work item includes all costs for labor, materials, equipment, subcontractors, associated costs, overhead, and profit.
- 5.1.3.3. The subtotal value of extra work items is calculated by multiplying the surface area or quantity of the various work items by its corresponding unit price.
- 5.1.3.4. The surface area for various work items is measured in accordance with PDCA Standard P10, Measurement of Surface Area for Estimating Painting and Decorating Work.

- 5.1.3.5. The total value of the extra work is calculated by adding the subtotals for the various work items involved.

5.2. Authorization of Extra Work

5.2.1. Time and material basis:

- 5.2.1.1. It is recommended that the schedules indicated in paragraphs 5.1.1.1 and 5.1.1.2 be submitted with the painting and decorating contractor's proposal for work and become part of the contract for painting and decorating. In any event, these lists should be submitted and approved prior to the performance of any extra work to the painting and decorating contract.

- 5.2.1.2. An authorized representative of the contracting entity shall approve this schedule of values within a reasonable period of time and prior to the performance of any extra work to the painting and decorating contract.

- 5.2.1.3. When the extra work is commenced, the painting and decorating contractor shall submit periodic listings of the labor, material, equipment, subcontractors, and associated costs expended for verification. This submission should be made daily unless the painting and decorating contractor and the contracting entity agree to a different frequency of submission and verification. If the contracting entity disputes any item on the submitted list, it shall notify the painting and decorating contractor of such dispute promptly.

- 5.2.1.4. After extra work to the painting and decorating contract has been performed on a time and material basis, the painting and decorating contractor shall submit an invoice based on the schedule of values previously submitted and approved.

5.2.2. Lump sum basis:

- 5.2.2.1. The painting and decorating contractor shall submit to the contracting entity a specified monetary amount for the performance of extra work to the painting and decorating contract.
- 5.2.2.2. Upon receiving a change order and/or authorization to proceed from the contracting entity, the painting and decorating contractor will proceed with the extra work.

5.2.3. Unit price basis:

- 5.2.3.1. The schedule of unit prices submitted by the painting and decorating contractor as described in paragraph 5.1.3.1 shall be approved by an authorized representative of the contracting entity prior to the perform-

ance of any extra work to the painting and decorating contract. In the absence of a response from the contracting entity within a reasonable period of time, the schedule of unit prices submitted shall be deemed to be acceptable and approved.

- 5.2.3.2. After the performance of extra work to the painting and decorating contract that has been performed on a unit price basis, the painting and decorating contractor shall submit an invoice based on the schedule of unit prices previously submitted and approved and the quantity of work items calculated in accordance with paragraph 5.1.3.4.
- 5.2.3.3. Unit prices are based on certain assumptions such as minimum quantities, normal accessibility, proximity of work items, etc. and therefore may not be applicable to a particular extra work situation. If the painting and decorating contractor determines that the unit prices submitted are not valid for proposed extra work, then the extra work shall be performed on either a lump sum or a time and material basis.
- 5.3. The contracting entity must indicate to the painting and decorating contractor which persons are eligible to authorize the performance of extra work to the painting and decorating contract.

6. Comments

- 6.1. This standard establishes criteria for the valuation of extra work to a painting and decorating contract.
- 6.2. This standard establishes responsibilities for the painting and decorating contractor and the contracting entity when extra work to a painting and decorating contract is performed.
- 6.3. This standard applies to disputed extra work to a painting and decorating contract.
- 6.4. This standard is intended to establish a consensus document for the painting and decorating industry's practices.

7. Notes

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.



PDCA P17

Field Painting of Smooth Faced Tilt-Up Concrete

1. Scope

- 1.1. The purpose of this standard is to assign responsibilities to the various entities involved when smooth faced tilt-up concrete is field painted.
- 1.2. This standard defines criteria to determine if smooth faced tilt-up concrete has been properly prepared to receive field applied paint.
- 1.3. This standard assigns financial responsibilities to the various entities involved when smooth faced tilt-up concrete is field painted.

2. Significance and Use

- 2.1. Numerous paint failures have occurred when smooth faced tilt-up concrete is field painted.
- 2.2. The project documents are often unclear about the specific responsibilities of the various entities involved when smooth faced tilt-up concrete is field painted.
- 2.3. The painting and decorating contractor must have a frame of reference upon which to base the bid when smooth faced tilt-up concrete is field painted.
- 2.4. The purpose of this standard is to develop a reasonable protocol that painting and decorating contractors are recommended to follow when smooth faced tilt-up concrete is field painted.

3. Reference Standards and Documents

- 3.1. ASTM D 3359 Standard Test Method for Measuring Adhesion by Tape Test.
- 3.2. ASTM D 4262 Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.
- 3.3. ASTM D 7234-05 Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
- 3.4. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility.
- 3.5. PDCA Standard P3, Designation of Paint Colors.
- 3.6. PDCA Standard P4, Responsibilities for Inspection and Acceptance of Surfaces Prior to Painting and Decorating.
- 3.7. PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems.
- 3.8. PDCA Standard P7, Job Sequencing.

- 3.9. PDCA Standard P9, Definition of Trade Terms.
- 3.10. Merriam-Webster's Collegiate Dictionary, Tenth Edition, Copyright 1993.
- 3.11. MPI, The Master Painter's Glossary – Painting and Decorating Terminology, 1997.
- 3.12. Tilt-Up Concrete Association, P.O. Box 204, Mount Vernon, IA 52314 (319) 895-6911, Tilt Tips-Painting Tilt-Up Panels, March 2000.
- 3.13. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. BOND BREAKER: A general name for any number of materials that prevent the permanent adhesion of one material to another. Bond breaking film formers are commonly used to facilitate the removal of forms for poured-inplace and tilt-up concrete construction. [MPI]
- 4.2. BUG HOLES: Small surface cavities (usually not exceeding 15 mm in diameter) in formed concrete resulting from entrapment of air bubbles during placing, compaction, and curing. [MPI]
- 4.3. COATING: Generic term for paints, lacquers, enamels, printing inks, etc.; a liquid, liquefiable or mastic composition which is converted to solid protective, decorative or functional adherent film after application as a thin layer. It also refers to films applied to paper, plastics or foils. [FSCT]
- 4.4. COLOR: One aspect of appearance; a stimulus based on visual response to light, and consisting of three dimensions of hue, saturation and lightness. [FSCT]
- 4.5. COLORS TO BE SELECTED: The designation of paint colors in accordance with PDCA Standard P3, Designation of Paint Colors. Allows for project pricing as long as the type and placement of colors and the product type have been clearly delineated. [PDCA Standard P3]
- 4.6. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent or any of the above. [PDCA Standard P9]

- 4.7. **DAMAGE BY OTHERS:** Any marks, stains, scuffs, scratches or other damage to a newly painted surface that is caused by anybody other than the painter. Also known as damage caused by others. [MPI]
- 4.8. **FLOATING:** The act of spreading or smoothing a plaster or concrete surface for finishing [MPI]
- 4.9. **HONEYCOMB:** Voids in concrete. [MPI]
- 4.10. **JOB SEQUENCE/SEQUENCING:** An order of succession or continuity of progression of work activities. [PDCA Standard P9]
- 4.11. **LATENT DAMAGE, syn. LATENT DEFECTS:** Damage to surfaces by cause beyond the control of the painting and decorating contractors. Examples of such include, but are not limited to, building settlement, earthquake damage, and nail and/or screw pops or expansion and/or contraction of substrate. [MPI]
- 4.12. **MECHANICAL ADHESION:** An interlocking of two materials because of shape, texture, etc., causing the two materials to remain affixed one to the other. [MPI]
- 4.13. **NEUTRALIZATION:** The process of reducing excess acidity or alkalinity from a material or substrate such as concrete, masonry, or plaster. To bring the pH balance to neutral (7.0). [MPI]
- 4.14. **PAINT SYSTEM:** A succession of selected coats of materials applied in a prescribed order to protect a surface and provide a decorative finish. [MPI]
- 4.15. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.16. **pH:** The measurement of the hydrogen ion activity in an aqueous solution. A measure of acidity or alkalinity. A pH of 7 is considered neutral, below 7 is acidic, above 7 is alkaline. The mathematical scale used is a logarithmic one, so a change of one pH unit represents a tenfold change in hydrogen ion activity. [MPI]
- 4.17. **QUALITY OF APPEARANCE:** Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]
- 4.18. **SPECIFICATION:** A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 4.19. **SURFACE:** An area, or substrate to which paints, coatings, or wall coverings are applied. The character of the area. [MPI]
- 4.20. **SURFACE PREPARATION:** The most important step in a painting operation. Any of a number of methods of treating a surface in preparation for painting. The process of ensuring that the surface substrate is clean, free of oil, grease, dust, dirt, loose rust, loose paint, mill scale and all foreign matter; and has a roughness appropriate for the type of coating that will be applied. [MPI]
- 4.21. **TOUCH UP (TOUCH UP PAINTING):** The act of repainting, by application of similar coating (i.e. from the uppermost coat e.g. primer or topcoat) (or finish coat – preferably from the same batch), to restore small areas of a painted surface to an integral or unbroken condition (to meet the definition of a properly painted surface) by the application of paint or coating. The appearance of a touch up should not be noticeable because of application method, color, sheen, or texture differences from the adjacent area not touched up. If noticeable, corner-to-corner or break-to-break repainting is necessary. Touch up should not be confused with deficiency correction, damage by others repair and correction, or latent damage repair and correction. [MPI]

5. Standard Specification

- 5.1. Bond breakers and curing oils that interfere with coating adhesion are often employed in the manufacture of smooth faced tilt-up concrete panels. The project documents should specify the surface preparation method necessary and the entity responsible for this operation. Unless directly specified otherwise, removal of bond breaker materials and curing oils is not the responsibility of the painting and decorating contractor.
- 5.2. The surface profile of the tilt-up concrete panels may be very smooth providing little, if any, mechanical adhesion of coatings. The project documents should specify the surface preparation method necessary and the entity responsible for rectifying this condition.
- 5.2.1. It is recommended that the painting and decorating contractor prepare a benchmark sample of the specified coating system on the surface of the smooth faced tilt-up concrete panels in accordance with PDCA Standard P5-04. After the coating has cured, then adhesion by tests in accordance with ASTM D3359-02 or ASTM D7234-05 shall be conducted.
- 5.2.2. If results obtained are deemed to be unsatisfactory, then additional surface preparation is necessary.
- 5.2.3. Unless directly specified otherwise, scarification, abrasion, or roughening the surface of the concrete to provide mechanical adhesion of the

coatings is the responsibility of an entity other than the painting and decorating contractor. If it is necessary for the painting and decorating contractor to perform remedial work to establish proper mechanical adhesion of coatings, then the painting and decorating contractor shall be compensated for this work. Upon receiving a change order and authorization to proceed on either a lump sum or time and material basis from the contracting entity, the painting and decorating contractor will proceed with the repair.

- 5.3. Prior to applying coatings, the painting and decorating contractor should determine the pH of the surface of smooth faced tilt-up concrete in accordance with ASTM D4262.
 - 5.3.1. Coating application should not be initiated until the surface pH is within the coating manufacturer's recommended range for the specific coating system specified.
 - 5.3.2. Unless directly specified otherwise, neutralization of the surface of the concrete is the responsibility of an entity other than the painting and decorating contractor. If it is necessary for the painting and decorating contractor to perform remedial work to establish a proper pH range prior to the application of coatings, then the painting and decorating contractor shall be compensated for this work. Upon receiving a change order and authorization to proceed on either a lump sum or time and material basis from the contracting entity, the painting and decorating contractor will proceed with the repair.
- 5.4. When smooth faced tilt-up concrete panels are manufactured there are often small voids commonly referred to as bug holes or honeycomb which can affect the quality of appearance.
 - 5.4.1. Unless directly specified otherwise, filling or sacking of these voids is the responsibility of an entity other than the painting and decorating contractor. If it is necessary for the painting and decorating contractor to perform remedial work to fill voids on smooth faced tilt-up concrete, then the painting and decorating contractor shall be compensated for this work. Upon receiving a change order and authorization to proceed on either a lump sum or time and material basis from the contracting entity, the painting and decorating contractor will proceed with the repair.

6. Comments

- 6.1. This standard establishes criteria for field painting of smooth faced tilt-up concrete.
- 6.2. This standard establishes financial responsibility for various work functions when smooth faced tilt-up

concrete is painted.

- 6.3. This standard is intended establish a consensus document for the painting industry's practices.

7. Notes

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.

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PDCA P16

Wallcovering Removal in Preparation for New Finishes or Wallcovering

1. Scope

- 1.1. The purpose of this standard is to assign responsibilities to the various entities involved when wallcovering is removed by an entity other than the Painting and Decorating Contractor.
- 1.2 This standard defines criteria to determine if wallcovering has been properly removed.
- 1.3 This standard assigns financial responsibilities for the performance of work when wall covering is removed by an entity other than the Painting and Decorating Contractor in preparation for new finishes or wallcovering.
- 1.4 It is the intent of this document to apply to all substrates including drywall, plaster, wood, hardboard, homosote, metal, plastic, compositional materials etc. to which any type of wallcovering has been previously applied and is to be removed in preparation for new finishes or wallcovering.

2. Significance and Use

- 2.1. It is common for other entities to remove wallcovering in preparation for subsequent work to be performed by the Painting and Decorating Contractor.
- 2.2 The contract documents are often unclear about specific scope of work functions to be completed by the entity removing wallcovering in preparation for new finishes or wallcovering.
- 2.3 The Painting and Decorating Contractor must have a frame of reference upon which to base the bid when the responsibilities for wallcovering removal are ill-defined.

3. Reference Standards and Documents

- 3.1. PDCA, Standard P1, Touch-Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 3.2 PDCA, Standard P4, Responsibilities for Inspection and Acceptance of Surfaces Prior to Painting and Decorating.
- 3.3 PDCA, Standard P7, Job Sequencing
- 3.4 PDCA, Standard P9, Definition of Trade Terms

- 3.5 PDCA, Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.6 PDCA, Craftsmanship Operating Procedure RI-PR-9 Wallpaper Stripping.
- 3.7 Merriam-Webster Collegiate Dictionary, Tenth Edition, Copyright 1993.
- 3.8 MPI, The Master Painter's Glossary- Painting and Decorating Terminology, 1997.
- 3.9 If there is a conflict between any of the references and this standard, the requirements of this standard shall prevail.

4. Definitions

- 4.1. COAT: A layer of paint, varnish, lacquer or other material that is applied and then allowed to dry. To back roll or apply a wet-on-wet film still constitutes a single coat. [PDCA P9]
- 4.2 DAMAGE BY OTHERS: Any marks, stains, scuffs, scratches or other damage to a newly painted surface that is caused by anybody other than the painter. Also known as Damage Caused by Others. [MPI]
- 4.3 FILLER: A heavily bodied material used to fill voids, holes, pores, depressions, etc. in a substrate. [MPI]
- 4.4 FINISH: An entire paint or coating system; the texture, color and sheen of a surface. [Craftsman's]
- 4.5 FLOATING: The act of spreading or smoothing a plaster, gypsum board, concrete, or similar surface for finishing. [MPI]
- 4.6 LATENT DAMAGE (OR DEFECTS): Damage to surfaces by cause beyond the control of the Painting & Decorating Contractors. Examples of such include, but are not limited to, building settlement, earthquake damage, and nail and/or screw pops or expansion and/or contraction of substrate. [MPI]
- 4.7 JOB SEQUENCE/SEQUENCING: An order of succession or continuity of progression of work activities. [PDCA, P9]
- 4.8 PAINT SYSTEM: A succession of selected coats of materials applied in a prescribed order to protect a surface and provide a decorative finish. [MPI]

- 4.9 PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA P9]
- 4.10 POTABLE: Suitable for drinking. [Merriam Webster's]
- 4.11 QUALITY OF APPEARANCE: Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]
- 4.12 SANDING: The act of abrading a surface (painted or bare) with an abrasive coated paper or cloth, by hand or machine, to smooth or remove surface defects or to improve the mechanical adhesion of a coating. [MPI]
- 4.13 SOLVENT: A volatile organic liquid in which another solid or semi-solid substance (such as a resin or polymer) may be dissolved. The most common solvents used for paints include aliphatic and aromatic hydrocarbons, alcohols, esters, ketones, acetates and ethers. Solvents are used to control the consistency, drying properties, and in part, the stability of the liquid paint material and to regulate its application properties. Under normal ambient conditions, solvents evaporate from the coating and are not part of the dry film. Various types of solvents are also used as cleaning agents, often in combination with surfactants.[MPI]
- 4.14 SUBSTRATE: A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate." [MPI]
- 4.15 SURFACE: 1) The substrate to which paints, coatings, or wallcoverings are applied. 2) The finish obtained after the coating work has been completed. [Craftsman's]
- 4.16 TOUCH-UP : The correction of deficiencies in the specified work to achieve a "properly painted surface". [PDCA Standard P1]
- 4.17 WALL COVERING (WALLCOVERING): A surfacing material, made from paper, vinyl, foil, natural fibers, cork, fabric, etc. adhered to an interior wall or ceiling surface to impart color, texture or patterns. Also known as wallpaper, murals, or signage. Wall coverings come in a wide array of colors, patterns, textures and performance characteristics, such as washability and abrasion resistance. [MPI]

5. Standard Specification

- 5.1. Unless directly specified otherwise, wallcovering removal shall include the performance of the following work functions:
- 5.1.1 All wallcovering material will be physically removed from designated surfaces.
- 5.1.2 All wallcovering material shall be properly disposed in accordance with local and federal codes and requirements.
- 5.1.3 All wallcovering adhesive shall be removed from the surfaces to subsequently receive new finishes or wallcovering.
- 5.1.3.1 Water-soluble adhesives shall be removed by thoroughly washing with clean potable water that may contain detergents or enzymes to aid in adhesive removal. All surfaces shall be thoroughly rinsed with clean potable water to remove any residue.
- 5.1.3.2 Adhesives that are not water soluble shall be removed using appropriate solvents or equipment as recommended by the adhesive manufacturer.
- 5.1.4 When wallcovering is removed by an entity other than the Painting and Decorating Contractor, sanding of the adhesive in lieu of removal is not acceptable as surface preparation. When wallcovering is removed by the Painting and Decorating Contractor, other processes may be used at the discretion and responsibility of the Painting and Decorating Contractor.
- 5.1.5 Any mildew, other organic material, or other contaminant present on the surface after the wallcovering is removed shall be eradicated in a manner consistent with the specific contaminant.
- 5.1.6 Surfaces from which wallcovering is physically removed are often damaged during the removal process. All required patching, filling, floating, or replacement of surfaces (including finish quality sanding) shall be a part of the scope of work of wallcovering removal. It is recognized that the extent of the work operations necessary to complete substrate repair is usually not foreseeable until the wallcovering has been removed. For this reason, it is recommended that substrate repair be accomplished on a time and material basis. The materials used for patching, filling, floating, or replacement must have sufficient adhesive and cohesive strengths to support the paint system specified to be applied by the Painting and Decorating Contractor.
- 5.1.7 When the entity performing wallcovering removal has completed its work and/or notification to proceed has been given to the Painting and Decorating Contractor, such action will be construed as tacit evidence that all work has been inspected, and that it is warrantable, completed and ready for the specified finish.

