Architectural Surfaces, Inc.
123 Columbia Court North • Suite 201 • Chaska, MN 55318
952-448-5300 • Fax: **952-448-2613** • Toll Free: 1-**800-448-3134**

LINWOOD II & III™ – SPECIFICATIONS

ARCHITECTURAL SURFACES, INC. 952-448–5300

Section 13070 Special Acoustical Wood Linear Ceiling or Wall System

Part 1: General

1.1 Scope:

A) The work in this section shall be subject to the requirements of the General Conditions.

B) Work Included: Furnish all labor, materials, equipment and services required in conjunction with the installation of the wood linear ceiling (wall) system specified herein and identified on the drawings and schedules including:

1) Suspension system (wall fastening system).
2) Wood linear ceiling (wall) system.
3) All factory applied and/or field installed accessories, wood moldings, or trim relating to the ceiling (wall) system.
4) Integrated air diffusion (optional).
4) Integrated lighting fixtures (optional).
5) Factory prefinishing (optional).

C) Related work specified elsewhere:

1) Painting or finishing (optional).
2) Acoustical work.
3) Mechanical connections to integrated air components (optional).
4) Balancing of air distribution system (optional).
5) Electrical connections to integrated lighting fixture (optional)
6) Millwork.

1.2 Quality Assurance:

A) Manufacturer: The manufacturer shall have a minimum of three years experience in molding solid wood panel systems or laminating veneers to fire retardant substrates and shall have completed at least five projects of the scope and quality required by this project.

1) The manufacturer shall have tested the lamination bond of the veneer to the substrate without showing signs of delamination, cracking or blistering.
2) The manufacturer shall have complete installation drawings and instructions to insure a quality installation.

1.2 Quality Assurance – Continued:

B) Contract Execution: The bidding subcontractors shall be approved by the manufacturer's local distributor/representative of the specified materials and shall be thoroughly experienced in this type of work.

1.2 Submittals:

A) Contract Execution: The work of this section shall not be contracted for until all submissions required below have been completed and approved.

B) Test Data: Submit tests establishing compliance with all performance characteristics of the specification.

C) Shop Drawings: Submit shop drawings in detail of all work in scale to indicate size, location and attachment methods required for the installation of the required work.

D) Samples: Submit samples of portions of full size units showing jointing where such exists and methods of internal fastening as well as all other detailing required.

1.4 Warranty:

A) Submit at the time of submission of shop drawings, the manufacturer’s warranty that the materials furnished hereunder will be free of manufacturing defects for a period of one (1) year. The manufacturer’s warranty may be conditioned with a statement that damage resulting from wet job conditions, faulty construction, plumbing or ventilating systems is not covered by the warranty. The manufacturer’s warranty is limited to replacement of defective material only, rather than installation of the same. Faulty installation shall be corrected by the installing contractor. The warranty required herein is the sole remedy against the manufacturer and there are no other implied warranties. In any event, the manufacturer shall not be liable for incidentals or consequential damages.

1.5 Substitute Products:

A) Proposal shall be based only on the specified product.

B) Alternate proposals for substitute products will not be accepted unless approved in writing via addenda.

C) Request for approval to submit an alternate proposal must be made a minimum of twenty-one (21) calendar days prior to bid date. Request must include test data, samples and product certification per paragraph 1.3 Submittals. If approval is granted an addenda will be issued, so stating a minimum of seven (7) calendar days prior to bid date.

Part 2: Products

2.1 Suspension System:

A) Materials: (Optional-ceilings only) The grid suspension shall be as manufactured by Chicago Metallic Corporation, Donn or approved equal.

B) All main runners and cross runners shall conform to the heavy duty classification of ASTM C635.

C) Main runners shall be installed 48" o.c. and be directly suspended by not less than 12 ga galvanized steel wire wrapped tightly at least three full turns. Suspension wires shall be straight and vertically installed not more than 48" o.c.

D) Main runners shall be interconnected by cross tees to form a 2'x4' module.

E) Wall channel moldings shall be standard cold rolled electrogalvanized steel.

F) (Optional) wall spring clips shall be used on at least two adjoining walls behind the edge molding to allow for wood system expansion and contraction.

2.2 Sound Absorption Element:

A) Materials: The acoustical blanket or panel shall be black matte faced fiberglass material of (1) (2) (3) pound density and shall be (1/2") (1") (1-1/2") (2") or (3") thick, to provide a noise reduction coefficient of _____%. All materials shall be Class 1 (A) with a flame spread index of 0-25.

2.3 Wood Linear Ceiling (Wall) Panels:

A) Materials: The linear ceiling (wall) panels shall be Linwood II with (flat cut) or (rift cut) _____ species of wood veneer. (Optional:) Linwood III, solid wood panels of (species as selected). Panels shall be (4") (6") nominal width panels, manufactured to provide a (1/4" to 7/8") wide open reveal between the panels. Panels shall be a minimum of _____" thick and shall be in random lengths.

(Optional) Linwood II panel substrate shall be Class 1 (A), flame spread index 0-25. Panel veneers shall be minimum of 1/28" in thickness of “architectural grade” and shall be applied by a hot press process on both sides to balance the panel.

(Optional) Linwood III hardwood panels shall be kiln dried to a moisture content of between 6% and 8% (softwoods 11 to 13%) and shall be precisely molded to a tolerance of .007" in width will square cut ends.

B) Panel support clips shall be flat black noncorrosive .022 metal designed to install directly on to a standard 15/16" wide ceiling grid tee suspension system and shall not be installed more than 24" o.c. Clips shall be manufactured for variable placement on the tee system and to automatically space the panels with a (1/4") (1/2") (5/8") (3/4") reveal width between the panels. Clips shall be removable to provide access removal of the panels.

2.3 Wood Linear Ceiling (Wall) Panels – Continued:

C) Panel trim at edges, openings, or lighting fixtures shall be of solid wood in the same species as specified above.

D) (Optional) Prefinished panels shall be custom stained with no._____ as manufactured by _____. Surface finish shall be _____. (Number of coats and application procedures to comply with A.W.I. Finish System No._____). Finish to be reviewed and accepted by the Architect/Designer prior to its application to the wood.

E) (Optional) Linwood III solid wood panels are to be prefinished with ASI clear satin fire retardant finish and shall be Class "A" (1), flame spread index of 0-25, (Stained or finished as described above.) (Optional) Final overcoat shall be a clear (satin) (semigloss) (high gloss) abuse resistant finish and shall be Class "A" (1), flame spread index of 0-25.

F) (Manufacturer and Design: The wood linear panels and/or accessories shall style no. _____ be as manufactured by Architectural Surfaces, Inc., (952) 448-5300

2.4 Air Distribution:

A) (Optional) Air distribution units shall be specifically designed for compatibility with the ceiling system and integrate with (4") (6") ceiling panels. Air supply plenums shall have (2) (4) (6) slots to provide _____ CFM/Unit and shall be of 26 ga. galvanized steel with 1/2" thick acoustical insulation. The air pattern controls shall be flat black baked enamel and be reversible to provide a one way or two way throw. (Optional) Air distribution units shall have remote control butterfly damper cable operable from the room side.

2.5 Light Fixtures:

A) (Optional). The lighting fixtures shall be (fluorescent) (incandescent) style no._____ and shall be specifically designed for compatibility with the ceiling system.

