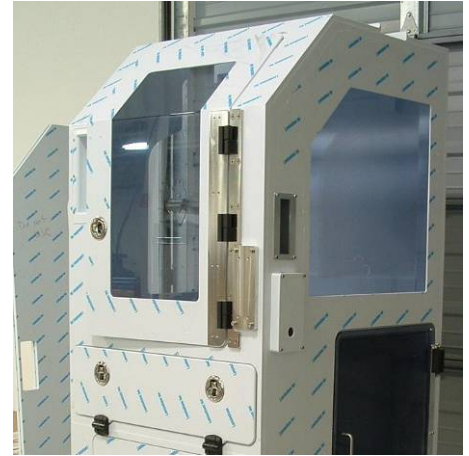




LAM FRP-3 | FM 4910 Listed

Flame-Retardant Polypropylene Sheet

Specifically developed to meet the FM 4910 clean room fire test, LAM FRP-3 performs well in cabinetry and enclosures in low acid environments such as rinse modules, wafer transfer interfaces and UPW modules. As with any FM4910 polypropylene-based material, it is not recommended for use in concentrated acids, or aromatic, aliphatic or chlorinated solvents. This white, flame-retardant sheet offers excellent color consistency and delivers a good balance of cost and performance for cabinets and dry tool area applications.



Typical Properties:

| | PROPERTY | ASTM SPEC | UNIT | FRP - 3 |
|-------------|--------------------------------|-------------|------------------------------|---------|
| | Specific Gravity | D 792 | **** | 1.36 |
| Environment | Water Absorption | D570 | % | 0.10 |
| | Abrasion Resistance | Taber CS 17 | mg/1000 | **** |
| | Oxygen Index | D2863 | % | **** |
| | Flammability | UL 94 | **** | VO |
| | | FM 4910 | **** | YES |
| | Coefficient of Friction | | C1894 | Static |
| | | C1894 | Dynamic | **** |
| Mechanical | Tensile Strength (yield) | D1708, D638 | psi | 2,600 |
| | Elongation (break) | D1708, D638 | % | **** |
| | Flexural Modulus | D790 @ 23 C | psi | 400,000 |
| | Notched Izod Impact | D256 @ 23 C | ft-lb/in. | 12 |
| | Shore D Hardness | D2240 | *** | 68 |
| Thermal | Continuous Service Temperature | Maximum | °C | 93 |
| | | | °F | 200 |
| | Melting Point | D3418 | °C | **** |
| | | | °F | **** |
| | Vicat Softening Point | D1525 | °C | **** |
| | | | °F | **** |
| | Coefficient of Expansion | E831 TMA | in/in/°F (10 ⁻⁵) | **** |
| | Deflection Temp (66psi) | D648 | °C | 116 |
| | | | °F | 240 |
| | Deflection Temp (264psi) | D648 | °C | **** |
| °F | | | **** | |

* Continuous Service Temperature based upon "non-chemical Dry Usage".
 * Table data reflects ASTM based average typical vendor data.
 * Data meant as general guidelines only.
 * Specific applications require additional testing by the buyer.
 * All properties based on standard unbacked product tests only

LAM FRP - 3

ADVANTAGES:

- Good balance of cost and performance for enclosures
- Resists alkalines, UPW, many solvents in cabinetry
- FM 4910 listed JI#3023718
- Thermoforms, welds easily
- Impact resistant

PROVEN APPLICATIONS:

- Semicon cabinets with low acid exposure
- Rinse modules
- Electrical cabinets
- Alkaline, UPW modules
- Wafer transfer interfaces
- Dry tool areas

STANDARD SIZES:

- Sheet: 48"-75" W
96"-120" L
- Extruded gauge: 0.250" - 1.0"
- Pressed gauge: 1.25" - 3.0"

STANDARD COLORS:

- Industry standard white

CUSTOM SIZES, COLORS:

- Contact Inside Sales

Disclaimer: The information contained herein is intended as a general guideline only. Application conditions and environments vary widely, and each user is responsible for determining suitability for use of Laminations Inc.'s materials in all intended applications. Laminations, Inc. makes NO EXPRESSED OR IMPLIED WARRANTIES in regards to suitability for use of any of its materials in specific applications. Any direct or consequential damages resulting from the improper use of these materials are the responsibility of the user. Laminations Inc. limits its liability to the replacement value of sheet materials found to be defective as manufactured by Laminations. Laminations will not be liable for improper use of its materials in regards to patent infringements, nor should any of our information be construed as an offer of indemnity for patent infringement