

AF-100 PULTRUDED FIBERGLASS DOOR TEST RESULTS

Door Panel
Thermal Transmittance, ASTM-C1363-11:
U-Factor = 0.13 Btu/hr·ft ² ·°F, R-Value = 7.42 hr·ft ² ·°F/Btu
Pultruded Structural Shapes
Tensile Strength, ASTM-D638: Minimum 30,000 psi.
Compressive Strength, ASTM-D695: Minimum 30,000 psi.
Flexural Strength, ASTM-D790: Minimum 30,000 psi.
Flexural Modulus, ASTM-D790: Minimum 1.6 x 10 ⁶ psi.
Short Beam Shear, ASTM-D2344: Minimum 4,500 psi.
Impact, Notched, ASTM-D256: Minimum 25 ft-lb/in.
Thermal Expansion, ASTM-D696: Maximum 8.0 x 10 ⁻⁶ psi.
Surface Burning, ASTM-E84: Flame Spread ≤ 25, Smoke Developed ≤ 450.
AF-150 Framing
Tensile Strength, ASTM-D638: Minimum 30,000 psi.
Compressive Strength, ASTM-D695: Minimum 30,000 psi.
Flexural Strength, ASTM-D790: Minimum 30,000 psi.
Flexural Modulus, ASTM-D790: Minimum 1.6 x 10 ⁶ psi.
Short Beam Shear, ASTM-D2344: Minimum 4,500 psi.
Impact, Notched, ASTM-D256: Minimum 25 ft-lb/in.
Thermal Expansion, ASTM-D696: Maximum 8.0 x 10 ⁻⁶ psi.
Surface Burning, ASTM-E84: Flame Spread ≤ 25, Smoke Developed ≤ 450.
Fastener Withdrawal, ASTM-D1761: 924 lbs.
Percent Fiberglass: Minimum 50%.
Door and AF-150 Frame Assembly
Physical Endurance, AAMA 920-11:
2,000,000 Cycles, No Damage
Thermal Transmittance, NFRC 100
<i>Opaque Swinging Door (< than 50% glass)</i>
U-Factor = 0.23 Btu/hr·ft ² ·°F
<i>Commercially Glazed Swinging Entrance Door (> than 50% glass)</i>
U-Factor = 0.41 Btu/hr·ft ² ·°F



Air Leakage, NFRC 400, ASTM-E283
<i>Opaque Swinging Door (< than 50% glass)</i>
0.03 cfm/sqft @ 1.57 psf
0.06 cfm/sqft @ 6.24 psf
<i>Commercially Glazed Swinging Entrance Door (> than 50% glass)</i>
0.02 cfm/sqft @ 1.57 psf
0.05 cfm/sqft @ 6.24 psf
STC and OITC, ASTM-E90:
STC = 30, OITC = 28
Structural Performance, ASTM E-330
<i>Single Door, 3'0" x 7'0" overall size, mortise lock and deadbolt</i>
± 180 psf design pressure, pass
Structural Performance, ASTM E-330
<i>Single Door, 3'0" x 7'0" overall size, mortise lock and deadbolt</i>
± 100 psf design pressure, pass
Impact and Cycle Test, ASTM-E1886
<i>Single Door, 3'0" x 7'0" overall size, mortise lock and deadbolt</i>
9 lbs. missile @ 50 fps, minimum 2 impacts, no rips, tears, or penetrations
± 100 psf design pressure, pass
Forced Entry, AAMA 1304
<i>Single Door, 3'0" x 7'0" overall size, mortise lock and deadbolt</i>
300lb Pull Test, pass
Blast Test, ASTM-F1642
6.9 psi @ 48 psi-msec, no hazard, GSA performance condition 2