- 5.1.8 At the completion of wallcovering removal, all designated surfaces should be ready to receive new finishes or wallcovering. When the surface from which the wallcovering was removed is gypsum board, the specified level of finish shall be attained. If "quality of appearance" of a surface, prior to finishing, is judged marginal or unacceptable by others conducting essential inspection, such alleged defective work must be corrected by others prior to the Painting and Decorating Contractor beginning work. If the unacceptable work is not made complete and ready for finishing, the Painting and Decorating Contractor will halt work until directed to proceed.
- 5.1.9 Once priming and finishing has begun, as scheduled or as directed, the correction of "Defects and/or Latent Damage" is considered "Damage Repair" as per PDCA Standard P1. Job sequencing shall be maintained in accordance with PDCA Standard P7.

6. Comments

- 6.1. This standard establishes criteria for proper wallcovering removal in preparation of new finishes or wallcovering.
- 6.2 This standard establishes financial responsibility for various work functions when wallcovering is removed by an entity other than the Painting and Decorating Contractor in preparation for new finishes or wallcovering.
- 6.3 This standard is intended to establish a consensus document for the painting industry's practices.

7. Notes

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information contained herein.

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PDCA P15

Painting of Shop Primed Substrates

1. Scope

- 1.1 The purpose of this standard is to establish procedures for the evaluation of shop primer applied by an entity other than the painting and decorating contractor.
- 1.2 This standard assigns responsibilities to the various entities involved when field coating of shop primed substrates is required.
- 1.3 This standard defines criteria to determine if the shop primer is defective.
- 1.4 This standard assigns financial responsibilities when it is determined that the shop primer is defective.
- 1.5 This document applies to shop primed materials including wood, hardboard, medium density fiberboard, metal, synthetics, cementitious materials, and other compositional substrates.

2. Significance and Use

- 2.1 The shop primer applied to various substrates should be in a condition ready to receive the finish coats specified.
- 2.2 This standard applies when shop primer applied to various substrates is unsuitable for finish painting.
- 2.3 This standard applies when remedial measures, such as sanding, stripping, and re-priming are required to be performed prior to the application of specified finish coats.

3. Reference Standards and Documents

- 3.1 MPI, The Master Painters Glossary- Painting and Decorating Terminology, Version 4.
- 3.2 PDCA P1 Touchup Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 3.3 PDCA P9 Definition of Trade Terms.
- 3.4 If there is a conflict between any of the references and this standard, this standard shall prevail.

4. Definitions

- 4.1 ADHESION: The act or state of adhering. The prop-

erty that makes a paint film stick to the surface. The degree of attachment between a coating film and the underlying material with which it is in contact. The latter may be another coat of paint (intercoat adhesion) or any other material such as wood, metal, plaster, etc. (adhesion between a coating and a substrate). Adhesion should not be confused with cohesion. [MPI]

- 4.2 BARRIER COAT: A coating or primer designed to shield or block the chemical or solvent interaction between a substrate and a finish coating. [MPI]
- 4.3 CHANGE ORDER: An agreement to modify or alter the original contract work. This includes but is not limited to, corrective work for "Damage caused by others" and "Latent damage." [PDCA P1]
- 4.4 CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA P9]
- 4.5 DRY FILM THICKNESS: The depth or thickness of a coating in the dry state. Usually expressed in mils or microns. [MPI]
- 4.6 EROSION: The wearing away of a paint film through the abrasive action of wind, dust, and dirt. This condition can be accelerated by the degradation of the binder through UV light causing chalking. The erosion can proceed till the undercoating or the substrate are exposed. [MPI]
- 4.7 HOLD-OUT: The property (of a substrate or coating) that provides a low porosity surface which reduces the penetration of subsequently applied coatings. This improves the gloss and color uniformity of the finishing coats. [MPI]
- 4.8 INTERMEDIATE COAT: Any coating applied between the primer and the finish coat. [MPI]
- 4.9 PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA P9]
- 4.10 PRIME COAT: The first coat on a substrate. [MPI]

- 4.11 PRIMER: The first of two or more coats of paint, varnish, or lacquer. It is applied to improve adhesion of the succeeding coat and/or provide passive corrosion resistance to a metal surface. [MPI]
- 4.12 PROPERLY PAINTED SURFACE: A surface uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the Painting and Decorating Contractor's workforce. [PDCA, P1]
- 4.13 SHOP PRIMED: A prime coat applied by an entity other than the painting contractor. [PDCA, P9]
- 4.14 SUBSTRATE: A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate." [MPI]

5. Standard Specification

- 5.1 The shop primer shall have the following characteristics:
- 5.1.1 The shop primer shall be of the generic type that is recommended for the substrate material to which it will be applied.
- 5.1.2 The shop primer used shall possess the properties appropriate for the substrate material including stain blocking, alkali resistance, corrosion resistance, and hold out.
- 5.1.3 The shop primer applied shall be directly compatible with the finish coats specified without the need for a barrier coat or intermediate coat.
- 5.1.4 The shop primer shall be applied at a dry film thickness that is recommended by the manufacturer of the shop primer.
- 5.1.5 The shop primer shall have good adhesion to the substrate material to which it was applied.
- 5.2 Conditions for the application, shipment and storage of shop primed materials:
- 5.2.1 Prior to the application of the shop primer, the applicator of the shop primer shall conduct testing to ensure that the moisture content of the substrate material is within the range specified by the manufacturer of the shop primer.
- 5.2.2 The shop primer must be free of defects such as foreign material, lumps, skins, runs, sags, holidays, misses, insufficient coverage, drips, spatters, spills or overspray so that a properly painted surface as defined by PDCA Standard P1 may be obtained when

finish coats are applied.

5.2.3 All butt ends and edges of members receiving shop primer shall be fully primed.

5.2.4 The shop primer shall be properly and fully cured prior to shipment from the shop.

5.2.5 Shop primed items shall be properly packaged so that the primer is not damaged during shipment.

5.2.6 Shop primed items shall be stored at both the shop and the jobsite in a manner that prevents degradation and erosion of the primer.

5.2.7 If damage or defects occur to the shop primer as a result of installation, then such damage and defects shall be corrected by an entity other than the painting contractor.

5.3 Any shop primer that is not in full compliance with the conditions listed in paragraphs 5.1 and 5.2 shall be considered to be defective.

5.4 A party other than the painting contractor is responsible for correction of defective shop primer. If it is necessary for the Painting and Decorating Contractor to perform any remedial work due to defective shop primer such as sanding, stripping, and re-priming, then the Painting and Decorating Contractor shall be compensated for this work. Upon receiving a change order and authorization to proceed on either a lump sum or time and material basis from the Contracting Entity, the Painting and Decorating Contractor will proceed with the repair.

6. Comments

- 6.1 This standard establishes criteria for shop priming various substrates.
- 6.2 This standard establishes financial responsibility when the shop applied primer is defective.
- 6.3 This standard is intended to establish a consensus document for the painting industry's practices.

7. Notes

- 7.1 PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P14

Levels of Surface Preparation for Repainting and Maintenance Projects Receiving Architectural Coatings

1. Scope

- 1.1. The purpose of this standard is to identify and describe various levels of preparation for repainting or refinishing previously painted / finished surfaces in order to achieve a "properly painted surface."
- 1.2. This standard establishes criteria for estimating purposes.
- 1.3. This standard identifies common pre-existing conditions in surfaces and surrounding areas and the impact on the final quality of appearance and acceptability of a repaint or maintenance project.
- 1.4. This standard clarifies the definition of a "properly painted surface" when referring to repainting and maintenance projects.

2. Significance and Use

- 2.1. The level of surface preparation performed can determine the appearance of a finish painted surface. Therefore, the level of surface preparation selected should be done considering both appearance and cost.
- 2.2. This standard identifies and defines four levels of surface preparation.
- 2.3. This standard identifies criteria when restoration and resurfacing are performed.
- 2.4. This standard identifies typical pre-existing conditions in coatings and substrates and describes how they can impact the adhesion, durability, appearance and cost of the finish painted surface.
- 2.5. This standard identifies common pre-existing conditions in surrounding work areas which impact final appearance and acceptability of the project.

3. Reference Documents and Standards

- 3.1. ASTM D 4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
- 3.2. ASTM D 3359 Standard Test Methods for Measuring Adhesion by Tape Test 3.3 Black's Law Dictionary, 7th Edition, Bryan and Garner, 1999
- 3.4. FSCT (Federation of Societies for Coatings Technology), Coatings Encyclopedia Dictionary, edited by Stanley LeSota, 1995
- 3.5. Master Painters Institute [MPI] Maintenance Repainting Manual

- 3.6. MPI, The Master Painters Glossary – Painting and Decorating Terminology, Version 4
- 3.7. Merriam-Webster's Collegiate Dictionary, Tenth Edition, Copyright 1993
- 3.8. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility
- 3.9. PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems
- 3.10. PDCA Standard P9, Definition of Trade Terms
- 3.11. Webster's New World Collegiate Dictionary, 4th Edition, 2002

4. Definitions

- 4.1. ACCEPTANCE: An agreement, either by express act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]
- 4.2. ACCESSIBLE: That which can be approached or entered. 2) Easy to approach or enter. 3) That can be got; obtainable. [Webster's]
- 4.3. ARCHITECTURAL COATING (PAINT): Coating (Paint) intended for on-site application to interior or exterior surfaces of residential, commercial, institutional, or light industrial structures as opposed to factory-applied or industrial coatings. They are protective and decorative finishes applied at ambient temperatures. [MPI]
- 4.4. ASTM: American Society for Testing and Materials. [PDCA Standard P9]
- 4.5. FINISH: An entire paint or coating system; the texture, color and sheen of a surface. [PDCA Standard P9]
- 4.6. MAINTENANCE PAINTING: Any coating work done subsequent to that associated with construction. [PDCA Standard P9]
- 4.7. NORMAL VIEWING POSITION: For the purpose of inspection, a normal viewing position shall be at eye level at a minimum of thirty-nine (39) inches or one (1) meter from the wall. [PDCA Standard P9]
- 4.8. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative

finishes. [PDCA Standard P9]

- 4.9. PREPARATION: The act or process of preparing. (Prepare, to make ready, usually for a specific purpose; make suitable) (Performance of the specified procedures prior to the application of paint, coating, wallcovering or other decorative finish.) [Webster's] [PDCA Standard P9]
- 4.10. QUALITY OF APPEARANCE: Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]
- 4.11. SPECIFICATION: A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 4.12. SUBSTRATE: A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate." [MPI]
- 4.13. SURFACE: The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [PDCA Standard P9]

5. Standard Specification

- 5.1. The MPI Repaint Manual describes the condition of various paintable surfaces and substrates and rates them in order of degree of surface degradation (DSD) as follows:
 - DSD-0 Sound Surface
 - DSD-1 Slightly Deteriorated Surface
 - DSD-2 Moderately Deteriorated Surface
 - DSD-3 Severely Deteriorated Surface
 - DSD-4 Substrate Damage

The MPI Repaint Manual further describes various repaint surface preparation techniques labeled RSP 1 through RSP 13 that may be appropriate depending upon the condition of the surfaces to be painted.
- 5.2. This standard recognizes that project specifications detailing the type and extent of surface preparation to be performed shall take precedence over other considerations.
- 5.3. This standard recommends that specifications be modeled after the MPI Maintenance Repainting Manual.

5.4. Levels of Surface Preparation

- 5.4.1. Level 1: Basic: This surface preparation level requires basic cleanliness of surfaces to ensure the adhesion of new finishes to the surfaces to which they are applied with less concern for the adhesion of existing paint coats and quality of appearance of the finished surfaces. Preparation shall include the removal of surface dust, dirt, obvious loose paint and other surface contaminants by washing, light power washing or pressure washing (MPI RSP-5), hand cleaning (MPI RSP Painting 1) including the use of a duster brush or broom, and mildew treatment (MPI RSP-9). This level of preparation should ensure that subsequently applied coats of paint will adhere to existing paint coats. This level of surface preparation does not warrant that previously applied paint coats are well adhered to each other or are well adhered to the substrate. Under this level of preparation no alteration of the existing surface profile shall be attained. It is recommended that tests should be performed on exterior surfaces in accordance with ASTM D 4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films. This level of surface preparation is normally recommended only on surfaces rated DSD-0 or DSD-1.
- 5.4.2. Level 2: Standard: This surface preparation level requires basic cleanliness of surface to ensure the adhesion of new finishes to the surfaces to which they are applied as well as the examination of existing coatings to assess their adhesion. With this level of surface preparation, good adhesion and longevity of finish is of primary concern and appearance is of secondary concern. This level of surface preparation includes that described in Level 1 plus other procedures necessary to create a sound surface for repainting including solvent cleaning (MPI-RSP-2), basic patching/filling, caulking, light sanding/abrading, and "feather edge" sanding. Under this level of surface preparation, it is recommended that adhesion by tape tests be performed in general accordance with ASTM Standard 3359 to assess the adhesion of previously applied paints. It is recommended that at least three tests be performed at randomly selected locations where it is apparent that different paint systems have been previously applied. When poor results are obtained (ratings of 0 or 1), at isolated locations, then more aggressive surface preparation methods including power tool cleaning (MPI RSP-4,) high pressure washing and hydroblasting (MPI-RSP-5,) chemical stripping (MPI RSP-6) and abrasive blasting (MPI RSP-7) may be recommended at these isolated locations. If it is determined that

the poor adhesion of existing coatings is not isolated, but is widespread, then restoration/resurfacing is required. It should be recognized that many factors may affect the adhesion of the entire coating system that is applied including the properties of the coatings selected, their permeability, etc. Therefore, while the performance of adhesion tests provides some indication of the adhesion of existing coatings, they may not predict the overall adhesion of the total coating system after new coats have been applied. Under this level of preparation the surface profile is not altered unless due to the removal of unsound previously applied paint, and that only obvious existing defects causing abrupt surface profile differences exceeding 1/8 inch or 125 mils will be corrected. This level of surface preparation is normally recommended only on surfaces rated DSD-0, DSD-1 or DSD-2.

- 5.4.3. Level 3: Superior: This surface preparation level incorporates the requirements of Levels 1 and 2 with added emphasis on the quality of appearance of finish painted surfaces. This level of surface preparation includes filling, patching, taping cracks in drywall and properly dealing with "nail pops," approximate matches to existing textures, and thorough sanding to minimize existing runs, sags, brush/roller marks, and the surface profile of cracked and peeling areas, and other existing surface defects. Under this level of preparation the general surface profile is retained but defects causing abrupt surface profile differences exceeding 1/16 inch or 62.5 mils will be corrected. This level of surface preparation is normally recommended only on surfaces rated DSD-0, DSD-1 or DSD-2.
- 5.4.4. Level 4: Supreme: This surface preparation level incorporates the requirements of Levels 1, 2 and 3 with even more emphasis on the quality of appearance of finish painted surfaces. Under this level of surface preparation, all necessary preparation techniques will be employed to improve the quality of appearance except restoration/resurfacing. Thorough filling and sanding will be accomplished to eliminate defects causing abrupt surface profile differences exceeding 1/32 inch or 31 mils. This level of surface preparation is normally recommended only on surfaces rated DSD-0, DSD-1 or DSD-2.
- 5.5. Restoration/Resurfacing: This degree of surface preparation is required when existing conditions indicate that the surfaces are severely deteriorated (DSD-3) or there is substrate damage (DSD-4). Existing coatings may be completely, or nearly completely removed (for example stripping to repaint rather than stripping to stain). Abra-

sion, chemical removers or applied heat may be employed in order to remove a failed coating and/or to expose a failing substrate. Substrates may have to be completely replaced, repaired or resurfaced.

- 5.6. Inspection and Acceptance: Unless otherwise clearly defined in the project documents, the criteria for acceptance of finish painted surfaces shall be that of a properly painted surface as defined by PDCA Standard P1-04. It states: A "properly painted surface" is defined as uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the painting and decorating contractor's workforce. In order to determine whether a surface has been "properly painted" it shall be examined without magnification at a distance of thirty-nine (39) inches or one (1) meter, or more, under finished lighting conditions and from a normal viewing position. However, it should be understood that when applied to this standard for repaint and maintenance painting, the defects listed above are not allowed in the newly applied coats applied by the painting and decorating contractor, but depending on the level of preparation selected, may still be visible from previously applied existing coatings. When Level 4 is selected as the level of surface preparation required, then the criteria for inspection and acceptance may include smoothness to "touch and feel" on interior handrails, doors and easily accessible trim.
- 5.7. The painting and decorating contractor shall be responsible to provide adequate protection of existing surfaces from misplaced paint being applied, but unless specifically indicated in the project specifications or contract, is not responsible for pre-existing conditions in the surrounding work area. This includes misplaced paint on hardware and other fixtures, surfaces damaged by others (for example, screening), damage to landscape and hardscape, and worn and weathered fixtures, hardware, and other items.
- 5.8. Project specifications may require different levels of preparation on different surfaces for example, Level 4 on doors and trim and Level 2 on walls.
- 5.9. Specifications not specifically stating the level of preparation to be attained will be assumed to imply Level 2.

6. Comments

- 6.1. This standard establishes and describes levels of surface preparation on repainting and maintenance projects.
- 6.2. This standard clarifies the level of surface prepara-

tion for estimating purposes.

- 6.3. This standard defines a protocol for the inspection and acceptance of finish painted surfaces on repaint and maintenance projects.
- 6.4. This standard defines pre-existing conditions that are beyond the responsibility of the painting and decorating contractor.
- 6.5. Existing coatings and substrates may contain materials such as lead and other RCRA metals, mold, asbestos, and PCBs. Though abatement of those materials may not be required, EPA, OSHA, state and local regulations regarding environmental, health and disposal requirements must be considered. nd disposal requirements must be considered.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P13

The Inspection and Acceptance of Architectural Paints on the Interior Surfaces of Structures When Dry Film Thickness is Specified

1. Scope

- 1.1. This standard establishes procedures for the inspection and acceptance of architectural paints on the interior surfaces of structures when dry film thickness is specified.
- 1.2. This standard establishes a procedure for measuring and testing the thickness of interior architectural paints to determine compliance with the manufacturer's technical application instructions and the painting specifications.
- 1.3. This standard establishes a procedure for the calculation of paint dry film thickness (DFT) when specified by the painting specifications.
- 1.4. It is intended that this standard be used where the painting specifications require a paint dry film thickness.
- 1.5. This standard does not address the inspection and acceptance of industrial protective coatings and linings or exterior paints.