1) Fluorescent fixtures shall use (1) (2) (4) F40 T12 rapid start lamps as indicated on the drawings for fixture schedule. the fixture housing shall be finished in baked white enamel having a light reflection of not less than 85%. Balast shall be high power factor meeting CMB standards as certified by ETL, and carry a U.L. class P label. Lenses shall be (acrylic) (opal) (clear) (prismatic) (metal louver).

2) Incandescent fixtures shall be (8S) (8R) (6S) (6R) (4S) (4R) style no._____ furnished with specular Alzak aluminum reflector. Cone shall be (clear) (gold) (black) (black grooved baffle – mini baffle).

Part 3: Execution

3.1 Job Conditions:

Upon receiving and prior to the installation of the interior finish materials, the installing contractor shall completely read all of the manufacturer's instructions for storage, job conditions and the installation recommendations, and see that they are strictly complied with. Work shall not begin until the space is fully enclosed and glazed. All wet work is to be completed and dried out to the satisfaction of the architect. Temperature shall be at least 65 degrees Fahrenheit during the installation and thereafter. The installation contractor shall be responsible for the examination of all of the conditions and recommendations as set forth and shall not proceed until satisfactory conditions have been met.

3.2 Installation:

Installation shall be in strict accordance with the manufacturer's recommendations, project specifications and the contract drawings. Installation shall be performed by trained crews under the direction of a trained foreman. Finished appearance in all cases shall be in exact conformance with the contract documents.

Architectural Surfaces, Inc.

DISTINCTIVE WOOD & SPECIALTY ACOUSTICAL CEILING & WALL SYSTEMS

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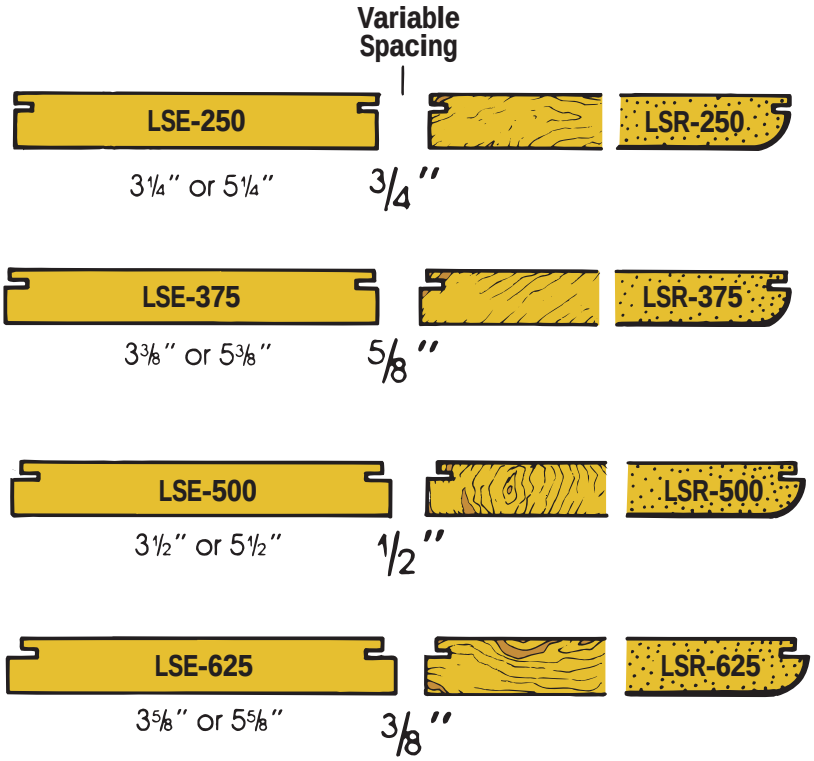
LINWOOD II or III Profiles

Solid Wood or Wood Veneer Class "A" Core
4" or 6" MODULES



9/16" Standard Thickness
(7/16", 5/8", or 3/4" Thickness Available)

HIGHEST QUALITY, GENUINE WOOD AND VENEER, SOUND CONTROL, DECORATIVE CEILING & WALL SYSTEMS, EASILY INSTALLED TO STANDARD T-BAR GRID ALLOWING CONCEALED SUSPENSION AND COMPLETE PLENUM ACCESS. OPTIONS INCLUDE LINEAR, CUBE, GRILLE, COFFER, CURVED, PERFORATED OR CUSTOM IN ANY WOOD SPECIES. ALL SYSTEMS AVAILABLE FACTORY FINISHED WITH CLASS A FIRE RETARDANT PAINT, CLEAR VARNISH OR STAIN. OTHER SOUNDPROOFING, SOUND ABSORBING AND NOISE CONTROL ACCESSORIES AVAILABLE FOR CEILINGS, WALLS AND FLOORS.

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Willamette Industries, Inc.
Duraflake Particleboard Plant

2550 Old Salem Road NE
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Albany, Oregon 97321
(541) 928-3341
FAX: (541) 928-4116

June 15, 2000

Dear Steve Anderson
Architectural Surfaces Inc
June 15, 2000
123 Columbia Court North, #201
Chaska, MN 55318

Dear Steve Anderson,

Thank you for your inquiry regarding Willamette Industries Duraflake FR and MR, our specialty particleboard products.

Duraflake FR is a Class A fire-rated wood corestock. The product has proven its excellent performance in the architectural woodwork industry for over 20 years. Duraflake FR is a particleboard substrate that is exceedingly well-suited for lamination with high-pressure decorative laminate and wood veneers. In addition, many other overlays have been applied to Duraflake FR, including, but not limited to: low pressure laminates, metal, glass, fabric, paper, vinyl, foils, and stone. The fire-retardant chemicals are an integral part of the particleboard construction and offer greater versatility than coated or pressure-treated products. The product can be sawed, bull-nosed, drilled, routed, shaped or precision machined without affecting the fire rating.

Furthermore, model codes allow that if a finish applied to the substrate is less than 1/28" (0.036"), the firerating of the substrate is unaffected and the entire construction carries the fire rating of the substrate.

Duraflake MR is a moisture resistant particleboard substrate that can be used in areas of high humidity or intermittent contact with water. Duraflake MR's many practical applications include institutional case goods, store and display fixture applications, storm door cores, mezzanine decking and many other situations where exposure to moisture is encountered.

Please review the enclosed materials describing Duraflake FR and MR. If you would like samples, or we can assist you with your specifications, please contact me.

Sincerely,

Geoff Gross
Sales Representative
Duraflake Division

Enclosures

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LINWOOD II & III™

INSTALLATION RECOMMENDATIONS & INSTRUCTIONS

***CAUTION:* Do Not Install Until Instructions Have Been Read Completely.**

WARNING:

All solid wood products are cellular and are subject to expansion, contraction or warping. Under normal construction conditions, wood can expand or contract up to 1/8th of an inch per foot. Any wood veneered product is subject to blistering and/or crazing if exposed to excessive moisture, extremely dry conditions or sunlight. Panels **should** not be subject to high or low humidity, storage, should preferably be between 40 and 50 percent relative humidity. Storage, even for a short period of time, in areas where the humidity is over 60 or under 30 percent could cause permanent damage to the panels. (See Job Conditions). The manufacturer assumes no liability for expansion, contraction, warping, blistering, crazing or delamination to panels that may have been exposed to extreme conditions. For the best installation results these instruction must be followed exactly.

