

SpecLite3® FRP Door Test Results

A series of tests were conducted by an independent laboratory to define and measure the cleanability and stain resistance, chemical resistance and abrasion resistance of SpecLite3® FRP (Fiberglass Reinforced Polyester) face sheets. These are the three main problems confronted by institutional doors. The results prove the superiority of Special-Lite SpecLite3® FRP.

Taber Abrasion Resistance Testing

TEST PARAMETERS	SpecLite3® FRP
Nominal panel thickness:	.120
Abrasive wheel type:	CS-17
Load weight:	1,000 Grams Total
Number of cycles:	25
Vacuum:	100%
% Weight Loss:	.029

Cleanability & Stain Resistance

(Duration of panel surface exposure to test agents: 24 hours)

TEST AGENT	SpecLite3® FRP
Beef Blood	Unaffected (a)
Butter	Unaffected (a)
Fresh Egg	Unaffected (a)
Tomato	Unaffected (a)
Mustard	Unaffected (a)
Permanent Marker (Sharpie)	Slight Effect (b)
Shoe Polish (White)	Slight Effect (b)
Spray Paint (White)	Slight Effect (b)

(a) Removed stain with only detergent solution and cloth or soft brush.

(b) Removed stain with standard FRP cleaner (solvents) and cloth or soft brush.

Chemical Resistance

(Duration of panel surface exposure to chemicals: 4 hours)

TEST AGENT	SpecLite3® FRP
Acetic Acid (Concentrated)	No Effect
Hydrochloric Acid (10% Solution)	No Effect
Sodium Hypochlorite (4-6% Solution)	No Effect
Citric Acid (10% Solution)	No Effect

All the above chemicals are common cleaning agents, solvents and disinfectants.

IMPACT STRENGTH

Test: ASTM D 256

Izod impact strength, expressed in foot-pounds per inch of notch.

Nominal value for SL-17: 15

Comments: The SL-17's ability to withstand impact is nearly as great as polycarbonate, comparable to stainless steel, and significantly greater than aluminum of the same thickness.

WEATHERABILITY – HUMIDITY RESISTANCE

Test: ASTM D 570

Water absorption from 24-hour immersion at 77°F, expressed in percent weight gain.

Nominal values for SL-17: .20%

Comments: The SL-17 has a proven ability to withstand high humidity and exposure to sunlight with no significant effect on strength.

HARDNESS

Test: ASTM D 2583 Barcol Meter

Hardness Test

Nominal value for SL-17: 55

Comparable value for soda lime glass: 65

Comments: The outer surface of the SL-17 has a scratch resistance nearly equivalent to window glass.

FLAME/SMOKE RATING OF FACE SHEETS

Test: ASTM E84

Standard face sheet: Flame

spread – less than 200

Smoke developed – less than 450

Class A Option – for interior side of exterior doors and either side of internal doors: Flame spread less than 25

Smoke developed less than 450

FLEXURAL STRENGTH

Test: ASTM D790

Nominal Panel Value: 21,000 PSI