2. Significance and Use

- 2.1. The criteria to be used to inspect and accept the application of paint to interior surfaces of architectural structures may be unclear and ill defined in the project documents. This condition creates confusion for both the painting contractor and the contracting entity which results in extraordinary costs and time delays.
- 2.2. When interior surfaces of structures are painted with architectural paints, then "a properly painted surface" defined by PDCA Standard P1 should be the criterion for inspection and acceptance.
- 2.3. Dry film thickness should be a criterion for inspection and acceptance when industrial protective coatings and linings and exterior paints are applied.
- 2.4. When dry film thickness is to be considered a criterion for the inspection and acceptance of architectural paints on the interior surfaces of structures, then a method for measurement must be established.
- 2.5. The paint manufacturer's technical data regarding the specific products utilized shall determine the dry film thickness requirements of a coat of paint.

3. Reference Standards and Publications

- 3.1. FSCT, Coating Encyclopedic Dictionary, Edited by Stanley LeSota, 1995
- 3.2. MPI, The Master Painters Glossary – Painting and Decorating Terminology, Version 4
- 3.3. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility
- 3.4. PDCA Standard P2, Third Party Inspections: Qualifications, Responsibilities, and Procedures
- 3.5. PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems
- 3.6. PDCA Standard P9, Definition of Trade Terms
- 3.7. PDCA Standard P10, Measurement of Surface Area for Estimating Painting and Decorating Work
- 3.8. SSPC-PA2 Measurement of Dry Coating Thickness with Magnetic Gauges
- 3.9. If there is a conflict between any of the references and this standard, this standard shall prevail

4. Definitions

- 4.1. ARCHITECTURAL COATING (PAINT): Coating (Paint) intended for on-site application to interior or exterior surfaces of residential, commercial, institutional, or light industrial structures as opposed to factory-applied or industrial coatings. They are protective and decorative finishes applied at ambient temperatures. [MPI]
- 4.2. CALIBRATE: To fix, check, or adjust the indication of output of a measuring device to that of a standard. [MPI]
- 4.3. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P9]
- 4.4. DRY FILM THICKNESS: The depth or thickness of a coating in the dry state. Usually expressed in mils or microns. [MPI]
- 4.5. SOLIDS BY VOLUME: The total volume percentage of non-volatile material. Also known as volume solids. The solids by volume is used to calculate the dry film thickness (DFT) of a coating from wet film

measurements taken during application (i.e. where WFT= wet film thickness, VS = percent volume solids, DFT= WFT X VS). [MPI]

- 4.6. SPECIFICATION: A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 4.7. THIRD PARTY: An independent contractor or business entity that is not a principal (contracting entity, painting and decorating contractor or material supplier), or employee or subsidiary of a principal, to the contract for coatings application work. [PDCA Standard P9]

5. Standard Specification

- 5.1. Unless otherwise clearly defined in the project documents, the criteria for acceptance of architectural paints on the interior surfaces of structures shall be that of a properly painted surface as defined by PDCA Standard P1. "A "properly painted surface" is defined as uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the painting and decorating contractor's workforce. In order to determine whether a surface has been "properly painted" it shall be examined without magnification at a distance of thirty-nine (39) inches or one (1) meter, or more, under finished lighting conditions and from a normal viewing position."
- 5.2. When and only when the bid documents prepared by the specifying authority and/or contracting entity clearly state that the measurement of dry film thickness shall be a criterion for acceptance of painted interior surfaces of architectural structures, then the following conditions shall apply:
- 5.2.1. A third party inspector as defined and meeting the requirements of PDCA Standard P-2 shall be utilized for the inspection and acceptance of architectural paints on the interior surfaces of structures whose expense shall be borne by the contracting entity.
- 5.2.2. The dry film thickness of each coat required shall be based on the manufacturer's percent solids by volume. The formula $DFT = \% SBV \times 1604 / SF$ shall be used to calculate the thickness of each coat where DFT is the dry film thickness in mils, % SBV is the percent solids by volume of the specific material, and SF is the manufacturer's recommended spreading rate for that material.
- In the event of a conflict between the manufacturer's data and the bid documents, the manufacturer's data shall prevail.
- 5.2.3. Non-destructive methods shall be used to measure the dry film thickness of architectural paints on the interior surfaces of structures to avoid damage to the painted surfaces.
- 5.2.4. Measuring devices should be properly calibrated prior to use. The accuracy of the instrument shall be verified by measuring reference standards that cover the range of the expected dry film thickness.
- 5.2.5. Precise locations to be tested shall be selected randomly and shall be geometrically representative of the surface being tested.
- 5.2.6. Three measurements shall be made in close proximity, within a two inch diameter circle, and averaged to determine a "spot measurement." Any unusually high or low readings that are not repeatable shall be discarded.
- 5.2.7. One spot measurement shall be made for every 100 square feet of surface area of various substrates, where the measurement of surface area is in accordance with PDCA Standard P10.
- 5.2.8. It is recognized that it is not possible to field apply paints at a consistent dry film thickness. Therefore, the dry film thickness for any spot shall be at least 80% of the specified dry film thickness as defined by 5.2.2 and the average of all spot measurements shall be at least 95% of the specified dry film thickness. If a maximum thickness is specified, then the average of all spot measurements shall not be greater than 105% of the maximum thickness. If a maximum thickness is not explicitly specified, then no maximum thickness applies.
- 5.2.9. If any spot is not in compliance with the requirements of 5.2.8, then the area containing that spot shall be repainted to the nearest break to achieve compliance.
- 5.2.10. When a benchmark sample is prepared in accordance with PDCA Standard P5, then dry film measurements shall be made on the sample and the accepted values will be used as a basis for acceptance.

6. Comments

- 6.1. This standard establishes a consistent method for the inspection and acceptance of architectural paints on the interior of structures.
- 6.2. This standard establishes that visual appearance is the prime criterion for the acceptance of architectural paints on the interior of structures.

- 6.3. This standard defines a protocol when the measurement of dry film thickness is a criterion for the acceptance of architectural paints on the interior surfaces of structures.
- 6.4. The measurement of dry film thickness on porous surfaces such as drywall or concrete block may be inaccurate due to porosity of the substrate and surface profile.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P12 Levels of Block Filler

1. Scope

- 1.1. This standard establishes consistent procedures for the specification of block filling and the application of block filler prior to painting paint grade smooth face concrete masonry units.
- 1.2. The purpose of this standard is to prevent misunderstandings and conflicts when the application of block filler is required.

2. Significance and Use

- 2.1. An inadequately written specification can create confusion in both the bidding and execution of block filler work. Prior to specification, the specific appearance, performance and weatherresistance of the work to be block filled should be assessed, and specified in the bid documents for a project in accordance with the "levels of block filler" established by this standard.

3. Reference Standards and Publications

- 3.1. The Master Painters Glossary Version 4.0.
- 3.2. PDCA Standard P5 Benchmark Sample Procedures for Paint and Other Decorative Coating Systems.

4. Definitions

- 4.1. Backrolling: A method where freshly applied paint (wet) is smoothed out with an undipped roller to even the appearance and improve uniformity. [MPI]
- 4.2. Block filler: A thick, medium to high solids heavily pigmented material used for application on concrete blocks for filling and smoothing the surface for subsequent finish coatings. [MPI]
- 4.3. Pin Hole: A minute hole in a paint film that resembles a pore or pin prick, often due to improper solvent release during drying or the trapping of air or gas in the film during setting. [MPI]
- 4.4. Porosity: A measure of the degree of voidage in an object expressed as a fraction of the total object's volume. The major consideration in the absorption of a paint, liquid, vapor, or gas by the surface. [MPI]
- 4.5. Pointing: The shaping of joints between bricks or blocks by using a shaping tool on the wet mortar. [MPI]
- 4.6. Profile depth: Average distance between the top of

the "peaks" and the bottom of the "valleys" on the surface of a substrate. [MPI]

- 4.7. Void: Holidays or holes in a coating or surface. [MPI]

5. Standard Specification

- 5.1. The degree of block filler achieved should not be assessed until all specified paint coats have been applied, as finishing coat(s) will contribute to the degree of fill. It is recommended that a benchmark sample showing specified level of block fill on entire sample and finish coat(s) on a portion of the sample be prepared and approved according to PDCA Standard P5 to demonstrate the result of block filling to the specified level.
- 5.2. The use of some materials and some block profiles cause air entrapment resulting in unavoidable pin holes. A void or discontinuity visible to the substrate is a system defect.
- 5.3. Levels of Block Filler
 - 5.3.1. Level 1 – Economy Fill: One coat applied with equipment specified by the coating manufacturer. This level reduces the quantity of paint required for succeeding paint coats. It reduces some irregularities in masonry profile depth. It is normal that voids will remain, depending on the porosity and profile depth of the block. The block filler shall be applied at the spreading rate recommended by the manufacturer. This level is normally used in spaces that are not occupied by the public and in stairways of high rise buildings.
 - 5.3.2. Level 2 – Standard Fill: One coat applied with equipment specified by the coating manufacturer. Backrolling will be performed as necessary to attempt to fill deep irregularities. Masonry profile depth will be slightly reduced. Joints will be visible as tooled. Number of voids will be minimized, but voids may remain depending on the porosity of the block. A maximum of ten voids per square foot of surface area shall be deemed to be acceptable. The block filler shall be applied at the spreading rate recommended by the manufacturer. This level is normally used in finished areas that are occupied by the public.
 - 5.3.3. Level 3 – Premium Fill: One or multiple coats

of high performance block filler manufactured to be applied at a high dry film build. Block filler shall be backrolled to eliminate voids and reduce the majority of the masonry profile depth. This system, with an appropriate paint finishing system, produces a surface that is easier to clean to meet health regulations. Exterior use of this level of block filler, with an appropriate paint finishing system, will reduce water intrusion at exterior walls.

- 5.4. Specifications not specifically stating the level of block filler to be attained will be assumed to imply a Level 2 – Standard Fill.
- 5.5. The acceptability of the Level 2 Standard Fill surfaces shall be determined when viewed without magnification, at a distance of thirtynine (39) inches or one (1) meter or more, under finished lighting conditions and from a normal viewing position.
- 5.6. The acceptability of the Level 3 Premium Fill surfaces shall be determined when viewed with magnification of 5X.

6. Comments

- 6.1. Since the number of coats and application techniques required for block filling impact project paint costs, the painting specification should incorporate the appropriate level(s) of block filler as defined by this standard.
- 6.2. The masonry specification should properly define all cleaning and detailing of new masonry prior to block filler and painting work. This work is not the responsibility of the painting contractor and should not be incorporated into the painting specification.
- 6.3. The result of any particular level of block filler will vary due to the fact that concrete masonry units vary greatly in profile depth and porosity. If additional filling is required to achieve a consistent visual appearance due to uneven porosity of the block and is approved by the coating manufacturer, then the painting contractor is entitled to compensation for any additional costs incurred. The filling of holes is not the responsibility of the painting contractor and should be pointed up by others prior to the application of block filler.
- 6.4. Proper specification of masonry materials, such as requiring graded aggregates to minimize masonry porosity, is required to achieve the best appearance and performance of the block filler and paint system specified. This standard outlines procedures for on-site determination and approval of achievable quality from specified paint and coating systems applied to paint grade smooth face concrete masonry units.
- 6.5. This standard is a nationally recognized consensus

document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P11

Painter's Caulk, Implied Requirements

1. Scope

- 1.1. The purpose of this standard is to define painter's caulk, determine its suitability and establish its placement whether delineated, implied and/or not referenced in the specification for painting.
- 1.2. It is the intent of this document to specifically address by inclusion or exclusion, joints, cracks, junctions and voids in relation to the application of painter's caulk whether defined, implied or not referenced in the plans, specifications or contract documents.

2. Significance and Use

- 2.1. The painting contractor, owner, general contractor and specifying entity are affected by the extent to which painter's caulk is applied, to what surfaces it is applied, and to what extent it is applied when not specifically referenced in the painting specifications or in the absence of a written specification.
- 2.2. The extent of caulking, the suitability of the caulking material and the performance of the applicator all have an effect on the appearance and performance of the surfaces to which the caulk is applied.
- 2.3. The type and quality of the caulking material, the extent of its use and the substrates to which it is applied have an affect on the painting contractor's cost to perform his work, both from a material and labor perspective.

3. Reference Documents and Standards

- 3.1. MPI, The Master Painters Glossary Version – Painting and Decorating Terminology Version 4.0, 2004
- 3.2. PDCA Standard P4, Responsibility for Inspection and Acceptance of Surfaces Prior to Painting and Decorating
- 3.3. PDCA Standard P9, Definition of Trade Terms

4. Definitions

- 4.1. **APPLICATOR:** A person (or coating contractor) who applies a substance (in painting, a person, whether contractor or tradesperson, who applies a coating) [MPI]
- 4.2. **ARCHITECTURAL CAULKING:** The application of caulking (perhaps, but not necessarily, in an integral color) for aesthetic purposes to minimize joints

created by construction design and/or deficiencies, and adjacent to painted surfaces, such as: the perimeter of windows or window walls, expansion joints, casework/cabinetry, countertops, prefinished door/window frames, prefinished trim, natural or stained wood, ceramic tile, wallcovering, rigid vinyl wallcovering, seamless floors, floor surfaces, vinyl base, ceiling grid, acoustical tile, electrical or mechanical cover plates, HVAC registers, or grilles, etc. More specifically, unless the caulking is between two (2) field painted surfaces as further defined in PDCA Standard P11, it is not "painter's caulk", and is not the responsibility of the painting and decorating contractor unless explicitly specified as such. [PDCA]

- 4.3. **BACKER ROD:** A flexible rod of foamed urethane, Styrofoam or similar material inserted into wide joints or cracks (generally ranging from 3/8 inch to 3 inches or more) to stop the flow of caulking or sealant material through the joint being sealed. [MPI]
- 4.4. **CAULKING COMPOUND:** A soft, resilient, putty-like material used for filling cracks and holes or for sealing around flashings, frames piping, etc. Available in single component tubes (gun) or as single and multiple-component materials for application by knife or spreader. [MPI]
- 4.5. **FIELD COAT:** Coat or coats of paint that are applied at the job-site. Also known as field application. [MPI]
- 4.6. **PAINT:** A mixture or dispersion of opaque pigments or powders in a liquid or vehicle. Now used in the general sense, which includes all organic and inorganic coatings such as enamels, varnishes, emulsions, bituminous coatings, etc. [MPI]
- 4.7. **SCOPE OF WORK:** An overview or abstract outlining the work to be performed within a specification. [MPI]
- 4.8. **SUBSTRATE:** A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate." [PDCA Standard P4]

5. Standard Specification

- 5.1. The application of painter's caulk shall be as directed and as delineated in specification section 09 90 00, Painting, or in the absence of direction or delineation, the following shall be assumed within the scope of work:
 - 5.1.1. The caulking material is limited to paintable acrylic/latex caulk.
 - 5.1.2. The joints to be caulked shall only be between field painted surfaces.
 - 5.1.3. The joints to be caulked are limited to joint voids of 1/8 inch or less.
 - 5.1.4. The joints to be caulked are limited to those between wood and/ or wood composite materials, and between wood and/or wood composite materials and painted wall or ceiling substrates such as gypsum drywall, plaster, or similar surfaces; in certain geographic areas, caulking of painted hollow metal members to painted wall surfaces is also included.
 - 5.1.5. Painter's caulk is to be applied to enhance the aesthetic appearance of the affected surfaces. It is not the responsibility of the applicator of painter's caulk to waterproof a surface, joint or void, nor is it the responsibility of the applicator of painter's caulk to conceal, eliminate, minimize, or disguise shrinkage or movement of joints or voids
 - 5.1.6. If the caulking work indicated in paragraphs 5.1.1-5.1.4 is listed as part of another section of the specifications or is excluded from the contract, then it shall not be the responsibility of the painting and decorating contractor.
- 5.2. The following shall be excluded from the scope of work unless specifically directed or delineated in specification section 09 90 00, Painting, or in the plans or contract documents:
 - 5.2.1. Architectural caulking
 - 5.2.2. Caulk and sealant application included in specification section 07 92 00, Caulking and Sealing
 - 5.2.3. Caulking, sealing or repair of crumbling or spalling masonry or plaster surfaces.
 - 5.2.4. All caulk and sealant applications on exterior surfaces, whether for aesthetic purposes or for waterproofing a building envelope.
 - 5.2.5. Application or insertion of backer rod in any joint, crack or void.
 - 5.2.6. Items, trims or objects installed in new construction prior to the application of gypsum drywall, plaster or other wall or ceiling surfaces.

6. Comments

- 6.1. This standard is intended to clarify the application or placement of painter's caulk when not specifically directed or delineated in the painting specification or in the absence of a written painting specification.
- 6.2. This standard is intended to establish a guide for inclusion or exclusion of painter's caulk in the preparation of a bid or quotation.
- 6.3. This standard is intended to establish a consensus document for the painting industry's practices.

7. Disclaimer of Liability

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PDCA P10

Measurement of Surface Area for Estimating Painting and Decorating Work

1. Scope

- 1.1. The purpose of this standard is to establish consistent procedures for estimating and bidding painting and decorating work.
- 1.2. It is also the intent of this standard to prevent misunderstandings and conflicts when painting and decorating work is bid on a unit cost basis by clearly defining methods used by the professional painting and decorating estimator for measuring surface area.

2. Significance and Use

- 2.1. Because there is a relationship between surface area and the amount of labor and materials required for painting and decorating work, methods used to measure surface area during the estimating process must be consistent to be meaningful. When consistent methods are used to measure surface area, then labor production rates and material spread rates may be accurately determined from past painting and decorating work and used as a basis for estimating labor and material requirements for bidding future painting work.
- 2.2. Consistent methods in measuring surface area of work to be painted, as defined by this standard, should be used to determine quantities of painting and decorating work bid on unit cost basis.

3. Reference Documents and Standards

- 3.1. PDCA Estimating Guide, Volume 1, Practices and Procedures
- 3.2. PDCA Estimating Guide, Volume 2, Rates and Tables, 2001.
- 3.3. PDCA Standard P9, Definition of Trade Terms.
- 3.4. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.5. PDCA Standard P18 Recommended Protocol for Invoicing Extra Work to a Contract
- 3.6. If there is a conflict between any of the references and this standard, the requirements of this standard shall prevail.

4. Definitions

- 4.1. ACCESSIBILITY: The relative ease or difficulty required to reach an item to be painted. [PDCA

Standard P9]

- 4.2. ADJACENT: An item that is touching or in close proximity. [PDCA Standard P9]
- 4.3. CLOSELY-FABRICATED: Characteristic of an item consisting of interwoven components, such as chain-link fencing. [PDCA Standard P9]
- 4.4. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P9]
- 4.5. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.6. SURFACE: The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [Craftsman's]
- 4.7. SURFACE AREA: The measurement of the area of surface to be finished determined in accordance with the methods, procedures and standards as defined by PDCA's Estimating Guide "Professional Estimating Procedures for Painting Contractors". [PDCA Standard P9]

5. Standard Specification

- 5.1. No object is considered less than one linear foot wide and shall be measured as one square foot per linear foot.
- 5.2. Pipes, rods, structural steel, lumber and other items to be finished whose circumference or perimeter is less than one foot is measured as one foot, otherwise the actual measurement is used.
- 5.3. Items having similar surface, finishes, application methods and accessibility may be grouped together and an appropriate production rate may be applied to the entire group.
- 5.4. When items that do not have all grouping factors in common are adjacent, they should be listed separately on the quantity take-off and measured at no less than one square foot per linear foot.
- 5.5. When items having equivalent surface, finishes, application method and accessibility change direc-

tion at sharp angles and continue for a significant distance in the new direction, then measurement of the object increases by the length of the new direction, but usually not less than ½ of a square foot per linear foot.

