
SECTION 06 4219
THERMALLY FUSED LAMINATE PANELS

This Section specifies “Wilsonart® Thermally Fused Laminate (TFL) Panels produced by Wilsonart. TFL Panels are a key component of the Wilsonart® Coordinated Surfaces program. When combined with Wilsonart’s vast array of high performance laminate offerings and edgebanding options, TFL panels complete a suite of products unmatched in the industry for coordinated color, pattern, and finish selections, and will satisfy virtually any residential or commercial need. Wilsonart is the largest and most-recognized manufacturer of laminates in the United States with a substantial presence in the global marketplace.

Wilsonart® TFL Panels are well suited for residential cabinetry/casegoods and closet systems, retail, hospitality, healthcare, educational, and contract furniture applications. Panel laminate surfaces provide good wear and resistance to stains and scratches. Additionally, urea-formaldehyde-free, fire and moisture-resistant panel core options are available.

Wilsonart® TFL Panels are sustainably responsible, and contribute to LEED v4 BD+C and ID+C points in several categories.

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. Thermally Fused Laminate (TFL) Panels.
- B. Cabinet Interiors.
- C. Cabinet Doors.
- D. Decorative Edgebanding.
- E. Accessory Moldings.

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 06 0620 - Decorative Plastic Laminate.
- C. Section 06 0630 - Decorative Plastic Laminate Resurfacing.
- D. Section 06 4116 - Plastic-Laminate-Clad Architectural Cabinets.

- E. Section 08 1423.16 - Plastic-Laminate-Faced Wood Doors.
- F. Section 10 2113.16 - Plastic-Laminate-Clad Toilet Compartments.
- G. Section 12 3530.13 - Kitchen Casework.
- H. Section 12 3623.13 - Plastic-Laminate-Clad Countertops.

1.03 REFERENCES

EDITING NOTE: Revise Reference Standards to suit Project requirements.

- A. Reference Standards:
 - 1. ANSI: American National Standards Institute.
 - 2. ANSI A208.1: Particleboard.
 - 3. ANSI A208.2: Medium Density Fiberboard (MDF) For Interior Applications.
 - 4. ANSI/NEMA LD-3: High Pressure Decorative Laminates.
 - 5. ASTM: ASTM International.
 - 6. ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Based Fiber and Particle Panel Materials.
 - 7. ATCM: Airborne Toxic Control Measure.
 - 8. AWI: Architectural Woodwork Institute.
 - 9. AWS: Architectural Woodwork Standards.
 - 10. CARB: California Air Resources Board.
 - 11. CPA: Composite Panel Association.
 - 12. FSC: Forest Stewardship Council.
 - 13. ISO: International Organization for Standardization.
 - 14. ISO 4586: High-Pressure Decorative Laminates (HPL, HPDL) – Sheets Based on Thermosetting Resins (Usually Called Laminates).
 - 15. LEED: Leadership in Energy and Environmental Design.
 - 16. NAF: No Added Formaldehyde.
 - 17. NEMA: National Electrical Manufacturers Association'
 - 18. ULEF: Ultra-Low-Emitting Formaldehyde.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 3000 - Submittals.
- B. Product Data: Submit the following:
 - 1. Product data for each specified product. Include manufacturer's technical data sheets and published instructions.
 - 2. Safety Data Sheets (SDS).
- C. Shop Drawings: Fully dimensioned shop drawings showing layouts and components, including edge conditions, joinery, terminating conditions, substrate construction, and cutouts and holes. 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. Quality Assurance Submittals:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties, if required.
 - 2. LEED Submittals: Applicable LEED documentation for potential credits specified in this Section.
- F. Maintenance Data: Manufacturer's published maintenance manual with closeout submittals.

1.05 REGULATORY REQUIREMENTS

- A. Composite Wood Products:
 - 1. CARB ATCM for Composite Wood Products.

