



SECTION 06 41 00
ARCHITECTURAL WOOD CASEWORK
(THERMALLY FUSED LAMINATE)

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Thermally fused laminate panels (TFL) used for the following applications:
1. Commercial Fixtures.
 2. Office Furniture.
 3. Hotel Furniture.
 4. Medical Casework Fixtures.
 5. Kitchen Cabinetry.
 6. Bathroom Cabinetry.
 7. Wall Panels.
 8. Closet System Components.
 9. Toilet Compartments.
 10. Shelving.
 11. Garage Storage Systems.
 12. School Furniture.

1.2 RELATED SECTIONS

- A. Section 06 20 00 - Finish Carpentry.
- B. Section 06 40 13 - Exterior Architectural Woodwork.
- C. Section 06 25 00 - Prefinished Paneling.
- D. Section 06 41 00 - Architectural Wood Casework
- E. Section 06 41 16 - Plastic Laminate Clad Architectural Cabinets
- F. Section 06 42 00 - Wood Paneling
- G. Section 06 42 16 - Flush Wood Paneling
- H. Section 06 42 19 - Plastic-Laminate-Faced Wood Paneling.
- I. Section 10 21 00 - Compartments and Cubicles.
- J. Section 10 51 00 - Lockers.
- K. Section 10 55 13 - Central Mail Delivery Boxes.
- L. Section 12 30 00 - Casework.

- M. Section 12 35 00 - Specialty Casework
- N. Section 12 35 30.13 - Kitchen Casework.
- O. Section 12 50 00 - Furniture.
- P. Section 12 59 00 - Systems Furniture.

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A208.1 - Particleboard, Mat-Formed Wood.
 - 2. ANSI A208.2 - Medium Density Fiberboard for Interior Use.
- B. ASTM International (ASTM):
 - 1. ASTM D 1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
 - 2. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. Architectural Woodwork Institute (AWI):
 - 1. Architectural Woodwork Standards (AWS).
- D. Composite Panel Association (CPA).
 - 1. CPA-4-19- Eco-Certified Composite (ECC) Sustainability Standard.
- E. California Air Resources Board (CARB):
 - 1. CARB ATCM 93120 - California Formaldehyde Regulation (CARB rule).
- F. Environmental Protection Agency (EPA)
 - 1. Toxic Substance Control Act (TSCA) – Title VI Formaldehyde Regulation
- G. Forest Stewardship Certification (FSC):
 - 1. Scientific Certification System, Chain of Custody Number: SCS-COC- 000300, Roseburg Forest Products.
- H. International Organization for Standardization (ISO):
 - 1. ISO 14021 - Environmental Labels and Declarations - Self-Declared Environmental Claims (Type II Environmental Labelling).
 - 2. ISO 4586 – 2 – High Pressure Decorative Laminate Sheets based on Thermosetting Resins.
- I. MEA New York Standard for Fire-Rated Panel:
 - 1. MEA 244, Material and Equipment Acceptance by Department of Buildings, City of New York, NY.
- J. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA LD3 - Laminate Testing.
- K. Scientific Certification Systems (SCS):
 - 1. Certification by independent evaluation of 82-92 percent pre-consumer recycled wood fiber content depending on product standard and contains no added formaldehyde (made without the use of phenol formaldehyde and shown in lab testing to be free of formaldehyde down to a detection limit of 0.05 ppm). Furnished by Scientific Certification Systems, Oakland, CA.
- L. Standards Council of Canada –
 - 1. Formaldehyde Emission Standards for Composite Wood Products – CAN/CSA 0160-16

- M. UL Environment: A business unit of Underwriters Laboratories.
- N. U.S. Green Building Council (USGBC)
 - 1. LEED - Leadership in Energy and Environment Design

