1. Manufacturer

Wilsonart LLC
2501 Wilsonart Drive
P.O. Box 6110
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonart.com

2. Product Description

Recommended Uses
Wilsonart® Fire-Rated Laminate is recommended for interior application where fire codes specify or the environment suggests a fire-resistant and smoke-resistant surface.

It may be applied as decorative surfacing for casework and cabinets, wainscoting, interior doors, and wall panel and divider systems. This laminate is particularly appropriate for surfacing furniture in public places such as airports, hotels, office buildings and institutions such as hospitals and schools. Fire-Rated Laminate can offer a Class I or A fire rating, provided fire-retardant adhesives and substrates are used.

- **Vertical Surface (VGF) Type 604**: Intended to surface walls in public spaces and corridors, front panels on commercial casework and other applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface.
- **General Purpose (HGF) Types 605 and (SGF) 607**: Produced for both horizontal and vertical applications where the surface must perform under constant use.
- **Fire-Rated Backer Type 264**: A stabilizing backer sheet for applications where the decorative surface is Vertical Surface Type 604.
- **Fire-Rated Backer Type 266**: A stabilizing backer sheet for applications where the decorative surface is General Purpose Type 605 or 607.

Product Composition
The decorative surface is composed of melamine resin-treated decorative surface papers. Special kraft core sheets, used to obtain the desired thickness, are impregnated with phenolic resin.

Basic Limitations
Wilsonart® Laminate is intended for interior use only, and should be protected from continuous exposure to direct sunlight, extremes in humidity and temperatures greater than 275°F (135°C). It is not structural material and must be bonded to a suitable substrate.

Wilsonart Laminate should not be used as direct covering for plaster or concrete walls, or for gypsum wallboard. It should not be exposed to flame, molten metal, metallic sparks or intense, direct sunlight. Nor should it be used as cutting surfaces.

Pattern and Color Availability
Wilsonart Fire-Rated Laminate is available in most Standard Line (DG1) patterns.

Please note the patterns that are NOT available in Fire-Rated Laminate:

| Custom Laminate: Silk Screen & Digital Image are NOT available |
| Non-Standard Line (DG-2) patterns are NOT available. |
Please verify Fire-Rated Laminate pattern availability by type, size and finish by checking Pattern Availability at www.wilsonart.com.

Finishes
- #60 Matte - A textured finish with a moderate reflective quality. Nominal Glossometer Reading = 10
- #01 High Gloss - A mirror sheen finish that gives a smooth, brilliant appearance. Excellent for any vertical application. Laminates with a high gloss finish can be used for horizontal application only in light use areas. We recommend that it not be used on horizontal work surfaces such as countertops. Nominal Glossometer Reading = 110
- #07 Textured Gloss - A fine textured finish with a sheen level indicative of a waxed wood, polished stone, or other moderately reflective materials. #07 finish features AEON™ ENHANCED SCRATCH & SCUFF-RESISTANT PERFORMANCE TECHNOLOGY, and carries a premium upcharge. Recommended for horizontal and vertical applications. Nominal Glossometer Reading = 42

NOTE: Nominal Glossometer Readings are made at a 60° angle of incidence.

Sheet Sizes

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>48&quot; x 96&quot;</td>
<td>(1219mm x 2438mm)</td>
</tr>
<tr>
<td>48&quot; x 120&quot;</td>
<td>(1219mm x 3048mm)</td>
</tr>
</tbody>
</table>