- 5.6. When measuring non-uniformly shaped and curved items, the added length of the surface due to its curvature, change of direction or nonuniformity must be measured.
- 5.7. Closely fabricated items, such as chain-link fence, open web joists and grating, should be measured as being solid. If both sides of a closely fabricated item are finished, double the surface area. When a closely fabricated item is attached to framework, measure the framework separately as described in 5.2.
- 5.8. When a small opening interrupts a continuous surface, the opening is disregarded and considered part of the continuous surface. Any openings extending from floor to ceiling and exceeding five feet in width shall be deducted. All openings 100 square feet or larger are deducted.
- 5.9. Cabinets, tubs, showers and other items that restrict movement or access shall not be deducted from the measurement of total surface area.

6. Comments

- 6.1. PDCA's "Estimating Guide" Volumes 1 and 2 contain supplemental information regarding the correct use of these standards. This information includes appropriate applications and examples.
- 6.2. PDCA has published estimating guidelines for the painting and decorating industry since the late 1930's. The standards stated in Section 5 represent uniform estimating practices used by PDCA members for many decades.
- 6.3. When requesting proposals for painting and decorating on a unit-cost basis, requests should include sufficient descriptive information (e.g., surface, finishes, application methods and accessibility, proximity to work items, and minimum quantities) to price such work. Items that vary in surface, finishes, application method, accessibility, production rate, proximity to work items, and minimum quantities should be priced separately. Refer to PDCA Standard P18 Recommended Protocol for Invoicing Extra Work to a Contract.
- 6.4. Estimating painting and decorating cost involves specific measurement of color placement since it affects painting and decorating costs. Refer to PDCA Standard P3, Designation of Paint Colors for pertinent information.
- 6.5. This standard clarifies areas of responsibility. Improved communication reduces

misunderstandings.

- 6.6. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P9

Definition of Trade Terms

1. Scope

- 1.1. The purpose of this standard is to define the trade usage of terms and phrases relating to the estimating of painting and finishes.
- 1.2. It is also the intent of this standard to prevent misunderstandings and conflicts by establishing criteria for the interpretation of documents consistent with painting and decorating industry standards.

2. Significance and Use

- 2.1. The interpretation of terms and phrases affects the painting and decorating contractor's cost in the performance of a project.
- 2.2. The definition of terms and phrases included in the bid documents should be understood by all the affected parties so that the bids received by the contracting entity accurately reflect the intent of the documents.
- 2.3. Standardization of the definition of terms and phrases included in the documents provides the painting and decorating contractor with a frame of reference upon which to base the bid.

3. Reference Documents and Standards

- 3.1. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 3.2. PDCA Standard P2, Third Party Inspections: Qualifications, Responsibilities, and Procedures.
- 3.3. PDCA Standard P3, Designation of Paint Colors.
- 3.4. PDCA Standard P4, Responsibilities for Inspection and Acceptance of Surfaces Prior to Painting and Decorating.
- 3.5. PDCA Standard P5, Benchmark Sample Procedures for Paint and Other Decorative Coating Systems.
- 3.6. PDCA Standard P6, Acceptance of Completed Wallcovering Installations.
- 3.7. PDCA Standard P7, Job Sequencing.
- 3.8. PDCA Standard P8, Contracting Entity's Responsibility for Maintenance of Paints and Coatings.
- 3.9. PDCA Standard P10, Measurement of Surface

Area for Estimating Painting and Decorating Work.

- 3.10. PDCA Standard P11 Painter's Caulk, Implied Requirements.
- 3.11. PDCA Standard P19, Definition and Application of Decorative Finishes .
- 3.12. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.13. PDCA Estimating Guide Volume 1, Practices and Procedures, 2009.
- 3.14. PDCA Estimating Guide Volume 2, Rates and Tables, 2009.
- 3.15. Merriam-Webster's Collegiate Dictionary, Eleventh Edition, Copyright 2003.
- 3.16. SSPC, Good Painting Practice, Volume 1, Fourth Edition.
- 3.17. Black's Law Dictionary, 7th edition, Bryan A. Garner, 1999.
- 3.18. NAWIC, Construction Dictionary, published by Greater Phoenix, Arizona Chapter 98 of the National Association of Women in Construction, 9th edition, 5th printing, June 2003.
- 3.19. MPI, The Master Painter's Glossary – Painting and Decorating Terminology, 1997.
- 3.20. MPI, The Master Painter's Glossary – Painting and Decorating Terminology, 1997.
- 3.21. FSCT, (Federation of Societies for Coatings Technology), Coatings Encyclopedia Dictionary, edited by Stanley LeSota, 1995.
- 3.22. Dictionary of Architecture and Construction, Fourth Edition, 2005.
- 3.23. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

4. Definitions (See Section 5)

5. Standard Specification – The following trade terms are defined:

- 5.1. ACCELERATION: To hasten the progress or development of project production and/or completion. [PDCA]
- 5.2. ACCEPTANCE OF SURFACE: See PDCA Standard P4-09, Responsibilities of Inspection and Accept-

- ance of Surfaces Prior to Painting and Decorating.
- 5.3. **ACCEPTANCE:** An agreement, either by express act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]
- 5.4. **ACCESSIBLE:** Capable of being reached; being within reach [Merriam-Webster's]
- 5.5. **ADDITIONAL COATS:** Extra layers of paint applied to a surface to overcome a deficiency of the material due to its hiding ability or the color selection. When additional coats are required the painting and decorating contractor shall be entitled to additional compensation. [PDCA Standard P3]
- 5.6. **ADJACENT:** Having a common endpoint or border; being in close proximity [Merriam-Webster's]
- 5.7. **AGGRESSIVE ENVIRONMENT:** Environments that will aggressively attack or cause severe corrosion of unprotected substrates. Examples include, but are not limited to: frequent chemical exposures (splash, spillage, fumes), immersion service, marine service and geographical regions with wide temperature ranges, prolonged exposure to ultraviolet rays and high humidity. In architectural, also treated as an aggressive environment are those conditions where the cost of re-do would be excessive. [MPI]
- 5.8. **AIA:** American Institute of Architects
- 5.9. **ARCHITECTURAL CAULKING:** The application of caulking (perhaps, but not necessarily, in an integral color) for aesthetic purposes to minimize joints created by construction design and/or deficiencies, and adjacent to painted surfaces, such as: the perimeter of windows or window walls, expansion joints, casework/cabinetry, countertops, prefinished door/window frames, prefinished trim, natural or stained wood, ceramic tile, wallcovering, rigid vinyl wallcovering, seamless floors, vinyl base, ceiling grid, floor tile, etc. More specifically, unless the caulking is between two (2) field painted surfaces as further defined in paragraph 5.76, it is not "painter's caulk", and is not the responsibility of the painting and decorating contractor unless explicitly specified as such. [PDCA]
- 5.10. **ASTM:** A nonprofit technical society (formerly known as the American Society for Testing and Materials) that develops and publishes standards, definitions of materials, methods for testing materials, recommended installation practices, and specifications for materials. [Dictionary of Architecture and Construction]
- 5.11. **AS REQUIRED:** A term requiring no action on the part of the painting and decorating contractor unless directed through references in the plans and specifications. [PDCA]
- 5.12. **ATTIC STOCK:** Extra materials indicated in the contract documents to be provided to the Owner for maintenance after completion of the project. [PDCA]
- 5.13. **BENCHMARK SAMPLE:** A sample that serves as a standard by which other work may be measured or judged. [PDCA]
- 5.14. **CALIBRATE:** To determine the indication of output of a measuring device with respect to that of a standard. [SSPC]
- 5.15. **CERTIFICATION:** Confirmation by document under hand or seal as being true, or as meeting a standard or as being as represented. [SSPC]
- 5.16. **CHANGE ORDER:** An agreement to modify or alter the original contract work. This includes but is not limited to, corrective work for "damage caused by others" and "latent damage." Adjustments to the contract amount and completion time should be part of this agreement. The contracting entity will issue the change order. See PDCA Standard P18. [PDCA]
- 5.17. **CLOSELY-FABRICATED:** Characteristic of an item consisting of interwoven components, such as chain-link fencing. [PDCA Estimating Guide Volume 1]
- 5.18. **COAT:** A layer of paint, varnish, lacquer or other material that is applied and then allowed to dry. To back roll or apply a wet-on-wet film still constitutes a single coat. [MPI]
- 5.19. **COATING:** Generic term for paints, lacquers, enamels, printing inks, etc.; a liquid, liquefiable or mastic composition which is converted to solid protective, decorative or functional adherent film after application as a thin layer. It also refers to films applied to paper, plastics or foils. [ASTM] [FSCT]
- 5.20. **COATING APPLICATOR:** An individual who applies a decorative or protective coating. In law, also a company engaged in the application of coatings. Can also be an application device. [MPI]
- 5.21. **COATING DAMAGE:** A reduction or loss of protective, aesthetic or identifying characteristics resulting from physical impact, intense heat, excessive moisture, chemical contact or other external factors. Damage includes, but is not limited to, blisters, rust bloom, chipping, cracking, peeling and other forms of delamination, color change and excessive wear. [PDCA]
- 5.22. **COATING WORK:** An all-inclusive term used to define all operations required to accomplish a complete coating system. The term shall be construed to include materials, equipment, labor,

- preparation of surfaces, control of ambient conditions, application of coating systems, inspection, etc. [SSPC]
- 5.23. **COLOR:** One aspect of appearance; a stimulus based on visual response to light, and consisting of three dimensions of hue, saturation and lightness. [FSCT]
- 5.24. **COLOR RANGE:** The extent of colors, tone or hue. Paint manufacturer's systems of color tint bases used in conjunction with colorants to produce a wide range of colors, including pastel, mid-tone, deep-tone, ultra-deep tone and variations thereof. [Craftsman's]
- 5.25. **COLORANT:** Any substance that imparts color to another material or mixture. Colorants can be either dyes or pigments. [Craftsman's]
- 5.26. **COLORS TO BE SELECTED:** The designation of paint colors in accordance with PDCA Standard P3, Designation of Paint Colors. Allows for project pricing as long as the type and placement of colors and the product type have been clearly delineated. [PDCA Standard P3]
- 5.27. **CONCEALED SPACE:** An area, item or surface not visible from a position of normal use of the facility. [PDCA]
- 5.28. **CONTRACTING ENTITY:** The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P1]
- 5.29. **COVERAGE:** An ambiguous term that sometimes refers to hiding power and other times to spreading rate. (This term does not imply that a uniform color and/or sheen will be attained.) [SSPC]
- 5.30. **CROWDING:** More craft activity in a given area than can be accommodated efficiently. [PDCA Standard P7]
- 5.31. **DAMAGE:** Abuse or injury to a paint film or substrate which would blemish its appearance or impair its usefulness or value. [PDCA]
- 5.32. **DAMAGE CAUSED BY OTHERS:** "Damage" caused by individuals other than those employed by the painting and decorating contractor. [PDCA]
- 5.33. **DECORATIVE (PAINT) FINISHES:** Application of paints or glazes to adorn, decorate or embellish a surface as compared to a plain solid color, stain or varnish finish and as opposed to performing a protective function. This general group of decorative paint finishes includes a number of "subgroups" some of which overlap and others of which have more than one name by which they are recognized. These include:
- Faux (false) Finishes: In French, "false" finish. These seek to imitate products found in nature such as wood, marble, granite, stone, etc. These include wood graining, marbling, gilding, etc.
 - Representative Finishes: These seek to imitate products otherwise made like leather, parchment, fresco, Venetian plaster (itself a faux plaster), etc.
 - Special Effect Finishes: Broken color effects (as opposed to imitation effects), such as ragging on, ragging off, sponging on, sponging off, strié, splatting, stippling, etc.
 - Graphic Finishes: Detailed effects such as stenciling and graphics that are in accordance with "mathematical rules."
 - Pictorial Finishes: Decorative effects such as murals, scenics, portraits, etc.
 - Trompe d'oeil: In French, "trick of the eye." That which creates such a strong illusion that it is difficult to ascertain whether it is real or a representation. Usually, but not always, threedimensional, giving the impression of depth and perspective. [MPI]
- 5.34. **DECORATIVE PAINTING:** A coating applied more for its aesthetic or decorative function than for protective purposes. [MPI]
- 5.35. **DEEP (COLOR):** Intense, strong color with no appearance of black. Also called an accent color. [Craftsman's]
- 5.36. **DEEP-TONE BASE:** Paint base used to develop deep colors. Might contain small amount of white. Also called an accent base. [Craftsman's]
- 5.37. **DEFECTIVE:** Subnormal with respect to written specifications. [SSPC]
- 5.38. **DESIGN DEFECTS:** A physical condition, created by the design of a structure, vessel, etc., that prevents meeting the specification requirements for surface preparation and/or coating application to a surface by standard industry methods. [PDCA]
- 5.39. **DEVIATION:** Completed work that is not in accordance with the specification requirements. [SSPC]
- 5.40. **DOCUMENTATION:** The assembling and dissemination of written information, communication directives or records in substantiation of work done or facts quoted. [SSPC]
- 5.41. **ENVIRONMENT:** The circumstances, objects or conditions by which one is surrounded; the complex of physical, chemical and biotic factors that act upon an organism or structure and ultimately determine its form and survival. [Merriam-Webster's]
- 5.42. **EXPOSED:** A surface, area or object that is visible from a position of normal use of the facility. This term does not imply that that any finish will be applied by the painting and decorating contractor

- unless explicitly specified. [PDCA]
- 5.43. **EXPOSED CONSTRUCTION:** Basic materials of construction such as joists, pipes, ducts, studs, etc. that are not encased by a finished wall or ceiling. This term does not imply that any finish will be applied by the painting and decorating contractor unless explicitly specified. [PDCA]
- 5.44. **EXPOSED PAINTED/EXPOSED CONSTRUCTION PAINTED:** A term that implies that exposed construction will be painted with the coatings specified for that particular surface or substrate. [PDCA]
- 5.45. **FACTORY FINISHED:** Finished at the point of manufacture, requiring no additional work or finish by the painting and decorating contractor. [MPI]
- 5.46. **FAUX FINISH:** In French, literally a “false” finish. A decorative finish applied to surfaces (wood, drywall, glass, etc.) to make them appear as different substrates. The general category may also include faux plaster (such as Venetian plaster) or faux brick finishes (which may use actual plaster formulations or brick facing) but which also can be simulated with decorative painted effects. Originally, it meant an artificial finish that represented or imitated a finish of natural products such as wood, stone, marble, etc. for those who could not obtain the “real thing.”
- It is also used today to match “real” adjacent items where cost or regulation would preclude the use of the “real” material. Faux marble (“false marble”) is marbling, faux bois (“false wood”) is wood graining. There is also faux granite (“false granite”) and faux tortoiseshell (“false tortoiseshell”). The term, however, has come to include imitations of other products that are not directly “from nature.” Faux leather, faux parchment, faux moldings are some that are now included, as is gilding, antiquing, fresco and some verdigris/patina.
- Faux finish does not properly include special effect finishes, graphic finishes, pictorial finishes and tromp d’oeil. These are defined elsewhere. Fantasy finishes may include “creative” faux finishes, or just may create different effects. [MPI]
- 5.47. **FINISH:** An entire paint or coating system; the texture, color and sheen of a surface. [Craftsman’s]
- 5.48. **FINISHED AREA:** A vague term that does not imply that paints, coatings, or other decorative finishes are to be applied. [PDCA]
- 5.49. **FINISHED LIGHTING:** Finished lighting conditions are described as those in place when the project is finished. This includes, but is not limited to, design lighting (e.g., wall washers, spots, floods, etc.) and natural lighting (e.g., skylights, clear view windows, window walls, window treatments, etc.). [PDCA]
- 5.50. **FINISH COAT:** The last coat applied in a painting operation. A finish coat is formulated specifically for environmental resistance and appearance. [Craftsman’s]
- 5.51. **FSCT:** Abbreviation for Federation of Societies for Coatings Technology. [FSCT]
- 5.52. **GA:** Abbreviation for Gypsum Association. [PDCA]
- 5.53. **GRAPHICS:** Two or more colors decoratively applied to a surface in a clearly defined pattern. [MPI]
- 5.54. **HIDING, syn. HIDING POWER:** The degree or ability of an opaque coating, applied in a uniform film, to cover, mask or obscure the substrate to which it is applied, or the colors underneath. Hiding power is provided by the paint’s pigment. [MPI]
- 5.55. **HOLD POINT:** The point at which work must be stopped until inspection or testing is performed. [SSPC]
- 5.56. **INACCESSIBLE:** Not accessible. (The opposite of “accessible” see 5.4.) [Merriam-Webster’s]
- 5.57. **INSPECTION LIGHTING:** Illumination of the installed surface from an angle at an intensity sufficient to eliminate any shadowing that may be caused by other illumination striking the surface at any angle. [MPI]
- 5.58. **INSPECTOR:** A trained, qualified person who examines and documents materials used and work performed to confirm adherence to accepted trade practices, standards and specifications. [MPI]
- 5.59. **INTEGRAL COLOR:** Term implying that a surface or material does not require additional finish by the painting and decorating contractor. [PDCA]
- 5.60. **JOB EQUENCE/SEQUENCING:** An order of succession or continuity of progression of work activities. [PDCA]
- 5.61. **LATENT DAMAGE OR DEFECTS:** Damage to surfaces by cause beyond the control of the painting and decorating contractor. Examples of such include, but are not limited to, building settlement, earthquake damage, and nail and/or screw pops or expansion and/or contraction of substrate. [PDCA Standard P1]
- 5.62. **LEAP-FROGGING:** The presence of other subcontractor(s) and/or stockpiling of materials in areas, which interferes with and hampers painting and decorating contractor’s crew from completing its work in a given area. [PDCA Standard P7]
- 5.63. **MAINTENANCE:** The act of maintaining; the state of being maintained; the upkeep of property or equipment [Merriam-Webster’s]
- 5.64. **MAINTENANCE PAINTING:** The selective repainting of surfaces on an ongoing cyclic basis with