RECEIVING:

Check cartons for any obvious shipping damage to the panels; if you feel there is concealed damage, open cartons and inspect. Have driver sign for any damaged panels and the consignee shall file a freight claim with the carrier at once. **The manufacturer assumes no responsibility for filing freight claims or for shortages.**

Make sure that all of the material ordered for the job has been received and is the proper style or styles and in the proper quantities.

If any panel appears to have manufacturing defects, do not install. The manufacturer's only obligation is replacing materials proven to be defective and that are returned for credit, within the terms and conditions of the sale. Notify the manufacturer or distributor/representative at once.

STORAGE:

Panels and moldings shall be stored in a flat horizontal position on wood blocking not more 12" o.c.

Protect all panel faces from exposure to moisture or to light with dark colored polyethylene or similar material. Do not store panels in damp areas or in freshly plastered buildings. Terrazzo grinding must be completed and cement cured. Storage space must be dry and well ventilated.

JOB CONDITIONS:

Panels shall only be installed in areas where the same humidity and temperature conditions exist as will be in the final occupancy of the space. Do not install any panels in areas that are not fully enclosed or are exposed to dampness or moisture. **If panels are to be stored for more than one week, they should be totally sealed, front, back and all edges, to protect against the effects of moisture.**

Seventy-two hours prior to installation open all cartons or crates and lay panels in a flat horizontal position. Place lath spacers 12 inches on center below and between each row of panels to allow air to circulate around them. The panels must adjust to the temperature and humidity of the space they are to be installed to alleviate excessive expansion or contraction.

JOB FINISHING:

Solid wood panels and veneered panels are pre-sanded; subsequent grain raise, handling or tool marks must be removed before final finishing. Sand exposed surface lightly with No. 400 sand-paper. Never use steel wool on bare wood. **Apply sanding sealer to face, back, and all edges** to balance the panel. Apply one or two coats of varnish or lacquer to the exposed surfaces. Sand lightly between first and second coat. Be sure the finish doesn't violate local fire codes.

IMPORTANT NOTE – SOFTWOOD PANELS ONLY:

We do not recommend that a hard, non breathing, finishes such as lacquer, polyurethanes or varnish be used. Hard finishes may crack or craze. Clear stain sealers or wax finishes are recommended.

OILS, STAINS AND FILLERS:

Do not use water-based stains, combination stain-sealers are not recommended. Do not use penetrating oil stains, linseed oil or wax finishes.

Danish or Swedish (quick drying) type oils are satisfactory. Apply moderately with a cloth, do not saturate the wood, wipe dry quickly with a clean dry cloth.

MINERAL STREAKING OR BLUE STAIN IN OAK:

Occasionally this may occur in oak panels by natural tannic acid in the wood. This does not show up in the manufacturing process, only after the veneer has come in contact with moisture. Should this occur, the stains can be removed, contact the varnish manufacturer for recommendations. Stained panels can also be used by cutting out streaked areas and installing as cut or end panels.

PRESSURE TREATED FIRE RETARDANT PANELS:

Panels that are chemically treated for flame resistance, Class 1, 0-25 flame spread, may be slightly discolored or have a whitish cast. This may occur if the panels are subject to high humidity conditions. The manufacturer assumes no liability if this condition occurs.

CEILING SUSPENSION SYSTEM:

Lay out the room to find a center line so that the cut panels or reveals will be equal in width on both sides. Lay out the grid system so that main tees run parallel with the linear wood panels and are at right angles to the cross tees. With the 4" & 6" Linwood panel modules, it is recommended that the starting panel be laid out directly under, and centered on a main tee.

Box type edge moldings are recommended. Main tees and cross tees shall conform to heavy duty classification ASTM C635. Install main tees 4' o.c. with #12 pre-straightened galvanized steel wire not more than 4' o.c., wrapped tightly at least three full turns. Cross tees shall be installed 2’ o.c. and not more than 4” from each parallel wall. (If grid system is existing, use a variable placement cross tees 4” from each parallel wall or to form a 2’ module. Install extra hanger wires at lights or as required to support the wood panel system check with the grid system manufacturer for proper o.c. hanger spacings if in doubt.)

Note: on certain installations, due to ceiling layout it will make sense to run mains perpendicular to linear wood panels.

ACOUSTICAL BLANKET OR PADS:

Roll out 4' wide black acoustical blanket between suspension wires and over the top of the 4' cross tees or lay in 2'x4' black acoustical pads. (If the ceiling is existing, the lay-in panels may have to be painted black.) If there is white printing on the black acoustical blanket, make sure the white printing is turned up into the plenum.

PANEL INSTALLATION:

Wood naturally varies in color and grain characteristics. It is recommended that panels be presorted before installation to assure a uniform final appearance.

Install black Linwood clips to cross tees 2' o.c. each side of the center line. Install starting panel directly under and centered on the line. Snap clips up to T-bar grid with thumb pressure and slide into kerf on panel edges to engage panels. Back screw through tee flange to permanently secure straight line. ASI recommends back screwing every 7th. or 8th. row on sloped or pitched ceilings.

Install balance of panels in a progressive manner from each side of starting panel. If a clip can not be installed due to interference of a main tee, back screw the panel into place through the flange of the main tee or cross 2' o.c. Stagger all panel end joints as required. Panel end joints shall be spliced directly under a cross tee for the best results. If this is not possible, install a 1" black spline on each side of the end joint to keep panels level and flush. Continually check and adjust for panel module gain or loss while installing.

PANEL INSTALLATION – CONTINUED:

NOTE: 1:
If the ceiling is installed without an exposed edge molding and the panels leave a 1/2" minimum reveal at the walls, the last long panels will have to be finish face or back screwed into the grid or installed with contact adhesive.

NOTE: 2:
For areas that require access request from ASI Linwood access clips. These clips are attached to the grid in the same method as the standard clips. Specific instructions will be sent with the access clips.

WALL PANEL INSTALLATION:

Wood naturally varies in color and grain characteristics. It is recommended that panels be presorted before installation to assure a uniform final appearance.

Install z-member horizontally 2' o.c. and within 4" of ceiling line and/or base, support 4' o.c. screwed or toggled into wall. Fur out z-member to thickness of acoustical blanket prior to securing. Install 2' wide black acoustical blanket or panels between z-members. Layout center line to leave equally spaced panels or reveals on each side. Install panel clips on each side of centerline. Set starting panel directly over and centered on line and slide clips into place to hold panel. Pinch vertical legs of clip tightly against the z flange to secure panel and keep from moving (starting panel only). Install balance or panels progressively from either side of starting panel. Continually check and adjust for panel module gain or loss while installing.

NOTICE:

The above recommended installation instructions are reliable for most installations, but are not meant to imply any warranty or guarantee for which Architectural Surfaces, Inc. assumes responsibility. The installer must undertake testing and verification as to specific applications to determine suitability for them prior to installation.

The manufacturer's only obligation is to replace any material proven to be defective, rather than the installation or removal of the same, for a period of one year from the date of shipment. Faulty installation shall be corrected by the installing contractor. Beyond the purchase price of the materials supplied, the manufacturer assumes no liability for damages of any kind and the user accepts the product "as is" without warranties expressed or implied. The suitability of the product for an intended use shall be solely up to the user.

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SPEC-DATA

This Spec-Data sheet conforms to editorial style prescribed by The Construction Specifications institute. The manufacturer is responsible for technical accuracy.