1.06 QUALITY ASSURANCE

- A. Qualifications:

EDITING NOTE: Retaining the Composite Panel Association (CPA) option provides additional quality assurance measures for panel core materials, including sustainable design related certification programs with independent third party testing offered through the CPA to its members.

- 1. Manufacturer Qualifications: TFL Panels produced by a manufacturer with documented quality management and environmental management practices and procedures in place to ensure compliance with specified requirements. **[Panel core material producers are current members in good standing with the Composite Panel Association.]**
- 2. Fabricator Qualifications: Minimum of three years documented experience in fabricating thermally fused laminate panels similar in scope and complexity to this Project.
- 3. Installer Qualifications: Minimum of three years documented installation experience for projects similar in scope and complexity to this Project.

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 TFL Panels:
 - 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 option. 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 TFL Panel materials protected from exposure to harmful weather conditions, at temperature and humidity conditions recommended by manufacturers. Store materials flat on pallets or similar rack-type storage to avoid damage. Moisture content of TFL Panels not to exceed 6 percent to 8 percent.

1.08 PROJECT CONDITIONS

- A. Environmental Requirements: Ensure appropriate acclimatization of TFL Panels prior to fabrication. Condition TFL Panels 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

WILSONART CONTACT INFORMATION: Wilsonart, 2501 Wilson Center, Temple, TX 76503-6110. Tel. 254.207.7000, Toll-Free 800.433.3222, Fax 254.207.3209.
Website: www.wilsonart.com

2.01 MANUFACTURER

- A. Basis of Design: Wilsonart.

EDITING NOTE: Refer to the **Laminate Design Detail Page** on the Wilsonart website for complete information on laminate properties, including applicable sustainable design conformance standards, compliance with additional standards, physical performance properties, and available sheet sizes.

2.02 TFL PANEL PROPERTIES

- A. Laminate Composition: Melamine saturated decorative layers thermally fused to both core face surfaces with heat and pressure. Stain resistant surface with wear and scratch resistance.
- B. Panel Core Material: Composite panel product composed primarily of cellulosic materials and a bonding system, resulting in a durable and dimensionally stable substrate suitable for decorative laminate overlays.
- C. Sustainable Design Conformance Standards:
1. CPA: Eco-Certified Composite (ECC) Sustainability Standard.
 2. CPA: Formaldehyde Emissions Grademark Certification Program. Certification attests compliance with applicable CARB ATCM limitations.

2.03 TFL PANELS

EDITING NOTE: The "LUJO® Collection" features luxury woodgrain laminate products.

- A. Product: "Wilsonart® Thermally Fused Laminate Panels. The LUJO® Collection"
- B. Laminate Component:
1. Laminate Conformance Standard: ANSI/NEMA LD 3, Grade VGL, and ISO 4586.
 2. Color, Pattern, and Finish: **[INSERT COLOR/PATTERN NAME & NUMBER]** **[INSERT FINISH NAME]** or refer to Finish **Schedule [on Drawings] [at the end of this Section]**.

EDITING NOTE: TFL Panels are available with multiple core materials, including particleboard and medium density fiberboard. Moisture-resistant core is only available with medium density fiberboard. Default Grades specified are typical performance values. Other grades can be specified; refer to the Substrate Selection Technical Bulletin on the Wilsonart website for additional information. Selecting options for no added urea formaldehyde and CARB ATCM are necessary for sustainable design low-emitting material conformance.

- C. Panel Core Material: Particleboard **[with NAF/ULEF]**.

