

SECTION 06 4229
COMPACT LAMINATE PANELS

This Section specifies “Wilsonart® Compact Laminate Panels produced by Wilsonart and are part of the Wilsonart Engineered Surfaces suite of products. Wilsonart offers a wide range of high pressure laminate products with colors and patterns to suit virtually any residential or commercial need. Wilsonart is the largest and most-recognized manufacturer of high pressure laminates in the United States with a substantial presence in the global marketplace.

Wilsonart® Compact Laminate Panels are the preferred design option for fine quality residential and contract furniture, fixtures, and casework. Interior architectural applications such as wall cladding, columns, decorative trim elements (e.g., wainscots, cornices), interior doors, partitions, elevator cabs and divider systems are ideal for high pressure laminate finish solutions. Wilsonart also offers specialty solutions such as visual display surfaces, chemical resistant surfaces, and fire-rated applications.

Wilsonart Compact Laminates contribute to LEED-BD+C and LEED-ID+C points in several categories and have attained UL GREENGUARD Gold Certification and SCS Gold Certification for low indoor air chemical emissions into indoor air during product usage.

Section Editing: Informational notes will appear as “Editing Note” text boxes throughout this Section. Bracketed bold text will require a selection to be made or information to be inserted.

PART 1 - GENERAL

1.01 SECTION INCLUDES

EDITING NOTE: Revise listing to suit Project requirements.

- A. Compact laminate panels.
- B. Panel mounting system.
- C. Accessory materials.

1.02 RELATED REQUIREMENTS

EDITING NOTE: Section listings below are common references and based on the broadly accepted CSI MasterFormat® for Section numbers and titles. Revise to suit requirements for particular project.

- A. Section 01 3000 - Submittals.
- B. Section 01 7419 - Construction Waste Management and Disposal
- C. Section 01 8113 - Sustainable Design Requirements
- D. Section 06 1000 - Rough Carpentry.
- E. Section 06 4116 - Plastic-Laminate-Clad Architectural Cabinets.
- F. Section 06 4219 - Thermally Fused Laminate Panels.
- G. Section 08 1423.16 - Plastic-Laminate-Faced Wood Doors.

- H. Section 10 2113.16 - Plastic-Laminate-Clad Toilet Compartments.
- I. Section 12 3530.13 - Kitchen Casework.
- J. Section 12 3623.13 - Plastic-Laminate-Clad Countertops.

1.03 REFERENCES

EDITING NOTE: Revise Reference Standards to suit Project requirements.

- A. Reference Standards:
 - 1. ASTM D638: Standard Test Method for Tensile Properties of Plastics.
 - 2. ASTM D790: Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 3. ASTM D792: Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
 - 4. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 5. ASTM E162: Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.
 - 6. ASTM E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
 - 7. AWI: Architectural Woodwork Institute.
 - 8. AWS: Architectural Woodwork Standards.
 - 9. EN438: High Pressure Decorative Laminates (HPL).
 - 10. FSC: Forest Stewardship Council.
 - 11. IMO: International Maritime Organization.
 - 12. IMO FTP: International Code for Application of Fire Test Procedures.
 - 13. IMO FTP Code Part 2: Smoke and Density Test.
 - 14. IMO FTP Code Part 5: Test for Surface Flammability.
 - 15. ISO: International Organization for Standardization.
 - 16. ISO 9001: Quality Management Systems.
 - 17. ISO 14001: Environmental Management Systems.
 - 18. KCMA A161.1: Performance & Construction Standard for Kitchen and Vanity Cabinets.
 - 19. LEED: Leadership in Energy and Environmental Design.
 - 20. NEMA LD 3: High Pressure Decorative Laminates.
 - 21. NFPA 101: Life Safety Code.
 - 22. NSF 35: High Pressure Decorative Laminates for Surfacing Food Service Equipment.
 - 23. OHSAS: Occupational Health and Safety Assessment Series.
 - 24. OHSAS 18001: Occupational Health and Safety Management Systems.
 - 25. SCAQMD Rule 1168: Adhesive and Sealant Applications.
 - 26. SCS: SCS Global Services.
 - 27. SEFA 3: Work Surfaces (Chemical Resistance).
 - 28. UL 723: Test for Surface Burning Characteristics of Building Materials.
 - 29. UL 2818: GREENGUARD Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishings.

1.04 SUBMITTALS

- A. Product Data: Submit the following:
1. Product data for each specified product. Include manufacturer's technical data sheets and published instruction instructions.
 2. Safety Data Sheets (SDS).

EDITING NOTE: Consider adding the following sustainable design submittals for LEED v4 projects. Edit as necessary in coordination with the designated Project LEED AP.