Sheet Thicknesses

<table>
<thead>
<tr>
<th>Type</th>
<th>Typical Wilsonart Thickness</th>
<th>Weight PSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical Surface Type 604 (VGF)</td>
<td>0.032&quot; ± 0.005&quot; (0.81mm ± 0.13mm)</td>
<td>0.274#</td>
</tr>
<tr>
<td>General Purpose Type 605 (HGF)</td>
<td>0.048&quot; ± 0.005&quot; (1.22mm ± 0.13mm)</td>
<td>0.438#</td>
</tr>
<tr>
<td>Specific Purpose Type 607 (SGF)</td>
<td>0.059&quot; ± 0.005&quot; (1.5mm ± 0.13mm)</td>
<td>0.480#</td>
</tr>
<tr>
<td>Backer Type 264</td>
<td>0.030&quot; ± 0.004&quot; (0.76mm ± 0.10mm)</td>
<td>0.223#</td>
</tr>
<tr>
<td>Backer Type 266</td>
<td>0.050&quot; ± 0.005&quot; (1.27mm ± 0.13mm)</td>
<td>0.359#</td>
</tr>
</tbody>
</table>

Note minimum sheet order requirements: 2 sheets by size, finish and product type

3. Technical Data

Physical Properties of Fire-Rated Laminate

<table>
<thead>
<tr>
<th>ISO 4586 Test</th>
<th>Typical Wilsonart Type 604 (VGF)</th>
<th>ISO 4586-3 Type 605 (HGF)</th>
<th>ISO 4586-3 Type 607 (SGF)</th>
<th>ISO 4586-3 HDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>0.032&quot; ± 0.005&quot; (0.8mm ± 0.12mm)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Surface Wear Resistance (cycles)</td>
<td>Meets or Exceeds 400</td>
<td>350 (min.)</td>
<td>Meets or Exceeds 400</td>
<td>350 (min.)</td>
</tr>
<tr>
<td>Boiling Water Resistance</td>
<td>No effect</td>
<td>Slight Effect (Gloss) No Effect (Other Finishes)</td>
<td>No effect</td>
<td>Slight Effect (Gloss) No Effect (Other Finishes)</td>
</tr>
</tbody>
</table>
High Temperature Resistance | Slight effect | Slight Effect (Gloss) | No Effect (Other Finishes) | Slight effect | Slight Effect (Gloss) | No Effect (Other Finishes) |
--- | --- | --- | --- | --- | --- | --- |
Stain Resistance | No effect | No effect | No effect | Moderate effect | No effect | Moderate effect |
Reagents 1-10 | Slight effect | Moderate effect | Slight effect | Moderate effect | Slight effect | Moderate effect |
Reagents 11-15 | No effect | Moderate effect | No effect | Moderate effect | No effect | Moderate effect |
Light Resistance | Slight effect | Slight effect (min.) | Slight effect | Slight effect (min.) | Slight effect | Slight effect (min.) |
Dimensional Stability | 0.40% | 1.10% (max.) | 0.30% | 1.10% (max.) | 0.30% | 0.50% (max.) |
Machine Direction | 1.00% | 1.40% (max.) | 0.80% | 1.40% (max.) | 0.80% | 0.90% (max.) |
Cross Direction | Impact Resistance | 35° (889mm) | 23.5° (600mm) | 65° (1651mm) | 31.5° (800mm) | 75° (1905mm) | 39.3° (1000mm) |
Cleanability (cycles) | 10 | 20 (max.) | 10 | 20 (max.) | 10 | 20 (max.) |
Appearance | No ABC defects | No ABC defects | No ABC defects | No ABC defects | No ABC defects | No ABC defects |

Note: Since Fire-Rated backer sheets are not intended to be exposed to light, wear or everyday use, no physical property tests are in current use.

Typical Fire Test Data
Test data for Wilsonart Fire-Rated Laminate is obtained by the Steiner Tunnel Test method of the American Society for Testing Materials (ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials). This procedure is cataloged by Underwriters Laboratories, Inc. as UL 723.