- the focus on prevention of coating and subsequent substrate failure. [MPI]
- 5.65. MID-TONE BASE: Paint base used to develop colors darker than a pastel. Tint strength of white has been reduced. (Lighter than deep-tone base.) [Craftsman's]
- 5.66. MPI: Abbreviation for Master Painters Institute [MPI]
- 5.67. MULTI-COLOR FINISH: A speckled coating containing flecks of small individual colored particles different from the base color. Syn. speckled finish. [FSCT]
- 5.68. MURAL: A painting applied directly to a wall or ceiling.; a wallcovering with a mural scene that continues over several strips to cover one wall without a repeat. Also called a scenic. [Craftsman's]
- 5.69. NACE: Abbreviation for National Association of Corrosion Engineers. [SSPC]
- 5.70. NAWIC: Abbreviation for National Association of Women in Construction. [PDCA]
- 5.71. NORMAL VIEWING POSITION: For the purpose of inspection, a normal viewing position shall be at eye level at a minimum of thirty-nine (39) inches or one (1) meter from the wall. [PDCA Standard P1]
- 5.72. NONCOMPLIANT: Deficiency in characteristic, specification, regulation, documentation or procedure. [MPI]
- 5.73. OFF-WHITE: Any number of light colors that are nearly white, but contain minute amounts of color or toner. Off-white colors are used as base colors in interior paints for large surfaces such as walls. (Lighter than a pastel.) [MPI]
- 5.74. OPINION: A view, judgment, or appraisal formed in the mind about a particular matter; a belief stronger than impression and less strong than positive knowledge; a generally held view; a formal expression of judgment or advice by an expert; the formal expression (as by a judge, court, or referee) of the legal reasons and principles upon which a legal decision is based. [Merriam-Webster's]
- 5.75. OTHERS: Any individual or group of individuals other than the painting and decorating contractor or his employees. [PDCA]
- 5.76. PAINT: Any pigmented liquid, liquefiable, or mastic composition designed for application to a substrate as a thin layer, which is converted to an opaque solid film after application. [SSPC]
- 5.77. PAINT ACCENT: See PDCA Standard P3, Designation of Paint Colors.
- 5.78. PAINTER'S CAULK: The application of painter's caulk shall be as directed and as delineated in specification section 09 90 00 Painting, or in the absence of direction or delineation, the following shall be assumed within the scope of work: Joints between wood or wood composite materials, trim, baseboard, molding, and casements. These joints include and are limited to wood to wood or wood composite substrates, and wood to gypsum drywall, plaster or similar wall surfaces. These joints shall only be between field painted surfaces. Painter's caulk is to be applied to enhance the aesthetic appearance of the affected surfaces. It is not the responsibility of the applicator of painter's caulk to waterproof a surface, joint or void, nor is it the responsibility of the applicator of painter's caulk to conceal, eliminate, minimize, or disguise shrinkage or movement of joints or voids. [PDCA Standard P11]
- 5.79. PAINT DAMAGE: See coating damage.
- 5.80. PAINTING AND DECORATING CONTRACTOR: An individual or firm whose primary business is providing surface preparation, and wallcovering and coating application service [MPI]
- 5.81. PAINTING AND DECORATING CONTRACTOR'S REPRESENTATIVE: An individual, identified to the contracting entity, as having the authority, within stated parameters, to speak and act for the painting and decorating contractor. [PDCA]
- 5.82. PASTEL: A soft, pale shade of any color. (Lighter than a mid-tone base.) [Webster's]
- 5.83. PDCA: Painting and Decorating Contractors of America. [PDCA]
- 5.84. PDRA: Abbreviation for Painting and Decorating Retailers of America. [PDCA]
- 5.85. PERCENT VOLUME SOLID or material does not require additional finish by the painting and decorating contractor. [PDCA]
- 5.86. PERCENTAGE OF ACCENT: See PDCA Standard P3, Designation of Paint Colors.
- 5.87. PHASING SEQUENCE: See PDCA Standard P7, Job Sequencing.
- 5.88. POROSITY: The absorption of a paint by the surface being coated. The ability of a surface to absorb a liquid, vapor or gas. A measure of the degree of voidage in an object expressed as a fraction of the total object's volume. The major consideration in the absorption of paint, liquid, vapor or gas by the surface. [Craftsman's] [MPI]
- 5.89. PREFINISHED: PRE-FINISHED: For the purpose of this standard, a completely finished product requiring installation only, finished by an entity other than the painting and decorating contractor. An inappropriate term sometimes used to define "factory finished". [PDCA] [MPI]
- 5.90. PREPARATION: The action or process of making something ready for use or service or of getting

- ready for some occasion, test, or duty; a state of being prepared; a preparatory act or measure. Performance of the specified procedures prior to the application of paint, coating, wallcovering or other decorative finish. [Merriam-Webster's] [MPI]
- 5.91. PRE-SEALER: A product applied prior to the application of stain for the purpose of evening the porosity of the soft wood to which it is applied. [PDCA]
- 5.92. PROPERLY PAINTED SURFACE: A surface uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the painting and decorating contractor's workforce. [PDCA Standard P1]
- 5.93. PUNCH LIST: A checklist of all items on a construction project that are unfinished, or incomplete, have not been done at all, require replacement or repair, or acquire additional work to achieve an acceptable level of workmanship. Such a list is often established as a result of periodic inspections at the job site during construction and may be included in field reports. All items must be corrected by the contractor in a timely fashion so that the finished construction job conforms to the contract documents. [Dictionary of Architecture and Construction]
- 5.94. QUALIFICATION: A restriction in meaning or application; a limiting modification; a quality or skill that fits a person; a condition or standard that must be complied with. [Merriam-Webster's]
- 5.95. QUALITY ASSURANCE (QA) : The verification of the conformance of materials and methods of application to the governing specification in order to achieve a desired result. [Craftsman's]
- 5.96. QUALITY CONTROL (QC): Administrative and engineering procedures employed to attain the desired level of quality assurance. [Craftsman's]
- 5.97. QUALITY OF APPEARANCE: Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]
- 5.98. REFINISH: To give (as furniture) a new surface. (This term does not imply the removal of existing finishes prior to the application of a new finish). [Merriam-Webster's]
- 5.99. REFURBISH: To brighten or freshen up; renovate (This term does not imply the removal of existing finishes unless specified.) [Merriam-Webster's]
- 5.100. RE-GLAZE: To replace defective or missing glazing compound or apply a decorative finish. (This term must be further clarified and specified for proper pricing.) To furnish or fit with glass. [PDCA] [Merriam-Webster's]
- 5.101. REFER TO: Direct attention to another section of the specifications. (This term does not clarify the scope of work.) [PDCA]
- 5.102. ROOM FINISH SCHEDULE: A table or chart showing individual rooms and the substrates and/or finishes required. Often requiring further clarification for proper pricing. [PDCA Estimating Guide Volume 1]
- 5.103. SHADING: Variation, created in the manufacturing process, in the color, texture or gloss within the same strip of a wallcovering. [ASTM]
- 5.104. SHIFT WORK: Work scheduled in time periods other than the normal workday. [PDCA]
- 5.105. SHOP PRIMED: (shop coated) A prefabricated article that has been primed at the factory. A prime coat applied by an entity other than the painting and decorating contractor. [NAWIC] [PDCA]
- 5.106. SPECIAL FINISHES: Paints and coatings requiring special tools or techniques for application i.e.: faux finishes, decorative finishes, graphics, multi-color or murals. A representative sample must be submitted by the contracting entity prior to bid on projects where these finishes are specified. [MPI] [PDCA]
- 5.107. SPECIFICATION: A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 5.108. SQUARE FEET: A common unit of measure of surface area determined in accordance with the methods, procedures and standards as defined in the PDCA Estimating Guide Volume 1, Practices and Procedures and PDCA Estimating Guide Volume 2, Rates and Tables. [PDCA]
- 5.109. SSPC: Abbreviation for The Society for Protective Coatings [SSPC]
- 5.110. STACKING OF TRADES: Simultaneous operation of several trades, resulting in congestion and confusion, which in turn causes a decrease in labor productivity. [PDCA]
- 5.111. STAIN CONDITIONER: See pre-sealer.
- 5.112. STANDARD: Something established by authority, custom, or general consent as a model or example; criterion; something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality. [Merriam-Webster's]

- 5.113. **SUBSTRATE:** A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the “original substrate.” [MPI]
- 5.114. **SURFACE:** The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [Craftsman’s]
- 5.115. **SURFACE AREA:** The measurement of the area of surface to be finished determined in accordance with the methods, procedures and standards as defined by the PDCA Standard P10.
- 5.116. **TACIT:** Expressed or carried on without words or speech; implied or indicated (as by an act or by silence) but not actually expressed. [Merriam-Webster’s]
- 5.117. **TEXTURE:** The general physical appearance, or the impression caused by a surface structure. [MPI]
- 5.118. **THIRD PARTY:** An independent contractor or business entity that is not a principal (contracting entity, general contractor, painting and decorating contractor or material supplier), employee, subsidiary of a principal, or any other party to the contract for coatings application work. [PDCA Standard P2]
- 5.119. **TOUCH UP:** The correction of deficiencies in the specified work to achieve a “properly painted surface” [PDCA Standard P1]
- 5.120. **TRADE USAGE:** A practice widely accepted and relied upon in numerous transactions in a particular trade or industry. [PDCA]
- 5.121. **TRAINING:** The act, process, or method of one that trains; the skill, knowledge, or experience acquired by one that trains; the state of being trained. [Merriam-Webster’s]
- 5.122. **TYPICAL:** A term that is subject to individual interpretation and requires further clarification from the contracting entity to describe the scope of work. This term does not imply the application of any finish by the painting and decorating contractor unless explicitly specified. [PDCA]
- 5.123. **ULTRA-DEEP BASE:** Paint base used to develop deep intense colors with no apparent white. Deeper than a mid-tone base. [Craftsman’s]
- 5.124. **VERTICALITY:** Situated at the highest point; directly overhead or in the zenith; perpendicular to the plane of the horizon or to a primary axis. [Merriam-Webster’s]
- 5.125. **WALLCOVERING INSTALLER, syn. PAPERHANGER:** The individual responsible for the installation of wallpaper or wallcovering. [PDCA]
- 5.126. **WALLCOVERING, syn. WALLPAPER:** Any type of paper, vinyl, fabric or specialty material that is pasted onto a wall or ceiling for decoration and/or protection. Wallcoverings come in a wide array of colors, patterns, textures and performance characteristics, such as washability and abrasion resistance. [Craftsman’s]
- 5.127. **WARRANTY:** A real covenant binding the grantor of an estate and the grantor’s heirs to warrant and defend the title; a collateral undertaking that a fact regarding the subject of a contract is or will be as it is expressly or by implication declared or promised to be; something that authorizes, sanctions, supports, or justifies; a usually written guarantee of the integrity of a product and of the maker’s responsibility for the repair or replacement of defective parts [Merriam-Webster’s]
- 5.128. **WHITE:** A basic paint color as described by coatings manufacturers. ASTM D1535-89 “specifying color by the Munsell System,” 3.2.5 Munsell Value, N-10 – Ideal White. ASTM E31387, indexes of whiteness. [ASTM]
- 5.129. **WORK LIST:** A vague term sometimes implying a preliminary punch list generated to provide an indication of work remaining to be completed. [PDCA]

6. Comments

- 6.1. Bid documents contain terms and phrases that must be interpreted by the painting and decorating contractor.
- 6.2. This standard establishes definitions of terms and phrases for the purpose of clarifying the painting and decorating contractor’s work scope and responsibilities.
- 6.3. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.4. This standard is a nationally recognized consensus document for the painting and decorating industry’s work practices

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P8

Owner's Responsibility for Maintenance of Paints and Coatings

1. Scope

- 1.1. This standard addresses the responsibility of the owner to implement an appropriate maintenance program. Proper paint and coatings maintenance (clear or pigmented) reduces the detrimental effects of time, abrasion, environment, impact and other forces on the aesthetic, identifying (color coding) and other protective properties of paints and coatings.
- 1.2. This standard will improve communication between the owner and the painting and decorating contractor for the purpose of keeping the paints and coatings intact and capable of performing their intended function(s).
- 1.3. This standard describes the basic steps for the owner to implement an effective paint and coatings maintenance program.

2. Significance and Use

- 2.1. All surfaces that have previously had paints and coatings applied (which are intended to perform a decorative, identifying and/or a protective function) benefit from timely inspection and repair.
- 2.2. Touch up or repainting becomes a "maintenance procedure" at the point in time after the painting and decorating contractor has fulfilled the warranty obligation of the original contract. Touch up is defined in PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.

3. Reference Documents and Standards

- 3.1. ASTM, D16 Standard Terminology for Paint, Related Coatings, Materials and Applications.
- 3.2. SSPC, Surface Preparation Standards, Paint Application (PA Guide 5), Guide to Maintenance Painting Programs.
- 3.3. FSCT, (Federation of Societies for Coatings Technology), Coatings Encyclopedia Dictionary, edited by Stanley LeSota, 1995.
- 3.4. Merriam-Webster's Collegiate Dictionary, Eleventh Edition, Copyright 2003.
- 3.5. PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility and Definition of a

Properly Painted Surface.

- 3.6. PDCA Standard P2, Third Party Inspection Qualifications and Responsibilities
- 3.7. PDCA Standard P9, Definition of Trade Terms.
- 3.8. PDCA Standard P18, Recommended Protocol for Documenting Extra Work to a Contract.
- 3.9. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.10. MPI, The Master Painter's Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.11. SSPC, Protective Coatings Glossary.
- 3.12. Dictionary of Architecture and Construction, Fourth Edition, 2005.
- 3.13. If there is any conflict between any of these references and this document, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. **AGGRESSIVE ENVIRONMENT (CONDITION):** Environments that will aggressively attack or cause severe corrosion of unprotected substrates. Examples include, but are not limited to: frequent chemical exposures (splash, spillage, fumes), immersion service, marine service and geographical regions with wide temperature ranges, prolonged exposure to ultraviolet rays and high humidity. In architectural, also treated as an aggressive environment are those conditions where the cost of re-do would be excessive. [MPI]
- 4.2. **COATING:** Generic term for paints, lacquers, enamels, printing inks, etc.; a liquid, liquefiable or mastic composition which is converted to solid protective, decorative or functional adherent film after application as a thin layer. It also refers to films applied to paper, plastics or foils. [ASTM] [FSCT]
- 4.3. **COATING DAMAGE:** A reduction or loss of protective, aesthetic or identifying characteristics resulting from physical impact, intense heat, excessive moisture, chemical contact or other external factors. Damage includes, but is not limited to, blisters, rust bloom, chipping, cracking, peeling and other forms of delamination, color change and excessive wear. [PDCA Standard P9]
- 4.4. **ENVIRONMENT:** The circumstances, objects or

conditions by which one is surrounded; the complex of physical, chemical and biotic factors that act upon an organism or structure and ultimately determine its form and survival. [Merriam-Webster's]

- 4.5. MAINTENANCE: The act of maintaining; the state of being maintained; the upkeep of property or equipment. [Merriam-Webster's]
- 4.6. MAINTENANCE PAINTING: The selective repainting of surfaces on an ongoing cyclic basis with the focus on prevention of coating and subsequent substrate failure. [MPI]
- 4.7. OWNER: The architect's client and party to the owner-architect agreement; one who has the legal right or title to a piece of property. [Dictionary of Architecture and Construction]
- 4.8. PAINT: Any pigmented liquid, liquefiable, or mastic composition designed for application to a substrate as a thin layer, which is converted to an opaque solid film after application. [SSPC]
- 4.9. PAINT DAMAGE: See coating damage.
- 4.10. PAINTING AND DECORATING CONTRACTOR: An individual or firm whose primary business is providing surface preparation, and wallcovering and coating application service. [MPI]
- 4.11. QUALITY OF APPEARANCE: Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]
- 4.12. SPECIFICATION: A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 4.13. SUBSTRATE: A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate". [MPI]
- 4.14. SURFACE: The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [Craftsman's]
- 4.15. WARRANTY: A real covenant binding the grantor of an estate and the grantor's heirs to warrant and defend the title. 2) A collateral undertaking that a fact regarding the subject of a contract is or will be as it is expressly or by implication declared or promised to be. 3) Something that authorizes,

sanctions, supports, or justifies. 4) A usually written guarantee of the integrity of a product and of the maker's responsibility for the repair or replacement of defective parts. [Merriam-Webster's]

5. Standard Specification

- 5.1. The painting and decorating contractor shall be financially responsible for the repair of any defects in its material or application during the warranty period stipulated in the original construction contract.
- 5.2. If the painting and decorating contractor performs additional work during the original warranty period due to repair work by other trades, then the additional painting and decorating work necessitated shall be considered damage repair as defined by PDCA standard P1 and shall be invoiced in accordance with PDCA Standard P18.
- 5.3. After the original warranty period has expired, periodic inspections of all painted and coated surfaces shall be conducted as required by type(s) of paint and coating materials, area(s) of use and type of exposure. Inspections are the responsibility of the owner or a qualified third party.
 - 5.3.1. When the work of the painting and decorating contractor is impacted by the work of other trades, job sequencing shall be maintained enabling the painting and decorating contractor to commence its work and proceed efficiently through to completion.
 - 5.3.2. Corrective actions can extend to underlying causes of the paint or coating deterioration or failure including, but not limited to, moisture intrusion, damaged or missing caulking, container leaks, aggressive environment, substrate expansion and contraction and structure settlement.
 - 5.3.3. All procedures necessary for the performance of the corrective actions shall be documented.
 - 5.3.4. Corrective actions required to be performed by other trades prior to maintenance painting must be completed to avoid continued deterioration.
 - 5.3.5. It is the responsibility of the owner or a qualified third party to ensure that these corrective actions are properly completed.
 - 5.3.6. If the original painting and decorating contractor is hired to perform the necessary maintenance repainting when work by other trades has been completed and accepted by the owner, the painting and decorating contractor shall be entitled to additional compensation for the performance of this work. This extra work shall be invoiced in accordance with one of the methods outlined in PDCA Standard P18.

- 5.4. Maintenance procedures shall be scheduled and followed to ensure that all repainting or recoating adheres to manufacturers' instructions.

6. Comments

- 6.1. Painting and coating deficiencies that occur during the completion and under the terms of the original contract warranty shall be addressed through the use of PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 6.2. Paints or coatings that become damaged or suffer serious film degradation may exhibit reduced effectiveness of protection, decoration or identification of the substrate. When this occurs, neglect of maintenance places the substrate at risk for continued degradation and may lead to complete substrate removal and replacement.
- 6.3. Implementation of routine inspection and maintenance of paints and coatings will in most cases preserve the integrity of paint and coating systems.
- 6.4. This standard identifies the procedures required for a successful and cost-effective maintenance program.
- 6.5. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.6. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P7 Job Sequencing

1. Scope

- 1.1. The purpose of this standard is to recognize how job sequencing affects the completion of painting and decorating work activities.
- 1.2. This standard establishes job sequencing criteria for bidding purposes.
- 1.3. This standard encompasses projects where the painting and decorating contractor applies paints, coatings and/or wallcoverings to surfaces or substrates prepared by the contracting entity, another contractor, construction manager or trade not under the painting and decorating contractor's control.
- 1.4. This standard is not intended to establish project schedules.