1. PRODUCT NAME
Fire-Rated Particleboard
Duraflake FR

2. MANUFACTURER

Willamette Industries, Inc.
Duraflake Divisions
Building Materials Group
PO Box 428
Albany, OR 97321
Phone: (541) 928-3341
FAX: (541) 928-4116

3. PRODUCT DESCRIPTION

Basic Use: Duraflake FR is a Class 1 rated fire retardant particle board, suitable for a variety of industrial and commercial building applications where stringent building codes, public safety requirements or reduced insurance rates are a factor. It is used as a substrate for wood veneers, high and low pressure laminates and vinyls in wall systems, as well as furniture and fixtures. It can be drilled, routed, bullnosed, beveled and precision-machined without affecting the flame spread rating.

Limitations: Duraflake FR should be specified for interior use only.

Composition and Materials: Duraflake FR is made from Western soft wood particles and highly effective fire retardant chemicals bonded with special formulas of resins and waxes.

Grade: Industrial Grade

Sizes: Standard-4' x 6', 4' x 8', 4' x 10', 4' x 12', 5 'x 8'. Other sizes available upon request from distributor.

Finishes: From outside sources, Duraflake FR is available laminated with wood veneer and low pressure laminates. Please call **Architectural Surfaces Inc.** at **1-800-710-8792** for availability or quote on laminated panels.

Note: Some laminates applied to Duraflake FR may change the flamespread rating of the composite panel. Applicable Standards: ASTM E84 tunnel test. Material and Equipment Acceptance Division, New York City. ASTM C 236, Guarded Hot Box test. UL 723 Test for Surface Burning Characteristics of Building Materials.

Chemical Properties: Available upon request.

5. INSTALLATION

Preparatory Work: Duraflake FR is a wood based panel and is considered an interior product. It must never be stored or used outside. Store flat under constant relative humidity and temperature conditions. Allow to stabilize prior to use.

Physical Properties of Duraflake FR:

	Duraflake FR* 3/8"–3/4"	Duraflake FR 13/16"–1-1/4"
Density (lbs./cu ft.)	45.0	44.0
Modulus of Rapture	1600 psi	1300 psi
Modulus of Elasticity	300,000 psi	300,000 psi
Internal Bond	80 psi	60 psi
Elongation	0.40%	0.35%
Screw-holding		
Face	250	250
Edge	225	175

**Conforms to ANSI A208.1-1987, Grade 1-M-1*

4. TECHNICAL DATA

Underwriters' Laboratories, Inc.: Classified Wood Particleboard: Surface Burning characteristics, UL 723 (Based on 100 for untreated red oak).

Flame Spread	20
Smoke Developed	25

See UL Classified Building Materials Index. Listed under Wood Particleboard.

Thermal Conductivity (k) and thermal Resistance (1/k = R)*:

	3/8"	1/2"	3/4"	1"
k=	0.54	0.62	0.55	0.69
R=	1.85	1.61	1.82	1.45

*R and K values obtained using ASTM C 236 "Thermal conductance and transmittance of built-up wall sections by means of the 'Guarded Hot Box' in tests conducted by Northwest Testing Laboratories."

Ideally those conditions should be the same as those expected after the panel is installed. Laminates, if any, must be conditioned to the same state as Duraflake FR During installation, good practices standard to fine woodwork must be used. Please contact the Architectural Woodwork Institute (AM) at (703) 222-1100 or Woodwork Institute of California (WIC) at (916) 233-9035 for specific standards. When used in wall systems, an integral vapor barrier must be part of the wall if the wall is exterior or the wall separates spaces conditioned unequally.

Methods: Duraflake FR can be laminated with both hot and cold press laminates. Balanced construction is advised. Most standard available woodworking

Continue on next page.

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glues have been successfully used in laminating. However, some adhesives have compatibility problems with the chemical system used to treat Duraflake FR. Any adhesive should be tested for compatibility before full scale gluing. Any questions about compatibility, spread rates, cure times and press temperature should be directed to the glue supplier or the manufacturer.

Hot Pressing: When hot pressing laminates on Duraflake FR, use the shortest cycle time allowable within the range specified by laminate and glue suppliers. Extended cycle times or high heat may induce blows. Due to the interaction of high heat and the chemical treatment, some low pressure paper laminates may exhibit visual changes in opacity. In hot pressing, care must be taken to cool the panels to 140°F before stacking to preclude heat degradation.

Cold Pressing: Urea, casein and epoxies have been used sucessfully to bond laminates to Duraflake FR. Some contact cements and PVAs are incompatible. Their suitability should becleared before using. With resorcinol glues, certain conditions are needed for best results due to the slightly acidic nature of the retardant chemicals, which tend to slow down cure rates.

Building Codes: BOCA, ICBO and SBCCI

Agency Approvals:. City of New York MEA 177-78-M; State of California Fire Marshal 2660-831:1; City and County of San Francisco 258W34.1

6. AVAILABILITY AND COST

Availability: Duraflake FR is available from **Architectural Surfaces Inc. 1-800-710-8792**.
e-mail: info@architecturalsurfaces.net

Cost: Call **Architectural Surfaces Inc. 1-800-710-8792** for current costs.

7. WARRANTY

The Duraffake Division of Willamette Industries, Inc. warrants Duraflake FR to be free of manufacturing defect, both in material and workmanship. Duraflake FR will perform in accordance with the specifications and applications listed when used according to directions herein. No other warranty or guarantee is made.

8. MAINTENANCE

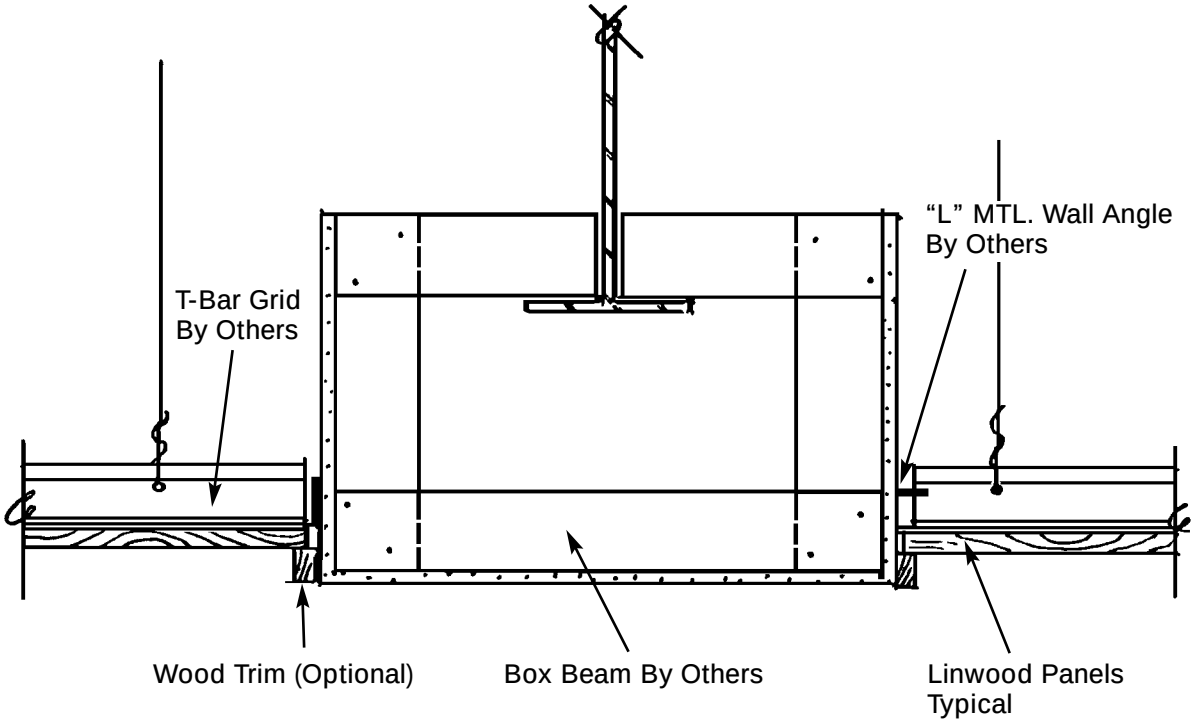
None required for interior use when installed in conformance with manufacturer's instructions.