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Manufacturer's printed installation instructions, showing required preparation and installation procedures.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Cleaning and maintenance instructions.
- C. Verification Samples: For each finish product specified, two samples, 3-1/8 x 4-1/8 in (89 x 127 mm) representing manufacturer's product.
- D. Manufacturer's Certification: Materials comply with specified requirements and suitable for intended application.
 - 1. Material Certificates: Thermally Fused Laminate - Particleboard or MDF.
 - a. CARB Compliance: Phase 2 formaldehyde emissions certificate; CA Executive Order for CARB ULEF or NAF Exemption.
 - b. CPA - ECC Certification.
 - c. FSC Certification.
 - d. TSCA Title VI – Formaldehyde Regulations
- E. Sustainable Design Submittals - LEED 2009 (NC) or LEED v4 New Construction:
 - 1. Materials and Resources - Recycled Content (LEED 2009, MRc4) (LEED v4, Building product disclosure and optimization - sourcing of raw materials) - TFL particleboard or MDF manufacturer's product data indicating percent of pre-consumer and post-consumer recycled content.
 - 2. Materials and Resources - Regional Materials (LEED 2009, MRc5) (LEED v4, Building product disclosure and optimization) - TFL particleboard or MDF manufacturer's product data indicating harvest source location and location of manufacturing. Location valuation factor.
 - 3. Materials and Resources - Certified Wood (LEED 2009, MRc7) (LEED v4, Building product disclosure and optimization - sourcing of raw materials) - TFL particleboard or MDF manufacturer's product data indicating certification to Forest Stewardship Council. Product must be ordered as FSC Chain of Custody Certified.
 - 4. Indoor Environmental Quality Credit - (LEED 2009, IEQc4.4) (LEED v4, Low-Emitting Materials - Composite Wood Evaluation) - TFL particleboard or MDF manufacturer's product data documenting low formaldehyde emissions that meet the CARB ATCM for ultra-low-emitting formaldehyde (ULEF) resins or no added formaldehyde (NAF) resins.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Thermally fused laminate (TFL) particleboard or MDF panels produced by a manufacturer with documented quality management and environmental management practices in place to ensure compliance with:
 - 1. FSC - Mix Credit certification.
 - 2. CPA - ECC - Eco Certified Composite Panel certification.
 - 3. CARB Air Toxic Control Measure - Third party (TPC-1) certified.
 - 4. TSCA Title VI – Formaldehyde Regulations
 - 5. ISO 4585-1 / NEMA LD 3

- B. Fabricator and Installer Qualifications: Minimum of two years documented experience in fabricating and installation of TFL panels similar in scope and complexity to this project.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship for each type TFL paneling and TFL running trim using manufacturer approved installation methods.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship and appearance are approved by Architect.
 - 3. Subject to approval by Architect, mock-up may be retained as part of finish work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged pallets with identification labels intact.
- B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions in strict compliance with manufacturer's instructions and industry standards.
 - 1. If unloaded outdoors, move and store under shelter as soon as possible. Avoid unloading in inclement weather.
 - 2. Inspect delivered products to verify products are not damaged, soiled or have been exposed to water.
- C. Handling: Protect materials during handling and installation to prevent damage.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
 - 1. Store TFL panels prior to fabrication in same environment for fabrication, 48 hours prior to fabrication.

1.8 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard limited warranty for defects in manufacturing.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturer: Roseburg, which is located at: 3660 Gateway St.; Springfield, OR 97477; Toll Free Tel: 800-245-1115; Tel: 541-679-3311 ; Fax: 541-679-2543; Contact Mark Nelson - Email: [request info \(MarkN@rfpco.com\)](mailto:request info (MarkN@rfpco.com)); Web: www.roseburg.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 THERMALLY FUSED LAMINATE PANELS

- A. Basis of Design: Duramine or Duramine FR, thermally fused laminate as manufactured and supplied by Roseburg Forest Products Company.
 - 1. Standard core material laminated with Melamine saturated decorative paper layers thermally fused to both core face surfaces with heat and pressure.