2. Significance and Use

- 2.1. Proper and effective job sequencing is vital to the work of (new construction, remodeling and repainting projects) the painting and decorating contractor. The painting and decorating contractor's cost and quality of work is affected by changes in job sequencing.
- 2.2. This standard should be used in bidding and during the course of the project or in the absence of a written schedule.
- 2.3. This standard will help the painting and decorating contractor define the job conditions and sequencing necessary to complete its work in a timely and productive manner.
- 2.4. This standard will help determine the responsibility of those whose actions fail to maintain proper job sequencing, causing additional costs to the painting and decorating contractor.

3. Reference Documents and Standards

- 3.1. PDCA Standard P4, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 3.2. PDCA Standard P9, Definition of Trade Terms
- 3.3. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th Edition
- 3.4. NAWIC, Construction Dictionary, published by Greater Phoenix, Arizona Chapter 98 of The

Nationals Association of Women in Construction, 9th edition, 5th printing, June 2003.

- 3.5. Construction Delay, T.J. Trauner, Documenting Causes, Winning Claims and Recovering Costs, published by R. S. Means, Inc., (CMGD) 1990.
- 3.6. Painting and Decorating Encyclopedia, William Brushwell, published by Goodheart-Wilcos, 1982.
- 3.7. If there is a conflict between any of the references and this standard, the requirements of this standard shall prevail.

4. Definitions

- 4.1. ACCELERATION: To hasten the progress of development of project production and/or completion. [PDCA Standard P9]
- 4.2. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement, or authorized agent of any of the above. [PDCA Standard P9]
- 4.3. CROWDING: More craft activity in a given area than can be accommodated efficiently. [PDCA Standard P9]
- 4.4. JOB SEQUENCE/SEQUENCING: An order of succession or continuity of progression of work activities. [PDCA Standard P9]
- 4.5. LEAP-FROGGING: The presence of other subcontractor(s) and/or stockpiling of materials in areas, which interferes with and hampers the painting and decorating contractor's crew from completing its work in a given area. [PDCA Standard P9]
- 4.6. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.7. PRE-FINISHED: For the purpose of this standard, a completely finished product requiring installation only, finished by an entity other than the painting and decorating contractor.
- 4.8. SHIFT WORK: Work scheduled in time periods other than the normal workday [PDCA Standard P9]

- 4.9 **STACKING OF TRADES:** Simultaneous operation of several trades, resulting in congestion and confusion, which in turn causes a decrease in labor productivity. [PDCA Standard P9]

5. Standard Specification

- 5.1 **Interior General Conditions:** The following requirements, supplied by others, must be in place prior to the start of work in order to ensure a successful installation by the painting and decorating contractor:
- 5.1.1 The structure shall be weather-tight including doors, windows, floors, and roofing. 5.1.2 Permanent or temporary HVAC system shall maintain temperature and humidity levels within the guidelines set forth and approved by the materials suppliers of the products specified.
- 5.1.3 Unless otherwise agreed, permanent lighting, or temporary lighting comparable in intensity to the permanent lighting, shall be supplied. If temporary lighting is not comparable to the permanent lighting, inspections shall occur under the temporary lighting. However, surface deficiencies noted upon installation of permanent lighting shall be considered latent damage. Refer to PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface.
- 5.1.4. Unless specified otherwise, all pre-finished or non-painted items and furnishings shall be installed on painted/decorated surfaces or in painted/decorated areas after final finishes are applied. This shall apply to, but not be limited to, ceiling grid, door hardware, light fixtures, trim, base and carpet.
- 5.2 **Exterior General Conditions:** The following requirements, supplied by other, must be in place prior to the start of work in order to ensure a successful installation by the painting and decorating contractor:
- 5.2.1 Reasonable access to the area prior to the installation of any fencing, landscaping, or other obstacles that could prevent or hinder such access.
- 5.2.2 Acceptable weather and climate conditions of the project area to comply with the manufacturers' recommendations for application of materials.
- 5.3 The following requirements are mandatory for proper sequencing of the painting and decorating contractor's scope of work:
- 5.3.1 When the work of the painting and decorating contractor is impacted by the work of other trades, job sequencing shall be maintained enabling the painting and decorating contractor

to commence its work and proceed efficiently through to completion.

- 5.3.2 The painting and decorating contractor shall be informed in writing not less than three (3) working days in advance of changes in schedule that may affect work shifts, require acceleration, or cause added cost.
- 5.3.2 Completion of other trades' work that requires field finishing is to be coordinated with the painting and decorating contractor to avoid adverse conditions such as leap-frogging, stacking of trades and damage by others to finishes, whether completed or in progress. separately as described in 5.2.

6. Comments

- 6.1 Compliance with this standard will promote a high quality of workmanship by the painting and decorating contractor.
- 6.2 Unless specified otherwise, the painting and decorating contractor shall be entitled to additional compensation when job sequencing does not conform to this standard.
- 6.3 This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.
- 6.4 This standard clarifies areas of responsibility. Improved communication reduces misunderstandings

7. Disclaimer of Liability

- 7.1 PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P6

Acceptance of Completed Wallcovering

1. Scope

- 1.1. The purpose of this standard is to establish guidelines for the acceptance of wallcovering installations.
- 1.2. This standard encompasses any project requiring the installation of wallcoverings listed in section 4.13.1 through 4.13.11.

2. Significance and Use

- 2.1. This standard establishes a guideline for the acceptance of installation quality and is limited to proper seaming practices, pattern match, verticality, and cleanliness of appearance.
- 2.2. The contracting entity is the final judge in all matters related to the acceptance of the wallcovering installation.
- 2.3. Inspection and acceptance of surfaces and wallcovering material(s) prior to installation are separate from this standard. Refer to related documents in Section 3.

3. Reference Documents and Standards

- 3.1. ASTM, E284-02b, Standard Terminology of Appearance.
- 3.2. ASTM, C840-01, Standard Specification for Application and Finishing of Gypsum Board.
- 3.3. ASTM, F1141, Specification for Wallcovering.
- 3.4. PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibilities.
- 3.5. PDCA Standard P2, Third Party Inspection: Qualifications, Responsibilities, Procedures.
- 3.6. PDCA Standard P4, Responsibilities for Inspection and Acceptance of Surfaces Prior to Painting and Decorating.
- 3.7. PDCA Standard P9 – Definition of Trade Terms
- 3.8. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.9. PDRA, Wallcovering Problem Solver, 2nd edition.
- 3.10. Recommended Levels of Gypsum Board Finish, GA214-96, published by the Gypsum Association and endorsed by AWCI, PDCA, GA and CISCA.
- 3.11. Wallcovering Hanging Instructions (joint publication of the Wallcovering Association, painting and

decorating contractors of America, National Guild of Professional Paperhangers and Painting and Decorating Retailers Association).

- 3.12. Installation instructions, as supplied with wallcovering material by the manufacturer.
- 3.13. Black's Law Dictionary, 7th Edition, Bryan A. Garner, 1999.
- 3.14. Webster's New World Collegiate Dictionary, 4th Edition, 2002.
- 3.15. If there is a conflict between any of these references and this standard, the requirements of this standard shall prevail.

4. Definitions

- 4.1. ACCEPTANCE: An agreement, either by express act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]
- 4.2. AWCI: Association of the Wall and Ceiling Industries International
- 4.3. CISCA: Ceilings and Interior Systems Construction Association
- 4.4. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement, or authorized agent of any of the above. [PDCA Standard P9]
- 4.5. FINISHED LIGHTING: Finished lighting conditions are described as those in place when the project is finished. This includes, but is not limited to, design lighting (e.g., wall washers, spots, floods, etc.) and natural lighting (e.g., skylights, clear view windows, window walls, window treatments, etc.). [PDCA Standard P9]
- 4.6. GA: Gypsum Association
- 4.7. INSPECTION LIGHTING: Illumination of the installed surface from an angle at an intensity sufficient to eliminate any shadowing that may be caused by other illumination striking the surface at any angle. [PDCA Standard P9]
- 4.8. NORMAL VIEWING POSITION: For the purpose of inspection, a normal viewing position shall be at eye level at a minimum of thirty-nine (39) inches or

one (1) meter from the wall. Inspection lighting can be used as defined in this standard.
[PDCA Standard P9]

- 4.9. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.10. **SHADING:** Variation created in the manufacturing process, in the color, texture or gloss within the same strip of a wallcovering. [ASTM]
- 4.11. **VERTICALITY:** (Vertical) – at a right angle to the plane of the horizon; upright, straight up or down, etc.; upright position. [Webster’s]
- 4.12. **WALLCOVERING INSTALLER, syn. PAPERHANGER:** The individual responsible for the installation of wallpaper or wallcovering. [PDCA Standard P9]
- 4.13. **WALLCOVERING, syn. WALLPAPER:** Any type of paper, vinyl, fabric or specialty material that is pasted onto a wall or ceiling for decoration and/or protection. Wallcoverings come in a wide array of colors, patterns, textures and performance characteristics, such as washability and abrasion resistance. [Craftsman’s]

For the purpose of this standard, wallcoverings shall be limited to the following:

- 4.13.1. Residential vinyl coated paper (peelable and strippable).
- 4.13.2. Residential or Type I fabric backed, woven, vinyl wallcovering.
- 4.13.3. Residential paper backed vinyl (solid vinyl) peelable wallcovering.
- 4.13.4. Residential standard/ untreated paper.
- 4.13.5. Commercial Type II or III fabric backed vinyl wallcovering.
- 4.13.6. Textile commercial wallcovering.
- 4.13.7. Flocked wallcovering.
- 4.13.8. Foil wallcovering.
- 4.13.9. Natural material, such as grass cloth, strings and cork wallcovering.
- 4.13.10. Fiberglass wallcovering, paintable or prefinished.
- 4.13.11. Acoustical wallcovering.
- 4.14. **WALLCOVERING CONTRACTOR:** See 4.9.

5. Standard Specification

- 5.1. The manufacturer and purchaser (or purchaser’s agent) of the wallcovering shall inspect the wallcovering for defects, prior to installation.
- 5.1.1. The purchaser must report any discrepancies in the wallcovering pattern, texture or color to the

wallcovering manufacturer or distributor as soon as possible, to avoid installation disputes.

- 5.2. The contracting entity shall inspect surfaces prepared by others for compliance with the manufacturer and installer’s surface requirements.
- 5.2.1. Wallcoverings are a prefinished item and should only be installed in a controlled environment where permanent heating is provided to maintain and guarantee ambient and substrate temperatures at a minimum of sixty-five (65) degrees Fahrenheit. If the contracting entity provides temporary heating to accelerate a building schedule, the temporary heating must be maintained in areas where wallcoverings have been installed, until ambient temperatures reach sixtyfive (65) degrees Fahrenheit. Temperature must be maintained for at least three (3) weeks after the last strip has been installed.
- 5.3. Wallcovering is deemed properly installed when:
- 5.3.1. Adhesion is complete with no loose or curling edges, lifting seams, air bubbles or paste bumps.
- 5.3.2. Pattern match is achieved.
- 5.3.3. Wallcovering is installed plumb or square. Note: A pattern may appear out of square due to a substrate or construction defect that is beyond the control of the installer.
- 5.3.4. Wallcovering is free from visible shrinkage.
- 5.3.5. Seams are properly trimmed, with no frayed edges, allowing for pattern match and without evidence of excessive pressure that would score the substrate and affect adhesion.
- 5.3.6. Wallcovering surface is free from adhesive residue.
- 5.4. Color shading is inherent in natural and simulated natural materials and should be expected.
- 5.5. Upon completion, a visual inspection by the contracting entity should occur in order to determine compliance with this standard.
- 5.5.1. The acceptability of the surface shall be determined when viewed without magnification, at a distance of thirty-nine (39) inches or one (1) meter or more, under finished lighting conditions and from a normal viewing position.
- 5.5.1.1. Inspection lighting conditions will allow the finished surface to be viewed with minimal distortion, which may be caused by the quality of the substrate preparation and/or illumination at an acute angle.
- 5.5.2. Damage caused by parties other than the painting and decorating contractor or its workforce is considered damage by others and shall be repaired or replaced as specified in PDCA

Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility.

6. Comments

- 6.1. This standard acknowledges the areas of wallcovering installation within the control of the painting and decorating contractor. Use of this standard avoids time-consuming disputes pertaining to the wallcovering material that can only be resolved with the participation of the wallcovering manufacturer and/or distributor.
- 6.2. Latent damage is due to conditions beyond the control of the painting and decorating contractor. This damage is caused by conditions not apparent at the time of initial painting and decorating. The painting and decorating contractor will repair and/or repaint the damaged area after receiving acceptance of its proposal and authorization to proceed on either a lump sum or time and material basis, as specified in PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility.
- 6.3. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.4. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P5

Benchmark Sample Procedures for Paint and Other Decorative Coating Systems

1. Scope

- 1.1. The purpose of this standard is to provide a guideline to achieve approved benchmark samples of complete paint and coating systems for painting and decorating jobs.
- 1.2. This standard provides a protocol to establish an approved level of achievable quality for a specific paint and coating system.
- 1.3. It is intended that this standard be used where the scope of the project is such that it is advisable to establish achievable levels of quality before beginning the job.
- 1.4. This standard includes the surface preparation of typical areas of a project site in accordance with the applicable project specifications or contract documents.

2. Significance and Use

- 2.1. This standard consists of the procedures and criteria whereby a benchmark sample for paint, coating and/or other decorative systems will be prepared and presented by the painting and decorating contractor for approval by the contracting entity.
- 2.2. Approved benchmark samples are established utilizing full scale, on-site surface areas. These shall be prepared using the complete specified or approved paint, coating and/or decorative system. The sample is to include surface preparation, and the application of the primer, intermediate, finish coat and touch up materials.

3. Reference Standards and Documents

- 3.1. ASTM, D16 (06.01), Standard Terminology for Paint, Related Coatings, Materials and Applications.
- 3.2. ASTM, E12 Standard on Color and Appearance.
- 3.3. AIA, Document A 201 – General Conditions of the Contract for Construction, 1997.
- 3.4. AIA Document A 401 – Standard Form of Agreement between Contractor and Subcontractor, 1997.
- 3.5. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.6. PDCA Standard P9, Definition of Trade Terms
- 3.7. Webster's New World Collegiate Dictionary, 4th Edition, 2002.

- 3.8. Painting and Decorating Encyclopedia, William Brushwell, Published by Goodheart-Wilcox.
- 3.9. Paint Handbook, edited by Guy E. Weismantel, McGraw-Hill Ryerson, Ltd. January 1981.
- 3.10. PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility.
- 3.11. MPI, The Master Painter's Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.12. The latest revision of the referenced standards shall govern.
- 3.13. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. BENCHMARK SAMPLE: A sample that serves as a standard by which other work may be measured or judged. [PDCA Standard P9]
- 4.2. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement, or authorized agent of any of the above. [PDCA Standard P9]
- 4.3. FINISH: An entire paint or coating system; the texture, color and sheen of a surface. [Craftsman's]
- 4.4. FINISHED LIGHTING: Finished lighting conditions are described as those in place when the project is finished. This includes, but is not limited to, design lighting (e.g., wall washers, spots, floods, etc.) and natural lighting (e.g., skylights, clear view windows, window walls, window treatments, etc.). [PDCA Standard P9]
- 4.5. HIDING (Power): The degree or ability of an opaque coating, applied in a uniform film, to cover, mask or obscure the substrate to which it is applied, or the colors underneath. Hiding power is provided by the paint's pigment. [MPI]
- 4.6. LATENT DAMAGE OR DEFECTS: Damage to surfaces by causes beyond the control of the painting and decorating contractor after the painting and decorating contractor's work has been completed. Examples of such include, but are not limited to, building settlement, cracks, water damage, earthquake damage, nail and/or screw pops or

- expansion and/or contraction of substrate. [PDCA Standard P9]
- 4.7. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorating finishes. [PDCA Standard P9]
- 4.8. **PROPERLY PAINTED SURFACE:** A properly painted surface is uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is a surface free of drips, splatters, spills or overspray which were caused by the painting and decorating contractor's workforce. In order to determine whether a surface has been "properly painted" it shall be examined without magnification at a distance of thirty-nine (39) inches or one (1) meter or more, under finished lighting conditions and from a normal viewing position. [PDCA Standard P1]
- 4.9. **STANDARD:** Something established for use as a rule or basis of comparison in measuring or judging capacity, quantity, content, extent, value, quality, etc. The type, model or example commonly or generally accepted or adhered to; criterion set for usages or practices. [Webster's]
- 4.10. **SUBSTRATE:** A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate". [MPI]
- 4.11. **SURFACE:** The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [Craftsman's]
- 4.12. **TEXTURE:** Texture as used in a "properly painted surface" (means) the texture of the paint or coating system. [PDCA Standard P9]
- 4.13. **TOUCH UP:** The correction of deficiencies in the specified work to achieve a properly painted surface as described in 4.8 herein. "Damage caused by others" or "latent damage," at times incorrectly referred to as touch up are described in 4.6 and 4.11 of PDCA Standard P1, Touch Up Painting and Damage Repair: Financial Responsibility. The correction of "damage caused by others" and "latent damage" is separate from touch up and handled in accordance with the above mentioned PDCA Standard P1, Touch Up and Damage Repair: Financial Responsibility.
- 5.1.1. The contracting entity and the painting and decorating contractor shall select and designate sample sites to meet the criteria of this standard.
- 5.1.1.1. The contracting entity and the painting and decorating contractor shall agree to a time schedule to prepare and approve Benchmark Samples. Samples shall be prepared only after permanent lighting, heating, venting and air conditioning equipment have been installed and activated.
- 5.1.1.2. The condition of the surface to be used as the sample area must be approved by the contracting entity prior to the preparation of the benchmark sample by the painting and decorating contractor.
- 5.1.1.3. After receiving approval from the contracting entity to proceed, the painting and decorating contractor shall prepare and apply the complete coating system as specified in the contract documents to produce the benchmark samples.
- 5.1.1.4. The painting and decorating contractor will produce a "properly painted surface."
- 5.1.2. The recommended benchmark sample area should be approximately 100 square feet. Small areas, such as doors, handrails and trim, may have a more practical square footage arrangement, as agreed by the parties involved. The specific number, placement and size of samples will be clearly defined in the bid documents.
- 5.1.2.1. The substrate type and application method used to produce the Benchmark Sample must be representative of the specified application method(s) for the substrate.
- 5.1.2.2. The benchmark sample shall leave exposed a sampling of the approved substrate, before and after any specified surface preparation for the system. In addition, there should be left a separate and individual sampling of each designated and subsequently applied coating and any intercoat surface preparation.
- 5.1.3. If the benchmark sample is impossible or impractical to achieve, then an alternate shall be agreed upon in writing by the painting and decorating contractor and the contracting entity.
- 5.1.4. A separate benchmark sample area may be prepared for approval for each substrate and each coating system as required by the contract documents or as agreed by the contracting entity and the painting and decorating contractor. The specific number and placement of samples will be clearly defined in the bid documents.