9. TECHNICAL SERVICES

For details concerning the technical aspects of Duraflake FR, call (541) 928-3341 or FAX (541) 928-4116.

10. FILING SYSTEMS

- CSI's SPECSEARCH™
- IHS' SPEC-DATA II
- Additional product information, full literature and technical assistance available upon request.



DETAIL @ WALL

1 1/2" = 11'–0"

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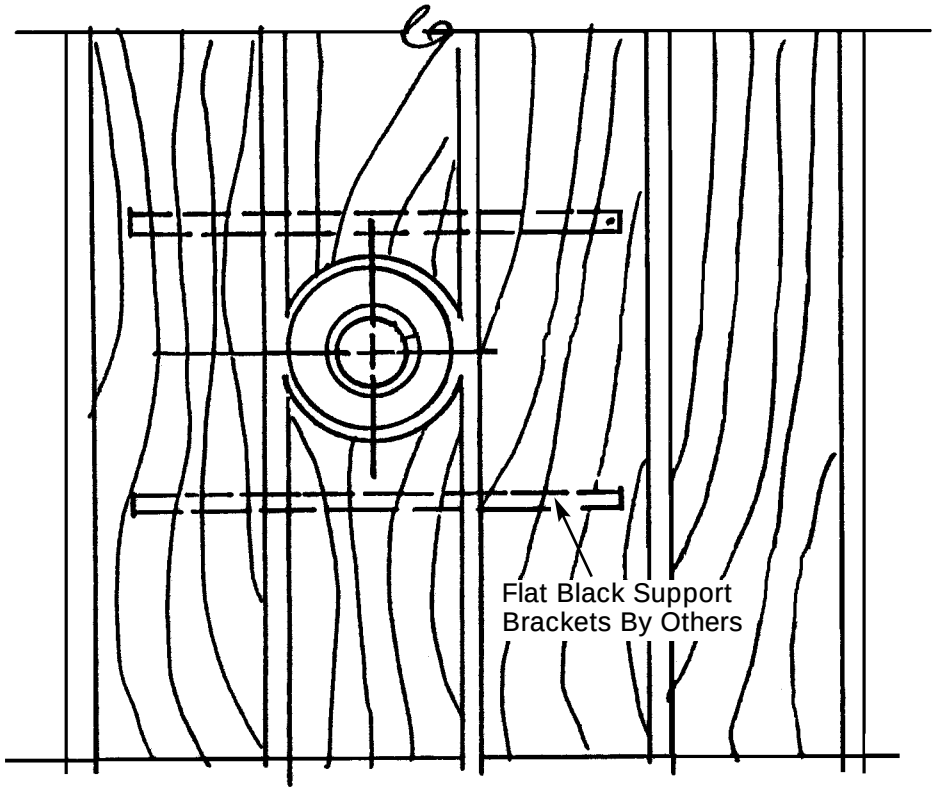
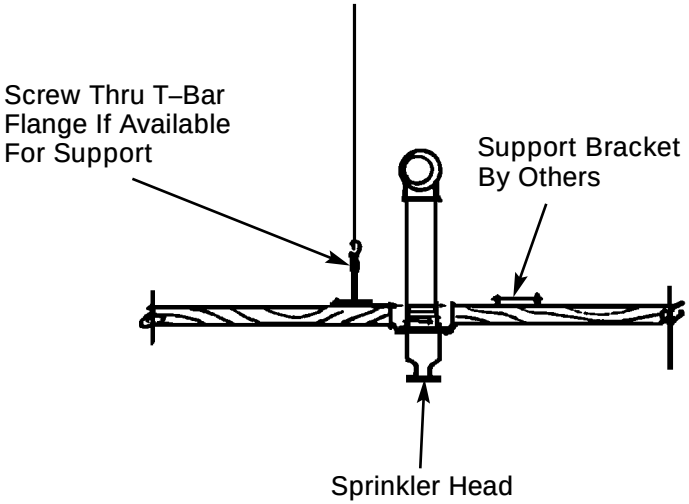
FAX# 952-448-2613



NOTE: Speaker-Light Fixtures Openings All Similar

DETAIL



DETAIL

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Suite 201
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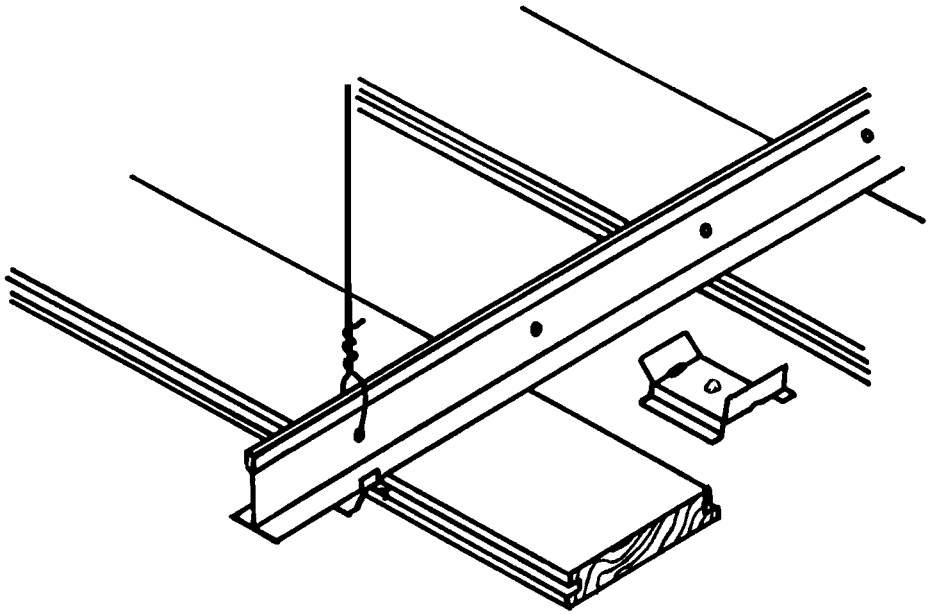
PH# 952-448-5300
FAX# 952-448-2613