2. Textured Finishes:
 - a. Texture for Face: Suede finish.
 - b. Color and Pattern: _____.
 - c. Color and Pattern: As indicated on drawings.
 - d. Color and Pattern: As selected from Roseburg's full range of available selections.
3. Environmental Product Declaration (EPD):
 - a. Manufacturer is recognized participant by UL Environment, the program operator, in a Type III Product Specific EPD for a Thermally Fused Laminated Panel (TFL).
 - 1) Duramine TFL is valued as one whole product (per unique application) from one manufacturer for the purposes of this LEED credit.
4. Physical characteristics:
 - a. Wear Resistance per ISO 4586-2 (SEC 11) / NEMA LD3-3.13:
 - a) Solid Colors: 550-700 cycles.
 - b) Prints: 100 cycles.
 - b. Stain Resistance per ISO 4586-2 (SEC 31) / NEMA LD3-3.4:
 - a) 1-10 No effect.
 - b) 11-15 Slight - moderate effect (iodine only).
 - c. Impact Resistance per ISO 4586-2 (SEC 25) / NEMA LD3-3.8:
 - a) 9 to 15 in (229 to 381 mm).
5. Location:
 - a. Manufacturing Location: (Duramine TFL) Missoula, MT; Simsboro, LA
 - 1) Wood Fiber Extraction: Within 300-mile radius of each manufacturing location.

B. Substrates for Duramine & Duramine FR -TFL:

1. Basis of Design: UltraBlend particleboard as manufactured and supplied by Roseburg Forest Products Company.
 - a. Standards Compliance:
 - 1) ANSI Standard A208.1
 - 2) ANSI D 1037- Standard Test Methods for Evaluating the Properties of Wood-based Fiber and Particleboard Materials.
 - 3) ASTM E-84 Class C or 3. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB approval TPC-1 to comply with CCR 93120.2 for formaldehyde emission requirement. / TSCA Title VI compliant Resin
 - c. Recycled Content: 86 percent. CPA – ECC Certified
 - d. Thickness Range: 3/8 to 1-1/2 in (9.5 to 38 mm).
 - e. FSC Certified UltraBlend particleboard available. Must be specified at time of order placement. (LEED credit supported).
2. Basis of Design: SkyBlend particleboard as manufactured and supplied by Roseburg Forest Products Company.
 - a. Standards Compliance:
 - 1) ANSI standard A208.1
 - 2) ASTM D 1037- Standard Test Methods for Evaluating the Properties of Wood-based Fiber and Particleboard Materials.
 - 3) ASTM E 84, Class C or 3. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB approval TPC-1 to comply with CCR 93120.2

- for formaldehyde emission requirement. (LEED V4 credit supported)
 - 2) CPA 4-19: Eco Certified Composite Sustainability Standard.
 - c. Recycled Content: 90 percent. CPA – ECC Certified
 - d. Thickness Range: 3/8 to 1-1/2 in (9.5 to 38 mm).
 - e. FSC Certified particleboard available. Must be specified at time of order placement. (LEED credit supported).
- 3. Basis of Design: Roseburg Medite FR - Class 1 Flame Retardant (MDF) Medium Density Fiberboard as manufactured and supplied by Roseburg Forest Products Company.
 - a. Standards Compliance:
 - 1) ANSI standard A208.2 Grade 130.
 - a) ASTM E-84, Class A or 1. Fire resistance.
 - b) MEA 244. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB NAF Exemption due to synthetic resin system. (LEED V4 credit supported)
 - 2) CARB ATCM 93120 Phase 2 emission requirements. (LEED 2009 credit supported)
 - 3) New York City MEA Approval.
 - c. Recycled Content: 82 percent. CPA – ECC Certified.
 - d. Thickness Range: 1/4 in (6.35 mm) to 1-1/4 in (31.75 mm).
 - e. FSC Certified Medite FR available. Must be specified at time of order placement. (LEED Credit Supported).
- 4. Basis of Design: Roseburg Medex by Roseburg Forest Products Company - Moisture Resistant (MDF) Medium Density Fiberboard Panels made with NAF Resin (No Added Formaldehyde)
 - a. Standards Compliance:
 - 1) ANSI A208.2 Grade 155. Moisture resistance. MR50.
 - 2) ASTM D1037. Six cycle accelerated aging test for moisture resistance.
 - 3) ASTM E-84, Class C or 3. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB NAF Exemption due to synthetic resin system. (LEED V4 credit supported)
 - 2) CARB ATCM 93120 Phase 2 emission requirements. (LEED credit supported).
 - 3) CPA 4-19: Eco Certified Composite Sustainability Standard.
 - c. Recycled Content: 92 percent. CPA – ECC Certified.
 - d. Thickness Range: 1/4 to 1-1/4 in (6 to 32 mm).
 - e. FSC Certified Medex available. Must be specified at time of order placement. (LEED Credit Supported).
- 5. Basis of Design: Arreis Ultra by Roseburg Forest Products Company- Interior (MDF) Medium Density Fiberboard Panels made with NAF Resin (No Added Formaldehyde) for 3 dimensional routed panels on one side (doors & drawer fronts)
 - a. Standards Compliance:
 - 1) ANSI A208.2 Grade 130.
 - 2) ASTM E-84, Class C or 3. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB NAF Exemption due to synthetic resin system. (LEED V4 credit supported)