5. Standard Specification

5.1. Procedure

- 5.1.5. Production work may proceed as soon as approval of the benchmark sample is received by the painting and decorating contractor from the contracting entity. Approval or rejection must be issued according to the time schedule agreed upon as outlined in section 5.1.1.1 above.
 - 5.1.5.1. Approval of benchmark samples shall be granted by the contracting entity after the sample areas have been prepared and coated in accordance with the contract documents and this standard.
 - 5.1.5.2. Approval of the benchmark sample shall be documented in writing by the contracting entity and delivered to the painting and decorating contractor.
- 5.1.6. After final approval, the sample surface area shall be secured and clearly identified with signage reading: "BENCHMARK SAMPLE! DO NOT PAINT, DEFACE, CHANGE OR ALTER IN ANY WAY WITHOUT MUTUAL CONSENT OF CONTRACTING ENTITY AND THE PAINTING AND DECORATING CONTRACTOR."
- 5.1.7. Sample touch ups may be applied to approved sample surfaces. The area of touch up shall be clearly identified, approved and retained as part of the benchmark sample.
- 5.2. BENCHMARK SAMPLE PROCEDURE: The painting and decorating contractor shall prepare and paint a sample in accordance with the contract documents and as prescribed in this standard.
- 5.3. The contracting entity or its designated representatives shall approve benchmark sample areas after confirming complete compliance with the contract documents and in accordance with this standard.

6. Comments

- 6.1. This standard outlines procedures for onsite determination and approval of achievable quality from specified paint and coating systems.
- 6.2. This standard clarifies areas of authority and responsibilities. Improved communication reduces misunderstandings.
- 6.3. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P4

Responsibility for Inspection and Acceptance of Surfaces Prior to Painting and Decorating

1. Scope

- 1.1. The purpose of this standard is to establish responsibility for inspection and approval of surfaces prior to painting and decorating.
- 1.2. This standard is intended for use on construction projects where the painting and decorating contractor applies paints, coatings or wallcoverings over a surface assembled, constructed and/or prepared by another contractor or trade not under the painting and decorating contractor's control.

2. Significance and Use

- 2.1. The contracting entity is the final judge in all matters relating to the "quality of appearance" and acceptance of surfaces.
- 2.2. "Quality of appearance" is a subjective term governed by the contracting entity and established by specification and reference standards. It is controlled by sample review and approval along with jobsite inspections and approvals.
- 2.3. The painting and decorating contractor is not licensed, qualified, or obligated to render any final professional opinion regarding the "quality of appearance" of work performed by others.

3. Reference Documents and Standards

- 3.1. PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility.
- 3.2. AIA, Document A 101 – Standard Form of Agreement Between Owner and Contractor, 1997.
- 3.3. AIA, Document A 401 – Standard Form of Agreement Between Contractor and Subcontractor, 1997.
- 3.4. The New Lexicon Dictionary of the English Language, Encyclopedic Edition, Lexicon Publications, New York, NY. 1988.
- 3.5. MPI, The Master Painters Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.6. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.7. PDCA Standard P9, Definition of Trade Terms.
- 3.8. Merriam-Webster's Collegiate Dictionary, Tenth Edition, Copyright 1993.
- 3.9. Black's Law Dictionary, 7th Edition, Bryan A. Garner, 1999.3

- 3.10. Webster's New World Collegiate Dictionary, 4th Edition, 2002.3
- 3.11. FSCT, Coating Encyclopedic Dictionary, Edited by Stanley LeSota, 1995.
- 3.12. If there is a conflict between any of these references and this standard, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. ACCEPTANCE: An agreement, either by express act or by implication from conduct, to the terms of an offer so that a binding contract is formed. If an acceptance modifies the terms or adds new ones, it generally operates as a counteroffer. [Black's Law]
- 4.2. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement, or authorized agent of any of the above. [PDCA Standard P9]
- 4.3. FINISH: An entire paint or coating system; the texture, color and sheen of a surface. [Craftsman's]
- 4.4. LATENT DAMAGE OR DEFECTS: Damage to surfaces by causes beyond the control of the painting and decorating contractor after the painting and decorating contractor's work has been completed. Examples of such include, but are not limited to, building settlement, cracks, water damage, earthquake damage, nail and/or screw pops or expansion and/or contraction of substrate. [PDCA Standard P9]
- 4.5. OPINION: A belief not based on absolute certainty or positive knowledge but on what seems true, valid or probable to one's own mind; judgment; an evaluation, impression or estimation of the quality or worth of a person or thing; the formal judgment of an expert on a matter in which advice is sought. [Webster's]
- 4.6. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.7. QUALITY OF APPEARANCE: Aesthetics; conception of beauty, a particular taste for or approach to what is pleasing to the senses and especially sight. [Merriam-Webster's]

- 4.8. **SPECIFICATION:** A clear accurate description of the technical requirement for material products, or services, which specifies the minimum requirement for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards and other descriptive references. [FSCT]
- 4.9. **SUBSTRATE:** A variant of substratum. In painting, any surface to be painted, including wood, concrete, masonry, steel, other metals, and various other materials or previous paints. A substrate can, therefore, be bare or covered. A previously unpainted surface sometimes is called the "original substrate." [MPI]
- 4.10. **SURFACE:** The substrate to which paints, coatings, or wallcoverings are applied; the finish obtained after the coating work has been completed. [Craftsman's]
- 4.11. **TACIT:** Not expressed or declared openly, but implied or understood. [Webster's]
- 4.12. **WARRANTY:** A guarantee or an assurance, explicit or implied, of something having to do with a contract, as of sale; esp., the seller's assurance to the purchaser that the goods or property is or shall be as represented and if not, will be replaced or repaired. [Webster's]

5. Standard Specification

- 5.1. Acceptance of Surface
- 5.1.1. The painting and decorating contractor is required to inspect surfaces to be finished only to determine, by reasonable and visible evidence, that the finish will satisfactorily adhere to surfaces provided by others and will perform as specified.
- 5.1.2. The contracting entity has the responsibility to determine that a surface is complete and that the "quality of appearance" is such that it is ready for finish painting or wallcovering.
- 5.1.3. When the previous trade has completed its work and/or notification to proceed has been given, such action will be construed as tacit evidence that all work has been inspected, and that it is warrantable, completed and ready for finishing.
- 5.1.4. If "quality of appearance" of a surface, prior to finishing, is judged marginal or unacceptable by others conducting essential inspection, such alleged defective work must be corrected prior to priming and finishing so that all surfaces are made complete and ready for finishing. If the unacceptable work is not made complete and ready for finishing, the painting and decorating contractor will halt work until directed to proceed. In such an event, the painting and deco-

rating contractor may be entitled to additional compensation as indicated in PDCA Standard P7.

- 5.1.5. Once finishing has begun, as scheduled or as directed, the correction of "defects and/or latent damage" is considered "damage repair" as per PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility.

6. Comments

- 6.1. The intent of this document is to ensure a higher level of quality by clarifying the responsibilities and obligations of the parties.
- 6.2. Quality of appearance is achieved through quality control. Inspecting work in progress and taking necessary action at the appropriate time to make required corrections is imperative to ensure quality of appearance. This standard encourages periodic inspections and corrective actions.
- 6.3. Contracts that contain clauses making the painting and decorating contractor responsible for inspecting the work of others often:
 - Result in a lack of required supervision and inspection by obligated persons prior to finishing
 - Encourage marginal and unacceptable work
 - Reduce overall quality of appearance of the finished product
- 6.4. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.
- 6.5. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.

7. Disclaimer of Liability

- 7.1 PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P3

Designation of Paint Color

1. Scope

- 1.1. The purpose of this standard is to establish the number and placement of paint colors and color ranges prior to bidding.
- 1.2. The intent of this document is to establish criteria for bidding purposes when the number, extent and placement of paint colors and color ranges are not designated in the bid documents.
- 1.3. It is not the intent of this document to limit the number and placement of colors on a particular project.
- 1.4. This document describes and defines special finishes.
- 3.8. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.9. Painting and Decorating Encyclopedia, William Brushwell, Published by Goodheart-Wilcox.
- 3.10. FSCT, Coating Encyclopedic Dictionary, Edited by Stanley LeSota, 1995.
- 3.11. Webster's New World Collegiate Dictionary, 4th Edition, 2002.
- 3.12. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

2. Significance and Use

- 2.1. The number and placement of paint colors and color ranges affect the painting and decorating contractor's costs in the performance of a project and, therefore, the painting contractor's bid. As the number and placement of paint colors increase, labor productivity decreases. As paint colors deepen, painting material costs increase.
- 2.2. The number and placement of paint colors and color ranges must be indicated in the project bid documents.
- 2.3. When the number and placement of paint colors and color ranges are not designated in the bid documents, the painting and decorating contractor must have:
 - 2.3.1. A frame of reference upon which to base the bid.

3. Reference Documents and Standards

- 3.1. AIA Document A 201 – General Conditions of the Contract for Construction, 1997.
- 3.2. AIA Document A 401 – Standard Form of Agreement Between Contractor and Subcontractor, 1997.
- 3.3. ASTM, 313, Whiteness Index.
- 3.4. ASTM, E 12, Standard on Color and Appearance.
- 3.5. MPI, The Master Painters Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.6. PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility.
- 3.7. PDCA Standard P9, Definition of Trade Terms.

4. Definitions

- 4.1. COLOR: One aspect of appearance; a stimulus based on visual response to light, and consisting of three dimensions of hue, saturation and lightness. [FSCT]
- 4.2. COLOR RANGE: The extent of colors. This includes tints, tones and shades of basic hues and mixtures, thereof. Paint manufacturers' systems of color tint bases used in conjunction with colorants to produce a wide range of colors, including pastel, mid-tone, deep-tone, ultradeep tone and variations thereof. [Craftsman's]
- 4.3. COLORANT: Any substance that imparts color to another material or mixture. Colorants can be either dyes or pigments. [Craftsman's]
- 4.4. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P9]
- 4.5. DECORATIVE (PAINT) FINISHES: Application of paints or glazes to adorn, decorate or embellish a surface as compared to a plain solid color, stain or varnish finish and as opposed to performing a protective function. This general group of decorative paint finishes includes a number of "subgroups," some of which overlap and others of which have more than one name by which they are identified. These include:
 - Faux (false) Finishes: In French, "false" finish. These seek to imitate products found in nature such as wood, marble, granite, stone, etc. These include wood graining, marbling, gilding, etc.

- Representative Finishes: These seek to imitate products otherwise made like leather, parchment, fresco, Venetian plaster (itself a faux plaster), etc.
 - Special Effect Finishes: Broken color effects (as opposed to imitation effects), such as ragging on, ragging off, sponging on, sponging off, strié, splatting, stippling, etc.
 - Graphic Finishes: Detailed effects such as stenciling and graphics that are in accordance with “mathematical rules.”
 - Pictorial Finishes: Decorative effects such as murals, scenics, portraits, etc.
 - Trompe d’oeil: In French, “trick of the eye.” That which creates such a strong illusion that it is difficult to ascertain whether it is real or a representation. Usually, but not always, three dimensional, giving the impression of depth and perspective. [MPI]
- 4.6 DECORATIVE PAINTING: Painting done primarily for appearance rather than protection. [PDCA Standard P9]
- 4.7. DEEP (COLOR): Intense, strong color with no appearance of black. [Craftsman’s] (Also called an accent color.)
- 4.8. DEEP-TONE BASE: Paint base used to develop deep colors. Might contain small amount of white. Also called an accent base. [Craftsman’s]
- 4.9. FAUX FINISHES: In French, literally a “false” finish. A decorative finish applied to surfaces (wood, drywall, glass, etc.) to make them appear as different substrates. The general category may also include faux plaster (such as Venetian plaster, etc.) or faux brick finishes (which may use actual plaster formulations or brick facing) but which also can be simulated with decorative painted effects.
- Originally, it meant an artificial finish that represented or imitated a finish of natural products such as wood, stone, marble, etc. for those who could not obtain the “real thing.” It is also used today to match “real” adjacent items where cost or regulation would preclude the use of the “real” material. Faux marble (“false marble”) is marbling, faux bois (“false wood”) is wood graining. There is also faux granite (“false granite”) and faux tortoiseshell (“false tortoiseshell”).
- The term, however, has come to include imitations of other products that are not directly “from nature.” Faux leather, faux parchment, and faux moldings are some that are now included, as is gilding, anti-quinig, fresco and some verdigris/patina.
- Faux Finish does not properly include special effect finishes, graphic finishes, pictorial finishes and tromp d’oeil. These are defined elsewhere. Fantasy finishes may include “creative” faux finishes, or just may create different effects. [MPI]
- 4.10. GRAPHICS: Two or more colors decoratively applied to a surface in a clearly defined pattern. [MPI]
- 4.11. MID-TONE BASE: Paint base used to develop colors darker than a pastel. Tint strength of white has been reduced. Lighter than deep-tone base. [Craftsman’s]
- 4.12. MULTI-COLOR FINISH: A speckled coating containing flecks of small individual colored particles different from the base color. Syn. Speckled Finish. [FSCT]
- 4.13. MURAL: A painting applied directly to a wall or ceiling; a wallcovering with a mural scene that continues over several strips to cover one wall without a repeat. Also called a scenic. [Craftsman’s]
- 4.14. OFF-WHITE: Any number of light colors that are nearly white, but contain minute amounts of color or toner. Off-white colors are used as base colors in interior paints for large surfaces such as walls. (Lighter than a pastel.) [MPI]
- 4.15. PAINTING AND DECORATING CONTRACTOR: The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.16. PASTEL: A soft, pale shade of any color. (Lighter than a mid-tone base.) [Webster’s]
- 4.17. SPECIAL FINISHES: Paints and coatings requiring special tools or techniques for application, e.g., Faux Finishes, Decorative Finishes, Graphics, Multi-Color or Murals. [MPI] A representative sample must be submitted by the contracting entity prior to bid on projects where these finishes are specified.
- 4.18. ULTRA-DEEP BASE: Paint base used to develop deep intense colors with no apparent white. (Deeper than a mid-tone base.) [Craftsman’s]
- 4.19. WHITE: A basic paint color as described by coatings manufacturers. ASTM D1535-89 “specifying color by the Munsell System,” 3.2.5 Munsell Value, N-10 – Ideal White. ASTM E31387, indexes of whiteness. [ASTM]

5. Standard Specification

- 5.1. The Number and Placement of Interior Paint Colors
- 5.1.1. Color Level I: One paint color shall be selected for all interior painted surfaces of the entire project.
- 5.1.2. Color Level II: No more than two interior paint colors shall be selected for the entire project. Only one paint color will be selected for the interior painted surfaces of any one room or area. The exact placement of the colors will be clearly specified in the bid documents.
- 5.1.3. Color Level III: More than one paint color shall be selected for the interior painted surface of any one room or area. No more than one paint

color will be selected for any particular surface. The exact placement of the colors will be clearly specified in the bid documents.

- 5.1.4. Color Level IV: The selection of unlimited paint colors for interior painted surfaces. The placement of colors and the type and placement of special finishes will be clearly specified in the bidding documents. Special Finishes are described in 4.17.
- 5.2. The Number and Placement of Exterior Paint Colors
 - 5.2.1. Color Level I: One paint color shall be selected for all exterior painted surfaces of any structure or building.
 - 5.2.2. Color Level II: No more than two exterior paint colors shall be selected for any structure or building. No more than one paint color will be selected for any particular surface. The exact placement of the colors will be clearly specified in the bid documents.
 - 5.2.3. Color Level III: Three or more paint colors shall be selected for any structure or building. No more than one paint color will be selected for any particular surface. The exact placement of colors will be clearly specified in the bid documents.
 - 5.2.4. Color Level IV: The selection of unlimited paint colors for any structure or building. The placement of colors and the type and placement of special finishes will be clearly specified in the bidding documents. Special finishes are defined in 4.17.
- 5.3. Color Ranges
 - 5.3.1. Interior color levels I, II and III will only permit the use of paint colors normally designated as off-whites or pastels.
 - 5.3.2. Exterior color levels I, II and III will only permit the use of paint colors normally designated as off-whites, pastels or midtones.
 - 5.3.3. The use of white, mid-tone, deep-tone and ultra deep-tone paint colors for interior use and white, deep-tone and ultra deep-tone paint colors for exterior use are limited to Color Level IV only. The exact placement of these color ranges will be specified in the bid documents.
- 5.4. Special Finishes
 - 5.4.1. The use of special finishes including, but not limited to, graphics, murals, faux finishes and multi-colored coatings is designated Color Level IV. The exact placement of special finishes will be specified in the bid documents.
- 5.5. Paint Coverage
 - 5.5.1. Color selection must be consistent with the paint specifications for the project, structure or build-

ing. The paint specified must be available in the color range selected.

- 5.5.2. The colors selected in the materials specified must be capable of achieving full and uniform coverage when the number of coats specified has been applied, as described in PDCA Standard P1, Touch Up Painting and Damage Repair – Financial Responsibility, 2.4, a properly painted surface, and in accordance with the manufacturer's printed instructions, recommendations or application procedures.
- 5.6. Special Circumstances
 - 5.6.1. In the event the number and placement of paint colors and color ranges increase from this standard, or if special finishes are added, then the painting and decorating contractor shall be entitled to additional compensation.
 - 5.6.2. In the event that the number and placement of paint colors and color ranges are not designated in the bid documents, then the painting and decorating contractor will assume that Color Level II will be selected for both interior and exterior use.
 - 5.6.3. In the event that the paint colors selected do not achieve full and uniform coverage with the specified number of coats at the spread rate and application method recommended by the manufacturer and an additional coat or coats are necessary, the painting and decorating contractor shall be entitled to additional compensation.
 - 5.6.4. In the event the same color of a different paint material or sheen level is to be used on the same surface or substrate, the exact placement of different paint material or gloss level shall be specified in the bid documents.

6. Comments

- 6.1. This standard establishes a system for the designation of interior and exterior paint colors and color ranges prior to bidding.
- 6.2. This standard establishes a guide for the preparation of a paint bid when paint colors and color ranges are not specified in the bidding documents.
- 6.3. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.4. This standard is a nationally recognized consensus document for the painting and decorating industry's work practices.

7. Disclaimer of Liability

- 7.1 PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P2

Third Party Inspections: Qualifications, Responsibilities, and Procedures

1. Scope

- 1.1. The purpose of this standard is to establish third party inspection qualifications, responsibilities and procedures.

2. Significance and Use

- 2.1. The contracting entity, painting and decorating contractor, material supplier and third party inspector have a vital interest in the success of the project.
- 2.2. Effective third party inspection can contribute to the success of a project and reduce needless delays, costs, general disruptions and tension between the contracting entity, painting and decorating contractor and material supplier.
- 2.3. This standard shall utilize standards already set forth by the Society For Protective Coatings (SSPC), the National Association of Corrosion Engineers (NACE) and the American Society for Testing and Materials (ASTM).