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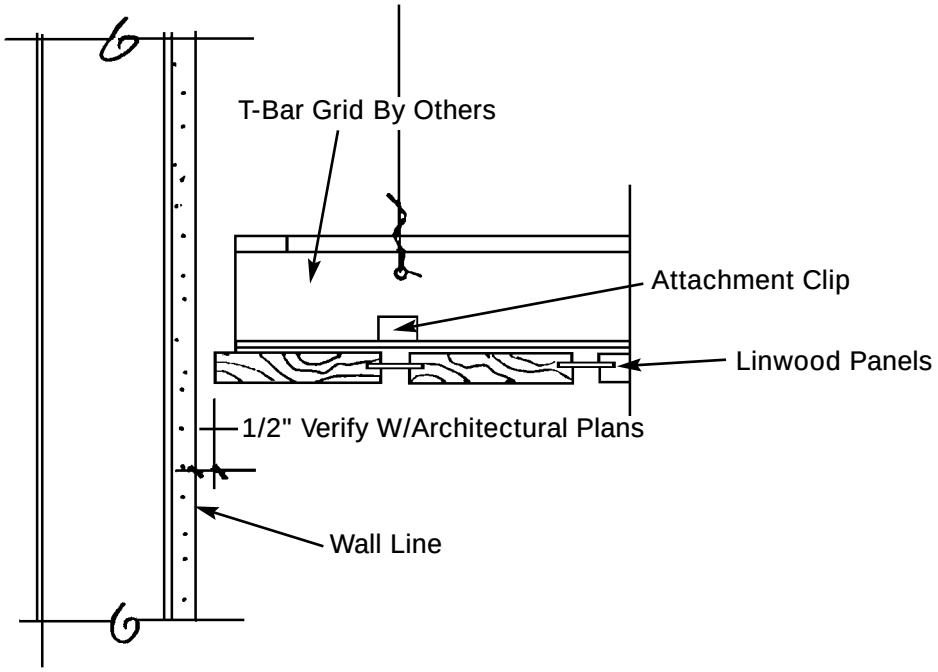

DETAIL

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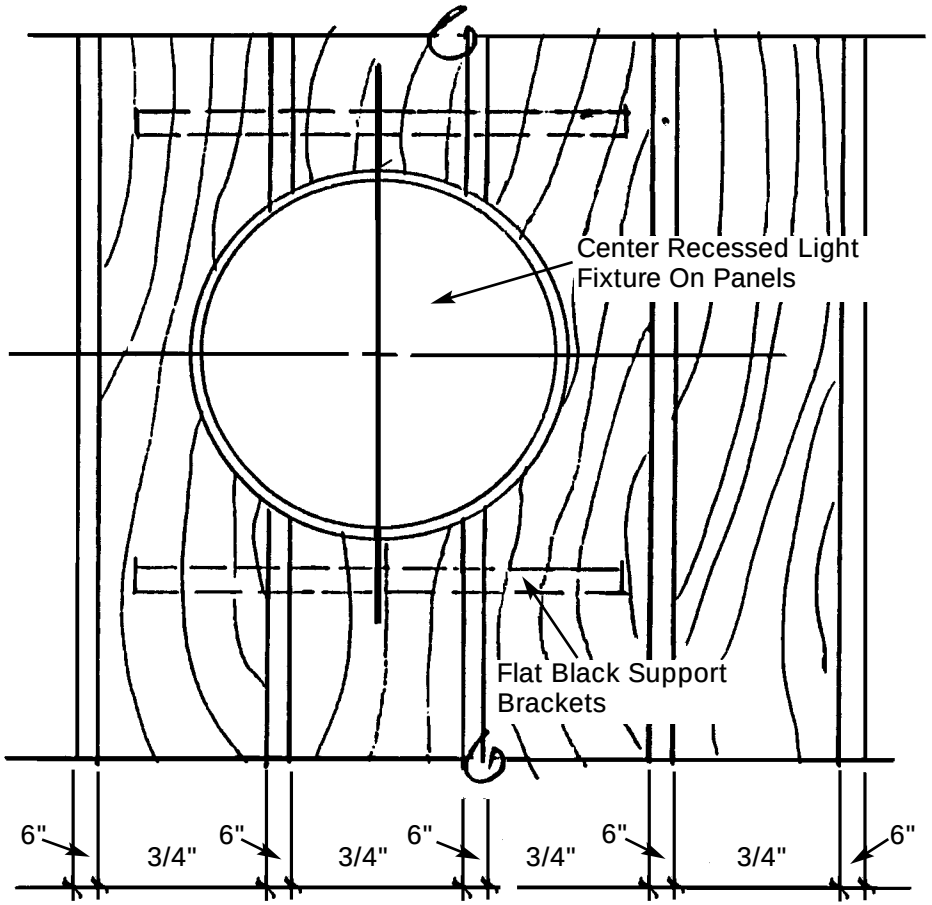

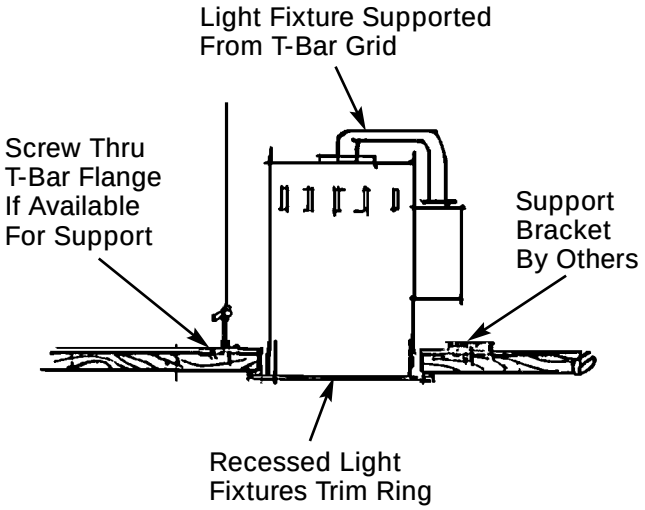

DETAIL

NOTE: Sprinkler Heads – Air Ducts –Speakers Ofncqs. All Similar

DETAIL

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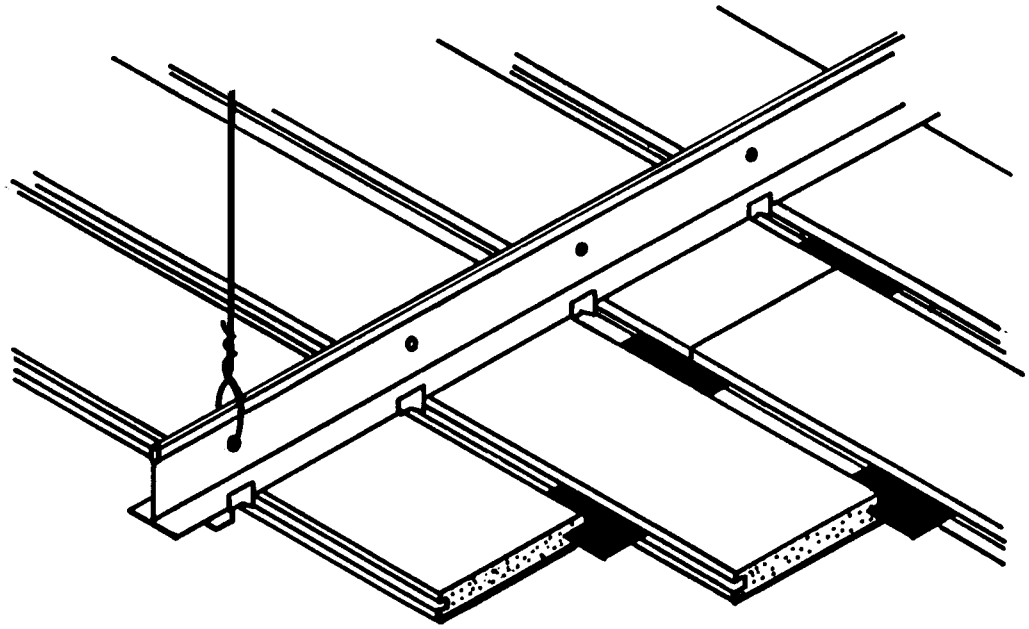