- B. Sustainable Design Submittals:
1. Environmental Product Declarations.
 2. Recycled Content Data.
 3. Regional Materials Data.
 4. Material Ingredient Reports.
 5. VOC Content Data.
 6. Urea-Formaldehyde-Free Data.
- C. Shop Drawings: Fully dimensioned shop drawings showing layouts and components, including edge conditions, joinery, terminating conditions, substrate construction, cutouts and holes, and provisions for attachment to substrates. Include elevations, section details, and large-scale details. Indicate color, pattern, and finish selections.
- D. Samples: Selection and verification samples for each color, pattern, and finish required.
- E. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties, if required.
- F. Maintenance Data: Manufacturer's published maintenance manual with closeout submittals.

1.05 REGULATORY REQUIREMENTS

- A. Sealants and Sealant Primers:
1. SCAQMD (South Coast Air Quality Management District) Rule 1168 for VOC content.
 2. Ozone Transport Commission (OTC) model Rule for Adhesives and Sealants.

1.06 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer Qualifications: Manufacturer producing products in an ISO 9001, ISO 14001, and OHSAS 18001 certified facility.
 2. Fabricator Qualifications: Minimum of three years documented experience in fabricating high pressure laminate panels similar in scope and complexity of this Project.
 3. Installer Qualifications: Minimum of three years documented installation experience for projects similar in scope and complexity to this Project. **[Installer shall be the fabricator].**

EDITING NOTE: Following two LEED paragraphs list potential credits according to LEED v4 for BD+C: New Construction and Major Renovation and LEED v4 for ID+C: Commercial Interiors. Coordinate with designated Project LEED AP for credits applicable to Project.

- B. LEED v4 rating system potential credits for high pressure laminate:
1. Recycled Content: Product data and certification letter for post-consumer and pre-consumer recycled content.
 2. Regional Materials: Product data for sourcing of raw materials.
 3. Material Ingredients: Reports.
 4. Certified Wood: Product data and chain-of-custody certificates.
 5. Low-Emitting Materials: VOC content data.
 6. Low-Emitting Materials: Product data verifying no urea-formaldehyde.

- C. Mock-Up:

EDITING NOTE: Select mock-up size and location options. Delete entire paragraph if mock-up is not a Project requirement.

1. Install at Project site using acceptable products and manufacturer approved installation methods. Obtain Architect's acceptance for color, pattern, finish, fabrication, and installation standards.
2. Mock-Up Size: [] by [].
3. Mock-Up Size: Indicated on Drawings.
4. Mock-Up Location: **[Indicated on Drawings] [As directed by Architect]**.
5. Maintain mock-up during construction for fabrication and installation comparison. If required, remove and legally dispose of mock-up when no longer required.
6. Incorporation: If permitted by Architect, mock-up may be incorporated into as part of the completed Work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Protection: Store compact laminate panel materials protected from exposure to harmful weather conditions, at temperature and humidity conditions recommended by manufacturer. Store high pressure laminate sheet materials and fabricated panels flat on pallets or similar rack-type storage to preclude damage.

1.08 PROJECT CONDITIONS

- A. Environmental Requirements: Ensure appropriate acclimatization between high pressure laminate and substrate prior to fabrication. Condition high pressure laminate and substrate surfaces in the same environment for 48 hours prior to fabrication. Condition at approximately 75 deg F (24 deg C) and 45 percent to 55 percent relative humidity.
- B. Field Measurements: Verify actual measurements and openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

PART 2 - PRODUCTS

EDITING NOTE: Full Contact Information: Wilsonart LLC, 2501 Wilsonart Drive, Temple, TX 76503-6110. Tel. 254.207.7000, Toll-Free 800.433.3222, Fax 254.207.2384. Website is: www.wilsonart.com. Refer to “**Specialty Laminates**” under the “**Products**” tab for compact laminates.

2.01 MANUFACTURER

- A. Basis of Design: Wilsonart.

EDITING NOTE: Refer to “**Laminate**” under the “**Resources**” tab and the “**Performance**” tab for complete information on high pressure laminate properties, including sustainability, conformance standards, physical performance properties, and available sheet sizes.

2.02 HIGH PRESSURE LAMINATE PROPERTIES

- A. High Pressure Laminate Composition: Decorative surface papers impregnated with melamine resins and pressed over kraft paper core sheets impregnated with phenolic resin. Sheets then bonded together under pressures greater than 1,000 lbs. per sq. in. and high temperatures approaching 300 deg F (149 deg C). Finished sheets trimmed and backs sanded to facilitate bonding to substrate.
- B. Sustainable Design Conformance Standards:
1. UL 2818 GREENGUARD Gold Certified.
 2. SCS Certified Indoor Air Quality Advantage™ Gold Certified.
 3. SCS Chain of Custody Certified for FSC® Mix, FSC Controlled Wood.
 4. SCS Recycled Content Certified.