Typical Flame Spread and Smoke Developed Properties

<table>
<thead>
<tr>
<th>NEMA Type</th>
<th>Wilsonart Product</th>
<th>Unbonded</th>
<th>Bonded to Incombustible Cement Board</th>
<th>Bonded to Fire-Rated Particleboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGF</td>
<td>604</td>
<td>15/15</td>
<td>15/0</td>
<td>15/20</td>
</tr>
<tr>
<td>HGF</td>
<td>605</td>
<td>15/15</td>
<td>15/0</td>
<td>15/25</td>
</tr>
<tr>
<td>SGF</td>
<td>607</td>
<td>15/25</td>
<td>15/0</td>
<td>15/35</td>
</tr>
<tr>
<td>BKV</td>
<td>264</td>
<td>15/0</td>
<td>15/0</td>
<td>20/10</td>
</tr>
<tr>
<td>BKH</td>
<td>266</td>
<td>20/0</td>
<td>15/0</td>
<td>10/15</td>
</tr>
</tbody>
</table>

Note: Adhesive to attain Flame Spread and Smoke Developed figures for bonded laminates (above) is resorcinol. Fire-rated particleboard is Duraflake, with a UL rating of 25/25, or comparable material. The above values are CUL (Canadian Underwriters Lab) approved.

Model Code Designations used to determine flame spread classification

<table>
<thead>
<tr>
<th>Flame Spread Classification (Maximum Rating)</th>
<th>International (IBC)</th>
<th>Life Safety (NFPA 101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>75</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>200</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

All Model Codes regulate the generation of smoke by interior finish material. In all cases they specify a maximum smoke development rating of 450.
4. Codes and Certifications

General Fire Code Compliance
Test data for code compliance is from the UL 723 Tunnel Test method. This procedure has been cataloged under the following designations:

- American Society for Testing Materials ASTM E 84
- American Society for Testing Materials ASTM E 162
- American Society for Testing Materials ASTM E 662
- American National Standards Institute ANSI No. 2.5
- National Fire Protection Agency NFPA No. 255
- Underwriters Laboratories, Inc. UL No. 723

This test data is the basis for fire codes written by various responsible groups, including:

- BBC Basic Building Code (Building Officials Conference of America. Used in Midwest and Northeast.)
- NFPA National Fire Protection Agency (Building Exits Code, Section #101.)
- SSBC Southern Standards Building Code (Southern Building Codes Congress. Used primarily in the South.)

Many local codes, especially in densely populated areas, have been patterned after these. Examples include the cities of Los Angeles and San Francisco and the Port Authority of New York. Approvals include:

- New York City, Department of Buildings, Materials and Equipment Acceptance (Types 264, 266, 604, 605 & 607) MEA 167-87M

General Standards
Fire-Rated Laminate conforms to ANSI/NEMA LD3-2005 for VGF, HGF and SGF (Types 604, 605 and 607, respectively).

NSF International (NSF) #35, "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types 604, 605 and 607, with #60 finish comply.

The UL GREENGUARD® Environmental Institute™ has awarded its GREENGUARD® Indoor Air Quality Certification to Wilsonart Laminate. All Wilsonart Laminate product types were tested under the stringent GREENGUARD Standards for low-emitting products. All GREENGUARD Indoor Air Quality Certified products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Specific Product Standards
Fire-Rated Laminate meets the following federal codes:

Aircraft Interiors
Military/Ships

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 604</td>
<td>164.012/29/0</td>
<td>164.112/8/0</td>
<td>G1-162</td>
</tr>
<tr>
<td>Type 605</td>
<td>164.012/105/0</td>
<td>164.112/9/0</td>
<td>G1-166</td>
</tr>
<tr>
<td>Type 607</td>
<td>164.012/30/0</td>
<td>164.112/10/0</td>
<td>G1-163</td>
</tr>
<tr>
<td>Type 264</td>
<td>164.012/46/0</td>
<td>164.112/11/0</td>
<td>G1-161</td>
</tr>
<tr>
<td>Type 266</td>
<td>164.012/106/0</td>
<td>164.112/12/0</td>
<td>G1-165</td>
</tr>
</tbody>
</table>

Types 605 and 607 also appear on the U.S. Department of the Navy “Approved Habitability Materials List 9640, SER 05M1.11/1148,” (Revision K, May 1996), Pages 3 and 4, paragraphs 1.5 and 2(b), for use on bulkhead sheathing, and on NAVSEA Drawing #804-5000991.