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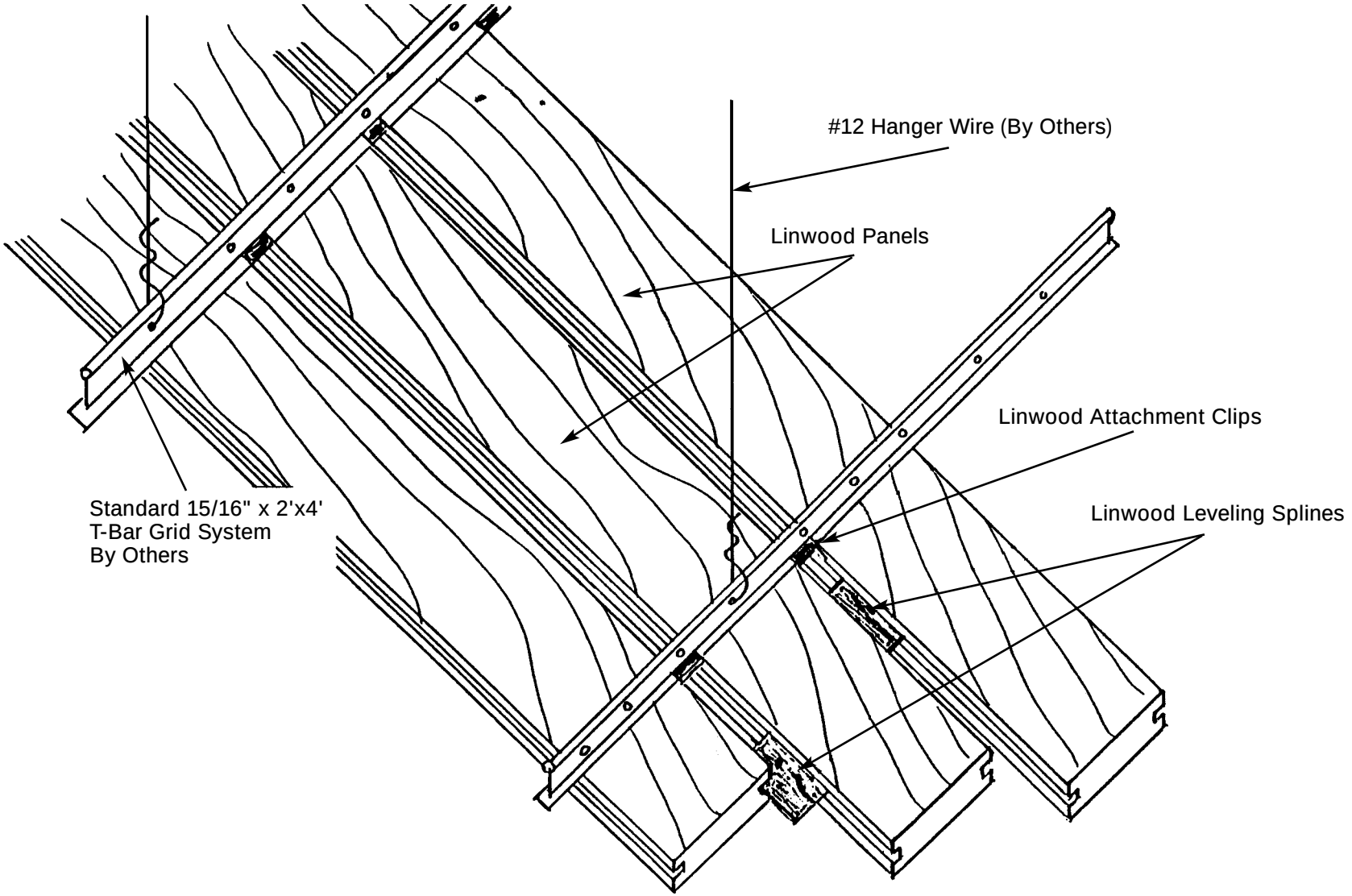

ISOMETRIC

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Architectural Surfaces, Inc.

DISTINCTIVE WOOD & SPECIALTY ACOUSTICAL CEILING & WALL SYSTEMS

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CEILINGS YOU CAN LOOK UP TO!

BURN BARRIER™ 6 CLEAR WOOD SEALER FOR *BURN BARRIER* 166 CLASS "A" FIRE RETARDANT VARNISH SYSTEM.

Product Description:

BURN BARRIER™ 6 is a crystal clear, hardwood sealer developed primarily for use with Fire Retardants Inc. #166 Retardant Varnish. *NOTE: BURN BARRIER™ 166 is part of a fire retardant varnish system and is not a fire retardant when used alone.*

Surface Preparation:

Surfaces must be clean, dry and free from all loose or powdery materials, grease, wax or other foreign matter. All staining and filling must be done using nonbleeding type stains prior to the application of BURN BARRIER™ 6 Sealer.

Application:

(New Work) Previously uncoated surfaces:

Apply a full bodied coat by brush, at a coverage rate of 300 to 450 square feet gallon.Coverage rate depends upon the porosity of the wood. Highly porous woods may require a second coat of BURN BARRIER™ 6 Sealer.

(Old Work) Previously coated surfaces:

Previously varnished surfaces must be sanded to remove all gloss, loose or poorly bonded varnish. Test patch a small area to determine the compatibility of BURN BARRIER™ 6 Sealer with existing coating, to insure that no lifting or wrinkling occurs. If lifting or wrinkling develops, it is necessary to completely remove the old finish before proceeding.

Coverage

300 to 450 square feet per gallon, depending on porosity of the wood.

Thinners

For thinning and cleaning equipment, use only BURN BARRIER™ 6 Reducer.

Information provided herein is based on tests believed to be reliable. Inasmuch as Fire Retardants Inc. has no control over the use or application to which others may put this material, we make no guarantee or warranty. Our products are sold on the condition that each user of the material make their own evaluation to determine the material's suitability for their own particular use.

NOTE: All porous surfaces should be properly sealed before applying fire retardant paint or varnish.

CAUTION: It is recommended that a test application be completed prior to end use.

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CEILINGS YOU CAN LOOK UP TO!

BURN BARRIER™ 166 CLEAR CLASS "A" FIRE RETARDANT "INTUMESCENT" VARNISH

Product Description:

BURN BARRIER™ 166 is a clear satin finish fire retardant varnish having a Class "A" Underwriters' Laboratory flame spread rating. When exposed to flame or high heat, the coating puffs up to form a thick insulating cellular foam. This foam layer retards the penetration of heat, thereby reducing the flame spread (surface burning characteristics) and smoke development of combustible materials.