3. Reference Documents and Standards

- 3.1. ASTM D-4537-91 Standard Guide for Establishing Procedures to Qualify and Certify Inspection Personnel for Coating Work in Nuclear Facilities (re-approved 1996).
- 3.2. SSPC, Coating Lining Inspection Training Manual SSPC publication #91-12, Bechtel, August 1991.
- 3.3. NACE International Coating & Inspection Training and Certification Program.
- 3.4. SSPC, Painting Manual Volume 1, Good Painting Practice, 3rd edition 1993.
- 3.5. MPI, The Master Painters Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.6. Webster's New World Collegiate Dictionary, 4th Edition, 2002.
- 3.7. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition.
- 3.8. PDCA Standards
- 3.9. If there is a conflict between any of the references and this standard, the requirements of this standard shall prevail.

4. Definitions

- 4.1. CALIBRATE: To determine the indication of output of a measuring device with respect to that of a standard. [SSPC]
- 4.2. CERTIFICATION: Confirmation by document under hand or seal as being true, or as meeting a standard or as being as represented. [SSPC]
- 4.3. COATING APPLICATOR: One who applies a protective or decorative coating (paint). [SSPC] (Painting and decorating contractor).
- 4.4. COATING WORK: An all-inclusive term used to define all operations required to accomplish a complete coating job; the term shall be construed to include materials, equipment, labor, preparation of surfaces, control of ambient conditions, application of coating systems, inspection, etc. [SSPC]
- 4.5. CONTRACTING ENTITY: The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement, or authorized agent of any of the above. [PDCA Standard P9]
- 4.6. DEFECTIVE: Subnormal with respect to written specifications. [SSPC]
- 4.7. DESIGN DEFECTS: A physical condition, created by the design of a structure, vessel, etc., that prevents meeting the specification requirements for surface preparation and/or coating application to a surface by standard industry methods. [PDCA Standard P9]
- 4.8. DEVIATION: Completed work that is not in accordance with the specification requirements. [SSPC]
- 4.9. DOCUMENTATION: The assembling and dissemination of written information, communication directives or records in substantiation of work done or facts quoted. [SSPC]
- 4.10. HOLD POINT: The point at which work must be stopped until inspection or testing is performed. [SSPC] Upon approval by the contracting entity the process may be resumed.
- 4.11. INSPECTOR: A trained, qualified person who examines and documents materials used and work performed to confirm adherence to accepted trade practices, standards and specifications. [MPI]

- 4.12. **NONCOMPLIANT:** Deficiency in characteristic, documentation or procedure that renders quality of an item unacceptable or indeterminate. [PDCA Standard P9]
- 4.13. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.14. **PAINTING AND DECORATING CONTRACTOR'S REPRESENTATIVE:** An individual identified to the contracting entity as having the authority, within stated parameters, to speak and act for the painting and decorating contractor. [PDCA Standard P9]
- 4.15. **QUALIFICATION:** Any quality, skill, knowledge, experience, etc. that fits a person for a position, office, profession, etc.; requisite. [Webster's]
- 4.16. **QUALITY ASSURANCE (QA):** Verification of the conformance of materials and methods of application to the governing specification in order to achieve a desired result. [Craftsman's]
- 4.17. **QUALITY CONTROL (QC):** Administrative and engineering procedures employed to attain the desired level of quality assurance. [Craftsman's]
- 4.18. **THIRD PARTY:** An independent contractor or business entity that is not a principal (contracting entity, painting and decorating contractor or material supplier), or employee or subsidiary of a principal, to the contract for coatings application work. [PDCA Standard P9]
- 4.19. **TRAINING:** The process or experience of being trained. (Train: to instruct so as to make proficient or qualified). [Webster's]

5. Standard Specification

- 5.1. General Requirements for Inspection Personnel
- 5.1.1. Education, Training and Experience
- 5.1.1.1. As a minimum requirement, an inspector shall have successfully completed an education and training program from a recognized organization offering curriculum equivalent to the NACE Training Course Session 1 – Basic Coating Inspection Course and/or similar course from SSPC or MPI.
- 5.1.1.2. An Inspector shall have a minimum of three (3) years experience in the painting industry related to the type of work to be inspected. A current resume of work experience of the inspector shall be available to all parties at the pre-job conference.
- 5.1.2. Physical Qualifications
- 5.1.2.1. An inspector should be examined annually to ensure natural or corrected near-distance visual acuity in at least one eye. The individual shall read the J-1 letters on a standard Jaeger chart, or equivalent, at a distance of not less than 12 inches with one or both eyes, uncorrected or corrected. An inspector shall also be examined for color perception using the Ishihara test or the Farnsworth D-15 test when being certified or recertified.
- 5.1.2.2. An Inspector shall be physically capable of performing the required inspection work on industry standard, OSHA approved equipment as utilized by the Contractor.
- 5.1.2.3. **Inspector's Safety Training:** The inspector must show that he or she has received current training in all safety aspects that will be encountered during the execution of his or her duties on the project.
- 5.1.3. Functional Qualifications of Inspectors
- 5.1.3.1. An inspector shall have a current working knowledge of the operation and use of the inspection equipment required for the project.
- 5.1.4. Coating Knowledge
- 5.1.4.1. An inspector shall conduct a complete review of the coating specification and be capable of understanding the requirements of those documents.
- 5.1.5. Conflict of Interest Disclosure
- 5.1.5.1. Full disclosure shall be made by the inspector of any reasons that would prevent an impartial evaluation of the painting and decorating contractor's performance.
- 5.2. Job Coordination Requirements
- 5.2.1. Pre-Job Conference: A pre-job conference shall be held to review information pertinent to the job. The inspector shall be present with the contracting entity, material supplier (or representative) and painting and decorating contractor. At a minimum, the following topics shall be reviewed:
- 5.2.1.1. Scope of Work
- 5.2.1.2. Specification Requirements
- 5.2.1.3. Identification of Design, Defects
- 5.2.1.4. Material Safety Data Sheets (MSDS) and Product or Technical Data Sheets
- 5.2.1.5. Pre-Bid Job Walk Minutes
- 5.2.1.6. Work Schedule
- 5.2.1.7. Acceptance Procedures
- 5.2.1.8. Inspector Qualifications
- 5.2.1.9. **Inspector's Authority:** Prior to job start, the painting and decorating contractor shall be advised as to the level and limits of authority

and responsibility that the inspector will be exercising.

5.2.1.10. Testing Procedures and Instrumentation: If not specifically addressed in the specifications, testing procedures and the required list of instruments, including calibration, shall be determined at the pre-job conference.

5.2.1.11. Resolution of Disputes

5.2.1.12. Inspection Hold Points and Documentation

5.3. Resolution of Dispute Procedure

5.3.1. To ensure timely completion of the project, a procedure shall be written to resolve any dispute or conflict regarding specifications, manufacturers' literature, work in progress or completed work.

5.3.2. Minimum resolution procedure shall include:

5.3.2.1. Establishment of levels of communication and responsibility and authority of personnel.

5.3.2.2. Identification of personnel having levels of authority.

5.3.2.3. Time frame and procedure to identify and resolve disputes or conflicts.

5.4. Inspection Hold Points & Documentation

5.4.1. A schedule of points in the sequence of work operations shall be identified, after which timely inspections/testing procedures are to be performed prior to further work being completed. Inspections/testing procedures should not unreasonably delay the painting and decorating contractor's work.

5.4.2. The inspector shall understand the project schedule and shall perform activities in accordance with the painting and decorating contractor's schedule. Inspection hold points shall be mutually agreed upon to minimize disruption to the painting and decorating contractor's work.

5.4.3. Non-compliant conditions, work practices or defective work phases shall be immediately reported in writing to the painting and decorating contractor's representative and the contracting entity.

5.4.4. The inspector shall provide the painting and decorating contractor with all QA/QC reports and documentation concurrent with issuance to the contracting entity.

6. Comments

6.1. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.

6.2. This standard is a nationally recognized consensus document for the painting and decorating industry's

work practices.

7. Disclaimer of Liability

7.1 PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



PDCA P1

Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface

Scope

- 1.1. The purpose of this standard is to establish the financial responsibilities for repair or correction of damage to finished painted surfaces.
- 1.2. It is the intent of this document to define "Touch up."
- 1.3. A "properly painted surface" is also defined in this standard.

2. Significance and Use

- 2.1. This standard defines the repair and repainting of finished painted surfaces that have been damaged by individuals other than those employed by the painting and decorating contractor. This type of damage is defined as "damage caused by others." Damage caused by others will be corrected by the painting and decorating contractor after a change order is received from the contracting entity.

The painting and decorating contractor will repair and/or repaint the damaged area after receiving acceptance of its proposal and authorization to proceed on either a lump sum or time and material basis.

"Latent damage" is due to conditions beyond the control of the painting and decorating contractor. This damage is caused by conditions not apparent at the time of initial painting and decorating.

The painting and decorating contractor will repair and/or repaint the damaged area after receiving acceptance of its proposal and authorization to proceed on either a lump sum or time and material basis.

- 2.2. The contractual work is job and item specific. In no case shall the painting and decorating contractor be responsible for "damage caused by others" or "latent damage" as herein described.
- 2.3. The painting and decorating contractor will produce a "properly painted surface." A "properly painted surface" is defined as uniform in appearance, color, texture, hiding and sheen. It is also free of foreign material, lumps, skins, runs, sags, holidays, misses, or insufficient coverage. It is also a surface free of drips, spatters, spills or overspray caused by the painting and decorating contractor's workforce.

In order to determine whether a surface has been "properly painted" it shall be examined without magnification at a distance of thirty-nine (39) inches or one (1) meter, or more, under finished lighting conditions and from a normal viewing position.

3. Reference Documents and Standards

- 3.1. ASTM, Volume 6.01, of ASTM standard, D16-00 (published September 2000).
- 3.2. SSPC, SSPC Painting Manual Vol. 2, Eighth edition 2000, Standard SSPC-PA 1, 9.0 Field Coating, 9.3 Touch Up of Shop Coated Surfaces.
- 3.3. Painting and Decorating Encyclopedia, William Brushwell, Published by Goodheart-Wilcox, Touch up.
- 3.4. PDCA Painting and Decorating Craftsman's Manual and Textbook, 1995, 8th edition. Touch up.
- 3.5. MPI, The Master Painters Glossary – Painting and Decorating Terminology, 1997 & 2004.
- 3.6. AIA Document A 201 General Conditions of the Contract for Construction 1997.
- 3.7. AIA Document A 401 Standard Form of Agreement Between Contractor and Subcontractor 1997.
- 3.8. PDCA Standard P9-04, Definition of Trade Terms.
- 3.9. FSCT, Coating Encyclopedic Dictionary, Edited by Stanley LeSota, 1995.
- 3.10. Black's Law Dictionary, 7th Edition, Bryan A. Garner, 1999
- 3.11. SSPC, Protective Coatings Glossary.
- 3.12. Webster's New World Collegiate Dictionary, 4th Edition, 2002.
- 3.13. If there is a conflict between any of the references and this standard, then the requirements of this standard shall prevail.

4. Definitions

- 4.1. CHANGE ORDER: An agreement to modify or alter the original contract work. This includes but is not limited to, corrective work for "damage caused by others" and "latent damage." Adjustments to the contract amount and completion time should be part of this agreement. The change order will be issued

- by the contracting entity. [PDCA Standard P9]
- 4.2. **COLOR:** One aspect of appearance; a stimulus based on visual response to light, and consisting of three dimensions of hue, saturation and lightness. [FSCT]
- 4.3. **CONTRACTING ENTITY:** The general contractor, owner of the property, construction manager, developer or other entity legally responsible for the agreement or authorized agent of any of the above. [PDCA Standard P9]
- 4.4. **CRACKS:** For the purpose of this standard: A break in the substrate and/ or surface which can result in a subsequent break in the paint film.
- 4.5. **DAMAGE:** Abuse or injury to a paint film or substrate which would blemish its appearance or impair its usefulness or value. [PDCA Standard P9]
- 4.6. **DAMAGE CAUSED BY OTHERS:** "Damage" caused by individuals other than those employed by the painting and decorating contractor. [PDCA Standard P9]
- 4.7. **FINISHED LIGHTING:** Finished lighting conditions are described as those in place when the project is finished. This includes, but is not limited to, design lighting (e.g., wall washers, spots and floods, etc.) and natural lighting (e.g., skylights, clear view windows, window walls, window treatments, etc.). [PDCA Standard P9]
- 4.8. **HIDING (Hiding Power):** The degree or ability of an opaque coating, applied in a uniform film, to cover, mask or obscure the substrate to which it is applied, or the colors underneath. Hiding power is provided by the paint's pigment. [MPI]
- 4.9. **HOLIDAYS:** Application defects whereby small areas are left uncoated. [FSCT]
- 4.10. **INSPECTION LIGHTING:** Illumination of the installed surface from an angle at an intensity sufficient to eliminate any shadowing that may be caused by other illumination striking the surface at any angle. [PDCA Standard P9]
- 4.11. **LATENT DAMAGE OR DEFECTS:** Damage to surfaces by causes beyond the control of the painting and decorating contractor after the painting and decorating contractor's work has been completed. Examples of such include, but are not limited to, building settlement, cracks, water damage, earthquake damage, nail and/or screw pops or expansion and/or contraction of substrate. [PDCA P9]
- 4.12. **NORMAL:** According to a regular pattern; natural; according to an established rule or norm-setting a standard or norm. [Black's Law]
- 4.13. **NORMAL VIEWING POSITION:** For the purpose of inspection a normal viewing position shall be at eye level at a minimum of thirty-nine (39) inches or one (1) meter from the wall. Inspection lighting can be used as defined in this standard. [PDCA Standard P9]
- 4.14. **OTHERS:** Any individual or group of individuals other than the painting and decorating contractor or his employees. [PDCA Standard P9]
- 4.15. **OVERSPRAY:** The paint that did not hit the intended surface during a spray application. This can appear as small raised specks around the area sprayed and can give a halo effect on smooth surfaces. [MPI] Spray particles that are not wet enough to fuse when they reach the surface being sprayed. As a result, overspray may contaminate property beyond the surface being sprayed. [SSPC]
- 4.16. **PAINTING AND DECORATING CONTRACTOR:** The individual or company contracted to apply paints, coatings, wallcoverings and other decorative finishes. [PDCA Standard P9]
- 4.17. **PIN HOLE:** A minute hole in a paint film that resembles a pore or pin prick, often due to improper solvent release during drying or the trapping of air or gas in the film during setting. [MPI]
- 4.18. **RUNS:** Narrow downward movement of a paint film resulting in an irregular surface. [Craftsman's]
- 4.19. **SAGS:** A coating irregularity similar to runs but often broader in scope. [Craftsman's]
- 4.20. **SHEEN:** An attribute of object mode of appearance which is similar to luster; gloss with poor distinctness-of-image reflectance. In the paint industry the term sheen is generally used synonymously with gloss measured or observed at a grazing angle, such as 85° off the perpendicular. Sheen is therefore frequently evaluated in terms of gloss measurements made on an 85° glossmeter. Not infrequently there are coatings that are high in sheen, but have a low gloss when illuminated and viewed at or near the perpendicular. [FSCT]
- 4.21. **STANDARD:** Something established for use as a rule or basis of comparison in measuring or judging capacity, quantity, content, extent, value, quality, etc. The type, model or example commonly or generally accepted or adhered to; criterion set for usages or practices. [Webster's]
- 4.22. **TEXTURE:** Texture as used in a "properly painted surface" (means) the texture of the paint or coating system. [PDCA Standard P9]
- 4.23. **TOUCH UP:** The correction of deficiencies in the specified work to achieve a "properly painted surface" as described in 2.3, above. ("Damage caused by others" or "latent damage" at times incorrectly referred to as touch up, are described

in 4.5, 4.6 and 4.11 herein. The correction of “damage caused by others” and “latent damage” is distinct from touch up and addressed in 2.1 and 2.2 of this standard.)

5. Standard Specification

- 5.1. TOUCH UP: The painting and decorating contractor shall correct deficiencies in its workmanship to conform to the definition of a “properly painted surface” as defined in this standard.
- 5.2. “Latent damage” and “damage caused by others” shall be repaired by the painting and decorating contractor upon receiving a change order from the contracting entity. The painting and decorating contractor will proceed with the repair upon receiving acceptance of its proposal and approval to proceed from the contracting entity as outlined in this standard.
- 5.3. The acceptability of the surface shall be determined when viewed without magnification, at a distance of thirty-nine (39) inches or one (1) meter or more, under finished lighting conditions and from a normal viewing position.
 - 5.3.1. Inspection lighting conditions will allow the finished surface to be viewed with minimal distortion which may be caused by the quality of the substrate preparation and/or illumination at an acute angle.

6. Comments

- 6.1. This standard clarifies areas of responsibility. Improved communication reduces misunderstandings.
- 6.2. This standard is a nationally recognized consensus document for the painting and decorating industry’s work practices.

7. Disclaimer of Liability

- 7.1. PDCA does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any of the information contained herein.



- *PDCA Standard P7* establishes criteria for the order of work performed by various parties on a construction project as it relates to the efficient and successful completion of painting and decorating work. The cost impact of variations from a prescribed schedule are discussed.
- *PDCA Standard P8* establishes the contracting entity's responsibility *maintenance* of painted and coated surfaces and prescribes procedures and financial responsibilities for inspecting and repainting previously painted surfaces that have since become aesthetically less pleasing in appearance.
- *PDCA Standard P9* defines *terms* commonly used to describe work to be performed by painting and decorating contractors in the routine and ordinary course of their duties. This standard clarifies the work scope and responsibilities of the painting and decorating contractor.
- *PDCA Standard P10* prescribes a methodology for measuring surfaces for *estimating & bidding* painting & decorating work.
- *PDCA Standard P11* defines *painter's caulk* to determine its suitability and establish its placement whether delineated, implied and/or not referenced in the specifications for painting.
- *PDCA Standard P12* establishes consistent procedures for the specification of *block filling* and the application of block filler prior to painting paint grade smooth face concrete masonry units.
- *PDCA Standard P13* the inspection and acceptance of architectural paints on the interior surfaces of structures when dry film thickness is specified.
- *PDCA Standard P14* levels of surface preparation for repainting and maintenance projects receiving architectural coatings.
- *PDCA Standard P15* establishes procedures for the evaluation of shop primer applied by an entity other than the painting and decorating contractor, including, but not limited to siding and other architectural features.
- *PDCA Standard P16* assigns responsibilities to the various entities involved when wallcovering is removed by an entity other than the painting and decorating contractor in preparation for painting.
- *PDCA Standard P17* assigns responsibilities to the various entities involved with smooth face tilt-up is field painted.
- *PDCA Standard P18* defines criteria for the documentation of extra work to a contract for painting and decorating.
- *PDCA Standard P19* defines the field of Decorative Finishing.
- *PDCA Standard P20* establishes procedures for the close out of painting and decorating projects.
- *PDCA Standard P21* establishes consistent procedures for the specification of stain and clear coating on new interior wood surfaces.
- *PDCA Standard P22* establishes consistent procedures for the specification of utilizing pressurized water to clean surfaces or prepare surfaces for painting.