Mobile Homes

Motor Vehicles/Interiors

Branded Cleaner and Sanitizer Resistance for Wilsonart® Fire-Rated Laminate
No effect was exhibited except as noted (* or **) on the following:

1. Clorox Healthcare Bleach Germicidal Cleaner *
2. Clorox Healthcare Versa Sure Cleaner Disinfectant Wipes
3. Oxivir TB
4. Oxivir 1
5. Virex II 256
6. Benefect
7. PDI Super Sani-Cloth Germicidal Disposable Wipes
8. PDI Sani-Prime Germicidal Spray
9. Expose II 256
10. Stride Floral Neutral Cleaner *
11. PURELL Advanced Instant Hand Sanitizer *

Test procedure: Listed materials were placed in contact with Wilsonart Fire-Rated Laminate surface under 1” (25.4mm) diameter watch cover glass for 16 hours duration prior to evaluation for effect. The branded cleaners and sanitizers listed above were cleaned with water only.

* Causes slight change of gloss or color.
** Causes slight damage, with degree of damage proportionate to length of exposure and concentration.
12. **Installation: Fabrication and Assembly Recommendations**

Wilsonart Laminate must be bonded to a substrate of reliable quality and appropriate fire rating, such as particleboard, incombustible cement board or plywood with one A-face. Bond with adhesives, and follow the techniques recommended by the adhesive manufacturer. Permanent adhesives are recommended such as specialized PVAs, phenol/resorcinol, resorcinol, and epoxy. Contact cement, such as Wilsonart Adhesives, also may be used.

Take care to ensure an appropriate moisture balance between the laminate and the substrate prior to fabrication. The face and backing laminates and the substrate should be conditioned in the same environment for 48 hours before fabrication.

Recommended conditioning temperature is about 75°F (24°C). Laminates should be conditioned at 45% to 55% relative humidity.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.18mm) radius, and all edges should be routed smooth.

**Fabricating for Fire Rating Concerns**

Flame Spread and Smoke Developed data for products fabricated with Wilsonart Fire-Rated Laminate vary with the choice of substrate and adhesive, as well as with pressing conditions. In general, these factors range from most to least fire-retardant, as shown below:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Adhesive</th>
<th>Pressing Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incombustible</td>
<td>Resorcinol</td>
<td>Hot pressed/cold</td>
</tr>
<tr>
<td>Fire-Rated Particleboard</td>
<td>Phenol/Resorcinol</td>
<td>Cold pressed/long</td>
</tr>
<tr>
<td>Conventional Particleboard*</td>
<td>Casein</td>
<td>Cold pressed/short</td>
</tr>
<tr>
<td>Conventional Plywood</td>
<td>Contact</td>
<td>Nip rolled</td>
</tr>
</tbody>
</table>

*45 lb. cu. ft. density, industrial grade

**Methods**

Assembled pieces should meet the specification of KCMA (Kitchen Cabinetmakers Manufacturers Association) ANSI-161.2-1998 (revised) and “Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program” guidelines of the Architectural Woodwork Institute where applicable. Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate.

13. **Warranty**

14. **Maintenance**

15. **Technical Services**

For samples, literature, questions or technical assistance, please contact our toll-free Hotline at (800) 433-3222, Monday through Friday, 8 am –5 pm, CST.
### Specification Form:

Surface shall be Wilsonart® Fire-Rated Laminate, produced by Wilsonart LLC, Temple, Texas 76503-6110.

Type: See Fire-Rated specific types under Product Description/Product Definition

<table>
<thead>
<tr>
<th>Surface</th>
<th>Color Number:</th>
<th>Color Name:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Finish</th>
<th>Number:</th>
<th>Name:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Edge Trim</th>
<th>Color Number:</th>
<th>Color Name:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Adhesive</th>
<th>Name:</th>
<th>Grade/Type:</th>
</tr>
</thead>
</table>

Brand: Wilsonart® Adhesive