EDITING NOTE: The Wilsonart website provides comprehensive information for surface burning characteristics and classifications of Wilsonart high pressure laminate products.

- C. Surface Burning Characteristics:
1. Test Standards: ASTM E 84, ASTM E 162, ASTM E 662, IMO FTP Code Part 2 and Part 5, and UL 723.
 2. Interior Finish Classification, Fire-Rated Compact Laminate: Class A according to NFPA 101. Flame spread less than 25 and Smoke Developed less than 450.
 3. Interior Finish Classification, Classic Compact Laminate: Class B according to NFPA 101. Flame spread less than 75 and Smoke Developed less than 450.

EDITING NOTE: Should high pressure laminate surfaces be installed in areas subject to food contact, all Classic Grade and Fire-Rated Grade Compact Laminates comply with the referenced NSF Standard 35, except Types 114 and 117.

- D. Surfaces Subject to Food Contact: Comply with NSF Standard 35.
- E. Physical Properties:
1. Test Standards: ASTM D368, ASTM D790, ASTM D792, EN438, and SEFA 3.
 2. Test Values: Refer to Wilsonart website technical data.

2.03 COMPACT LAMINATES

EDITING NOTE: Compact Laminates are high performance solid composites offering superior impact resistance, fire-rated performance, and chemical/stain resistance.

- A. Product: “Wilsonart® Compact Laminate.”
- B. “Wilsonart® Classic Grade”: Self-supporting homogenous panels finished with melamine surface. Impact-resistant design. Class B rated according to NFPA 101.

EDITING NOTE: Types 114 and 117 are sanded one side; remainder are double-faced.

1. Product Type and Nominal Thickness: **[Type 114; 0.100 inch] [Type 117; 0.118 inch] [Type 514; 0.100 inch] [Type 515; 0.125 inch] [Type 568; 0.500 inch] [Type 569; 0.250 inch] [Type 571; 0.312 inch] [Type 572; 0.375 inch] [Type 575; 0.750 inch] [Type 590; 1.00 inch]**.
2. Sheet Size: [_____].
3. High Pressure Laminate Conformance Standard: NEMA LD 3, Grade CGS.
4. Finish: **[#60 Matte] [#38 Fine Velvet Texture] [#74 Wood Ticking]**.
5. Color and Pattern: [_____].

EDITING NOTE: If color and pattern selections are not specified above, delete and select from one of the following options.

6. Color and Pattern: Specified in SCHEDULE Article of this Section.
 7. Color and Pattern: Indicated on Drawings.
 8. Color and Pattern: Selected from manufacturer's full range of available selections.
- C. “Wilsonart® Fire-Rated Grade”: For applications where fire-rated properties are required. Double-faced. Class A rated according to NFPA 101.

1. Product Type and Nominal Thickness: **[Type 669; 0.250 inch] [Type 671; 0.312 inch] [Type 672; 0.375 inch] [Type 668; 0.500 inch] [Type 675; 0.750 inch] [Type 690; 1.00 inch]**.
2. High Pressure Laminate Conformance Standard: NEMA LD 3, Grade CGS.
3. Finish: #60 Matte.
4. Color and Pattern: [_____].

EDITING NOTE: If color and pattern selections are not specified above, delete and select from one of the following options.

5. Color and Pattern: Specified in SCHEDULE Article of this Section.
 6. Color and Pattern: Indicated on Drawings.
 7. Color and Pattern: Selected from manufacturer's full range of available selections.
- D. “Wilsonart® Solid Phenolic Backer”: Non-decorative materials used for panels that require impact resistance.

1. Product Type and Nominal Thickness: **[Type 268; 0.500 inch] [Type 269; 0.250 inch] [Type 271; 0.3125 inch] [Type 272; 0.375 inch] [Type 275; 0.750 inch] [Type 290; 1 inch] [Type 298; 0.125 inch]**.

2. High Pressure Laminate Conformance Standard: NEMA LD 3, Grade CGS.
3. Finish: Slight texture and mottled black appearance.
4. Color and Pattern: [_____].

EDITING NOTE: If color and pattern selections are not specified above, delete and select from one of the following options.

5. Color and Pattern: Specified in SCHEDULE Article of this Section.
6. Color and Pattern: Indicated on Drawings.
7. Color and Pattern: Selected from manufacturer's full range of available selections.

2.04 PHENOLIC BACKER SHEETS

- A. Product: "Wilsonart® Phenolic Backer Sheets."

EDITING NOTE: Several types, thicknesses, and weights are available for non-fire-rated backer sheets. Refer to the Phenolic Backer Sheet Technical Data Sheet on Wilsonart website to review complete list of choices, including the NEMA LD 3 Grade designation.