1. Conformance Standards: ANSI 208.1, Grade **[M-2, minimum 45 lb. density]. [Compliant with CARB ATCM.]**
 2. Product Type and Thickness: **[Type 858 - 5/8 inch] [Type 875 - 3/4 inch] [Type 870 - 1 inch] [Type 878 - 1-1/8 inch]**. ± 0.008 inch dimensional tolerance.
 3. Panel Width: **[49 inches] [61 inches] [_____]**. ± 0.036 inch dimensional tolerance.
 4. Panel Length: **[97 inches] [121 inches] [145 inches] [_____]**. ± 0.080 inch dimensional tolerance.
- D. Panel Core Material: Medium density fiberboard **[with NAF/ULEF]**.
1. Conformance Standard: ANSI 208.2. Grade **[130, minimum 45 lb. density]. [Compliant with CARB ATCM.]**
 2. Product Type and Thickness: **[Type 841 - 1/2 inch] [Type 845 - 3/4 inch]**. ± 0.008 inch dimensional tolerance.
 3. Panel Width: **[49 inches] [61 inches] [_____]**. ± 0.036 inch dimensional tolerance.
 4. Panel Length: **[97 inches] [121 inches] [145 inches] [_____]**. ± 0.080 inch dimensional tolerance.
- E. Moisture-Resistant Panel Core Material: Medium density fiberboard **[with NAF/ULEF]**.
1. Conformance Standard: ANSI 208.2. Grade **[130, minimum 45 lb. density]. [Compliant with CARB ATCM.]**
 2. Product Type and Thickness: **[Type 880 - 3/4 inch] [Type 885 - 3/4 inch] [Type 886, Fire-Rated – 3/4 inch]**. ± 0.008 inch dimensional tolerance.
 3. Panel Width: **[49 inches] [61 inches] [_____]**. ± 0.036 inch dimensional tolerance.
 4. Panel Length: **[97 inches] [121 inches] [145 inches] [_____]**. ± 0.080 inch dimensional tolerance.

2.04 CABINET INTERIORS

- A. Product: “Wilsonart® Interiors **[Linen Collection] [Tabby Collection] [Tessere Collection]**.”
- B. Laminate Component:
 1. Laminate Conformance Standards: ANSI/NEMA LD 3, Grade CLS, and ISO 4586. Design: **[Casual Linen] [Classic Linen] [Crisp Linen] [Flax Linen] [Frosted Tabby] [Heathered Tabby] [Wheat Tabby] Bianco Tessere] [Grigio Tessere] [Panna Tessere] [Sabbia Tessere]**.

EDITING NOTE: If designs are not specified in the subparagraph above, delete and select one of the following subparagraphs.

2. Design: Specified in SCHEDULE Article of this Section.
3. Design: Indicated on Drawings.
4. Design: Selected from manufacturer's full range of available selections.

2.05 CABINET DOORS

- A. Product: “Wilsonart® **[5-Piece] [Flat Panel]** Cabinet Doors.” **[Comply with KCMA A161.1 and provide KCMA certification label on door]**.
- B. Laminate Properties:

1. Laminate Conformance Standard: ANSI/NEMA LD 3, Grade VGL, and ISO 4586.
2. Laminate Thickness: 0.020 inch, nominal.
3. Color, Pattern, and Finish: **[Linen] [Pepperdust] [White Cypress] [Phantom Pearl] [Phantom Ecu] [White River Forest] [High Line] [Fawn Cypress] [Friston Ash] [Veranda Teak] [Avondale Ash] [Neowalnut] [Valley Forge Elm] [Branded Oak] [Randolph Forest] [Shaker Cherry] [Portico Teak] [Phantom Charcoal] [Weathered Char] [Dering Forest] [Colombian Walnut] [Akira] [Belair] [Daintree] [Monteverdi] [Great Bear] [Fairchild] [Indigo].**

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

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.

EDITING NOTE: Doors utilize a medium density fiberboard core material. Default Grades specified are typical performance values. Other grades can be specified; refer to the **Substrate Selection Technical Bulletin** under the Resources tab on the Wilsonart website for additional information.

- C. Core Material: Medium density fiberboard **[with no added urea formaldehyde]**.
1. Conformance Standard: ANSI 208.2. Grade **[130]**.
 2. Thickness, Stiles and Rails: 3/4 inch with ± 0.008 inch dimensional tolerance.
 3. Thickness, Inset Facer Panels: 1/4 inch with ± 0.008 inch dimensional tolerance.
- D. Door Dimensions: **[As indicated or scheduled on Drawings] [_____]**.