- 2) CARB ATCM 93120 Phase 2 emission requirements. (LEED credit supported).
 - 3) CPA 4-19: Eco Certified Composite Sustainability Standard.
 - c. Recycled Content: 92 percent. CPA – ECC Certified.
 - d. Thickness Range: 1/4 to 1-1/2 in (6 to 32 mm).
 - e. FSC Certified Arreis available. Must be specified at time of order placement. (LEED Credit Supported).
6. Basis of Design: Arreis by Roseburg Forest Products Company- Interior (MDF) Medium Density Fiberboard Panels made with NAF Resin (No Added Formaldehyde)
- a. Standards Compliance:
 - 1) ANSI A208.2 Grade 130.
 - 2) ASTM E-84, Class C or 3. Fire resistance.
 - b. Third Party Certification:
 - 1) CARB NAF Exemption due to synthetic resin system. (LEED V4 credit supported)
 - 2) CARB ATCM 93120 Phase 2 emission requirements. (LEED credit supported).
 - 3) CPA 4-19: Eco Certified Composite Sustainability Standard.
 - c. Recycled Content: 92 percent. CPA – ECC Certified..
 - d. Thickness Range: 1/4 to 1-1/2 in (6 to 32 mm).
 - e. FSC Certified Arreis available. Must be specified at time of order placement. (LEED Credit Supported).

2.3 DECORATIVE EDGE BAND

- A. General Requirements:
 - 1. Material Composition: ABS/PVC extruded plastic.
 - 2. Width: Equal to our greater than panel thickness.
 - 3. Finish: Match TFL Panels.
 - 4. Color and Pattern: Match TFL Color _____.
 - 5. Color and Pattern: Edgeband Supplier _____. Color: _____.
 - 6. Color and Pattern: Specified in Finish Schedule.
 - 7. Color and Pattern: Indicated on Drawings.
 - 8. Color and Pattern: Selected from manufacturer's full range of colors.
- B. Matching Edgebanding Products:
 - 1. Canplast: canplast.com.
 - 2. Dollken Woodtape: woodtape.com.
 - 3. Olon: olon.com.
 - 4. Rehau: rehau.com/us-en/furniture/edgeband.
 - 5. Teknaform: teknaform.com

2.4 FABRICATION

- A. Panels shall be cut, routed and assembled in accordance to manufacture's fabrication guidelines. Panels shall be assembled with glue and assembly dowels or with plated finish screws.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions to ensure that work can be completed with no adverse effects.

3.2 PREPARATION

- A. Prepare substrates using methods recommended by the manufacturer to achieve the best results for the panels under proper conditions.
- B. Do not proceed with installation until substrates have been fabricated based on recommended methods from the manufacturer. Commencement of installation constitutes acceptance of conditions of substrate.

3.3 INSTALLATION

- A. Comply with AWI AWS fabrication and installation standard as applicable to the project.
- B. Install fabricated TFL panels according to approved architectural drawings, shop drawings and manufacturer's published installation instructions, Shim as required for proper installation.

3.4 CLEANING AND PROTECTION

- A. Clean panels in accordance to manufacturer's published care and maintenance instructions.
- B. Touch up, repair or replace damaged products before completing installation.

END OF SECTION