1. Sheet Thickness: [_____] inch nominal.
2. High Pressure Laminate Conformance Standard: NEMA LD 3.
3. Color, Pattern, and Finish: [_____].

EDITING NOTE: If color, pattern, and finish are not specified above, delete and select one of the following options.

4. Color, Pattern, and Finish: Specified in SCHEDULE Article of this Section.
5. Color, Pattern, and Finish: Indicated on Drawings.
6. Color, Pattern, and Finish: Selected from manufacturer's full range of available selections.

- B. Fire-Rated Backer Sheet: "Wilsonart Type 264-FR." Use in conjunction with "Wilsonart Type 604 Fire-Rated Laminate." Class A rated according to NFPA 101.

1. Sheet Thickness: 0.030 inch nominal.
2. High Pressure Laminate Conformance Standard: NEMA LD 3, Grade BKV.
3. Color: Brown (natural color).

- C. Fire-Rated Backer Sheet: "Wilsonart Type 266-FR." Use in conjunction with ["**Wilsonart Type 605 Fire-Rated Laminate**"] ["**Wilsonart Type 607 Fire-Rated Laminate**"]. Class A rated according to NFPA 101.

1. Sheet Thickness: 0.050 inch nominal.
2. High Pressure Laminate Conformance Standard: NEMA LD 3, Grade BKH.
3. Color: Brown (natural color)

2.05 FABRICATIONS

EDITING NOTE: Edit the following Paragraphs to suit Project requirements.

- A. Wall Panel Systems, Double-Faced: Decorative surface on both sides of panels. Install by mechanical fastening to substrate.

1. Mounting Hardware, Thin Panels (1/4 Inch Maximum): Aluminum extrusions for the following components:
 - a. J-channel for panel top edge, bottom edge, and end of panel run.
 - b. H-molding for butt joints.
 - c. Inside corner molding.
 - d. Outside corner molding.
 2. Mounting Hardware, Thick Panels (More Than 1/4 Inch): Aluminum extrusions for the following component:
 - a. J-channel for panel top edge, bottom edge, and end of panel run.
 - b. U-channel (or Omega profile). Provide integral recess.
 - c. Z-clips.
 - d. Specialty outside/inside corners.
- B. Casework Joinery: **[Butt jointed with mechanical fasteners] [Lock shoulder with adhesive bond] [Lap jointed with mechanical fasteners] [Splined miter with adhesive bond]**.
- C. Toilet Partitions:
1. Panel Thickness: Minimum 1 inch.”
 2. Partition Hardware: **[Specified in Section 10 2113.16 “Plastic-Laminate-Clad Toilet Compartments] [Refer to Drawings] [_____]**.

PART 3 - EXECUTION

3.01 EXAMINATION

EDITING NOTE: Acceptable substrates for bonding Wilsonart high pressure laminates are particleboard, medium density fiberboard, and plywood with one A face. Marginal substrates are steel, aluminum, fiber reinforced plastic, and plywood without A faces. Unsuitable substrates are high pressure laminate, plaster, concrete, and gypsum board.

- A. Examine surfaces for conditions that could adversely affect the performance of the high pressure laminate installation, including edge performance.
- B. Commencement of work will constitute acceptance of existing conditions and surfaces to receive the work.

3.02 INSTALLATION, GENERAL

- A. Install materials according to Wilsonart written installation instructions, approved shop drawings, referenced Specification Sections and applicable AWI AWS requirements. **[For residential casework, comply with KCMA A161.1.]**
- B. To avoid stress cracking, do not use square-cut inside corners. All inside corners to have a minimum 1/8 inch radius and all edges routed smooth.

- C. Drill oversized holes for screws, bolts, and similar fasteners. Slightly countersink fasteners into face side of high-pressure-laminate-clad substrate. Use appropriate drill diameter for type and size of screws required.
- D. Use carbide-tipped saw and router blades for cutting, with high tool speed and low feed speed. Keep cutting blades sharp. Use appropriate hold-downs to prevent vibration.
- E. Use an orbital sander for final sanding of edges.

EDITING NOTE: Delete the following Paragraph if not required.

- F. Countertops: Use a two-part epoxy, two-part urethane sealant or silicone sealant to secure counters to cabinets and provide liquid-proof butt joints.

3.03 CLEANING AND PROTECTION

- A. Clean compact laminate panels according to manufacturer's printed care and maintenance instructions.
- B. Protect installed products and finish surfaces from damage during remainder of construction period.

3.04 SCHEDULE

OPTION: Color, Pattern, and Finish Schedule may be inserted here if this option is chosen.

END OF SECTION 06 4229