EDITING NOTE: Several designs are available for doors, including doors serving as drawer fronts. Select from the following design options to suit project requirements.

- E. Shaker Door Rail/Stile Design: **[2.25" Narrow Shaker Door] [2.25" Narrow Shaker Door, Mitered] [3" Wide Shaker Door] [3" Wide Shaker Door, Mitered]**.
- F. Shaker Drawer Front Rail/Stile Design: **[2.25" Narrow Shaker Drawer] [2.25" Narrow Shaker Drawer, Mitered] [3" Wide Shaker Drawer] [3" Wide Shaker Drawer, Mitered]**.
- G. Contemporary Door Rail/Stile Design: **[Contemporary Shaker Door, Mitered] [Contemporary Shaker Door, French Cut]**.
- H. Contemporary Drawer Rail/Stile Design: **[Contemporary Shaker Drawer, Mitered] [Contemporary Shaker Drawer, French Cut]**.
- I. Combination Door Rail/Stile Design: Combination Door.
- J. Combination Drawer Rail/Stile Design: Combination Drawer.
- K. Flat Door Design: Flat Front.
- L. Flat Drawer Design: Flat Drawer.

EDITING NOTE: If the door/drawer design(s) are not specified in the paragraphs above, delete and select one of the following paragraphs.

- M. Door Design(s): Specified in SCHEDULE Article of this Section.
- N. Door Design(s): Indicated on Drawings.
- O. Door Design(s): Selected from manufacturer's full design range.

2.06 DECORATIVE EDGE BANDS

- A. Edgeband Products: "Wilsonart® Edgeband."
 - 1. Composition: ABS/PVC extruded fabrication.
 - 2. Width: Equal to or greater than panel thickness.
 - 3. Finish: **[Match TFL Panels]**.
 - 4. Color and Pattern: **[Match TFL Panels] [_____]**.

EDITING NOTE: If color, pattern, and finish 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.

2.07 ACCESSORY MOLDINGS

- A. Product Manufacturer: Wilsonart.
 - 1. Composition: Medium density fiberboard.
 - 2. Profile(s): **[Light Shield] [Batten] [Contemporary Crown] [Concave Crown] [Baseboard] [Shoe] [Quarter Round]**.
 - 3. Applications: As indicated on Drawings **[including molding profile combinations]**.
 - 4. Color and Pattern: **[Match doors] [_____]**.

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.

2.08 FABRICATION

- A. Fabricate TFL Panels in shop, to greatest extent practicable, in sizes and shapes indicated according to approved shop drawings and manufacturer's published fabrication requirements.
- B. Provide holes and cutouts indicated on approved shop drawings. Use a router to create cutouts and complete by sanding all edges smooth.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions that could adversely affect the work of this Section.
- B. Substrates must be sound, flat, smooth, and free from dust or other surface contaminants.
- C. Commencement of work will constitute acceptance of existing conditions and substrates to receive the work.

3.02 INSTALLATION

- A. Conformance Standard: Comply with **[AWI/AWMA/VI AWS] [and] [KCMA A161.1]** as applicable to Project.
- B. Install TFL Panel components plumb, level, and true according to approved shop drawings and manufacturer's published installation instructions. Shim as required during installation process.
- C. Attach TFL Panel components to substrates as indicated on Drawings and approved shop drawings.
- D. Cabinet Doors: Install without distortion to ensure accurate alignment and proper fit. Adjust hardware (specified elsewhere) for smooth nonbinding operation.

3.03 CLEANING AND PROTECTION

- A. Clean TFL Panels according to manufacturer's published care and maintenance instructions. Completely remove deleterious substances from finished surfaces.
- B. Repair damaged and defective TFL Panel components, where possible, to eliminate defects, including visual. Where not possible to repair, replace affected TFL Panel components.
- C. Protect completed TFL Panels work from damage for remainder of construction period.

3.04 SCHEDULE

OPTION: Color and Pattern Schedule may be inserted here if this option is chosen.
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END OF SECTION 06 4219