BURN BARRIER™ 166 is designed for use on interior wood surfaces where it is desirous to maintain the natural wood appearance, while obtaining a Class "A" flame spread rating. BURN BARRIER™ 166 is suitable for use on wall paneling, ceiling panels and other such surfaces. We do not recommend this product for use on floors, doors, shelving, or in areas where there will be exposure to excessive moisture or splashing of water, as the coating is somewhat softer than conventional varnishes. (On hard use surfaces we recommend BURN BARRIER™ 129 and BURN BARRIER™ 130 Class "B" Fire Retardant Varnish System.) BURN BARRIER™ 166 dries to a clear velvety satin finish. All surfaces that will be subjected to handling, washing or where a low, semi or hi-gloss finish is desired, should be overcoated with BURN BARRIER™ 167 UL rated Fire Retardant Varnish Overcoat. The use of BURN BARRIER™ 167 Overcoat greatly improved the moisture resistance, durability and cleansibility of BURN BARRIER™ 166.

Surface Preparation:

(New Work Previously uncoated surfaces All surfaces. must be dry, clean, free of all wax, grease, dirt, sanding dust, etc. If staining is desired, the use of nonbleeding type stains are recommended. All surfaces should be thoroughly sealed with BURN BARRIER™ 6 Clear Wood Sealer. Allow the surface to thoroughly dry before proceeding with the application of BURN BARRIER™ 166. It is recommended that a representative sample of the system be prepared prior to staring the project.

(Old Work Previously coated surfaces All surfaces. which have been previously coated with a conventional coating (this includes prefinished wood paneling), must be washed down with mineral spirits or other suitable solution, to remove all wax, grease, etc. Lightly sand or steel wool all glossy surfaces, test patch small areas, if old coating is not affected, proceed with the application of BURN BARRIER™ 166. If old coating is affected, it will be necessary to completely remove the coating before applying BURN BARRIER™ 166.

NOTE: On prefinished wood paneling, it may be necessary to seal the grooved areas, as most panel manufacturers only stain these areas and the grooves are highly porous.

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Application:

BURN BARRIER™ 166 can be applied by brush, conventional or airless spray. On wood paneling and other large surface areas, spray application is suggested as it will yield a more uniform finish. When spray applied the use of heavy duty spray equipment is recommended. Should thinning be required for spray application, use only BURN BARRIER™ 166 Reducer. After surface preparation has been carried out, apply a uniform coat of BURN BARRIER™ 166 without dilution, at a coverage rate of 300 sf/US gallon (7.4 m IL). Allow the surface to dry a minimum of 16 hours, or until hard. Then apply another coat as above. NOTE TWO COATS ARE REQUIRED. If the surface is to be over coated with BURN BARRIER™ 167 Overcoat, allow at least 48 hours drying time before applying BURN BARRIER™ 167.

Thinners:

For thinning and cleaning equipment, use only BURN BARRIER™ 166 Reducer.

CAUTION: The liquid coating contains volatile (combustible) solvents. Due care must be exercised during and after application until coating is dry.

Fire Tests:

Flame Spread Rating, Class “A”. When tested in accordance with ASTM E84 (NFPA255) the coating obtained the following fire hazard classification. A complete report from the UNDERWRITERS’ LABORATORIES is available upon request.

	When Applied to Douglas Fir			
Coating System Details	*Flame Spread FSC	(GWL)	Smoke Developed	Fuel Contr.
Type 6 (sealer) applied in one coat a 400 sf/US/gal. (9.8 m^2/L)Type 166 (base coat) applied in two coats at 300 sq/US gal. per coat (7.4m^2/L) (No topcoat)	25	(15)	50	15
Type 6 (sealer) applied in one coat a 400 sq/US gal. (9.8 m^2/L) Type 167 (top coat) applied in one coat at 1800 sq.US gal. (44.2 m^2/L)	25	(15)	30-50	10

*Flame Spread Ratings FSC = Canadian Rating
(GWL) = U. S. Rating

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CEILINGS YOU CAN LOOK UP TO!

BURN BARRIER™ 167 CLEAR OVERCOAT FOR CLEAR CLASS "A" FIRE RETARDANT VARNISH FOR *BURN BARRIER* 166

Product Description:

BURN BARRIER™ 167 Overcoat has been tested and rated by the Underwriter's Laboratories as an overcoat for BURN BARRIER™ 166 Class "A" Fire Retardant "Intumescent" Varnish. BURN BARRIER™ 167 is available in three distinctive sheens, i.e. low, semi or hi-gloss The use of BURN BARRIER™ 167 as a topcoat over BURN BARRIER™ 166 greatly improves the moisture resistance, durability, and cleansibility of BURN BARRIER™ 166. We recommend that BURN BARRIER™ 167 be used over BURN BARRIER™ 166 on all surfaces that will be subjected to washing, handling or where a low, semi or hi-gloss finish is desired. *NOTE: FRI 167 is part of a fire retardant varnish system and is not a fire retardant when used alone.*

Surface Preparation:

After the application of BURN BARRIER™ 166 Class "A" Fire Retardant "Intumescent" Varnish has been completed, allow the surface to dry a minimum of 48 hours. Remove all dust, dirt, etc., from the surface, before applying BURN BARRIER™ 167 Overcoat.

Application:

BURN BARRIER™ 167 Overcoat can be applied by brush, roller or spray. Stir material well before using, then apply a uniform coat at a coverage rate up to 600 sq. ft./gal. In hard use areas or where excessive wear is expected, a second coat is suggested. Allow at least 24 hours drying time between coats.

Thinners:

For thinning use only BURN BARRIER™ 167 reducer. MINERAL SPIRITS or BURN BARRIER™ 167 Reducer maybe used for cleaning.

WARNING

Adequate ventilation must be provided during and after application, until the coating has dried. Avoid breathing vapors or spray mist.

CAUTION

The liquid coating contains volatile (combustible) solvents. Due care must be exercised during and after application until coating is dry.

Fire Tests:

Flame Spread Rating: Class "A", when applied as a topcoat over BURN BARRIER™ 166 and tested in accordance with ASTM E84 (NFPA255) the coating system obtained the following fire hazard classification. A complete report from the Underwriters' Laboratories is available upon request.

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FIRE HAZARD CLASSIFICATION

Coating System Details	(When Applied to Douglas Fir) *Flame Spread FSC	(GWL)	Smoke Developed	Fuel Contributed
Type 6 (sealer) applied in one coat at 400 sq. ft./gallon				
Type 166 (base coat) applied in two coats at 300 sq. ft./gallon per coat				
Type 167 (top coat) applied in one coat at 1800 sq. ft./gallon	25	(15)	30-50	10

*Flame Spread Ratings FSC = Canadian Ratings
(GWL) = U.S. Ratings

Packaging

Standard packaging, 1 gallon, 5 gallon and 55 gallon containers.

Information provided herein is based on tests believed to be reliable. Inasmuch as Fire Retardants Inc. has no control over the use or application to which others may put this material, we make no guarantee or warranty. Our products are sold on the condition that each user of the material make their own evaluation to determine the material's suitability for their own particular use.

NOTE: All porous surfaces should be properly sealed before applying fire retardant paint or varnish.

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Finishes

All of our wood systems are available factory pre-finished. Commercial projects typically require solid wood products to be finished with an intumescent Class A fire retardant varnish to meet local fire codes. Standard and catalyzed lacquer finishes are also available that are typically used on veneer faced products that have Class A Fire particle board core. We typically match customers stain samples for color approval.

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Maintenance/Cleaning

Our wood products will require little maintenance. Surfaces may require standard dusting periodically. A feather duster can be used on the Woodcube™ and Woodgrille™ systems. A non-abrasive soft cloth with a light application of "Liquid Gold" applied to the cloth should be used to clean or dust flat panels or linear systems.