

Testing Summary

Performance in industry, proprietary
and real life testing



We've been making entrance systems for the most challenging applications since the early 1970's. Along the way, we've learned a few things on how to manufacture the longest lasting entrances to provide the lowest life cycle cost.

- **Start with a better design to build a better door.** Instead of making our heavy-duty doors heavy and rigid, we make them lightweight and flexible to better withstand the rigors of real life, while minimizing wear and tear on the entire entrance system.
- **Utilize modern materials and durable construction to provide the longest possible service life.** High quality, corrosion-resistant materials and durable finishes ensure lasting beauty with minimal maintenance.
- **Test, test and retest!** As they say, you can't improve what you don't measure.
 - We validate performance with the most abusive industry standardized tests
 - Keep testing against our own criteria
 - Monitor real world test results—product life at customer installations



Third Party Testing

Assurance our doors can stand up to life's toughest challenges

Our doors undergo all relevant standardized testing to ensure they will perform at the highest level. Below are the results of a few of the most demanding tests:

Exceptional durability proven with 25 million cycle swing test

Architectural Testing, Inc. opened and closed one of our SL-17 FRP Doors according to ANSI A250.4 standard every 13 1/2 seconds, every hour of every day from February 12, 2002 until March 27, 2006. After completing 25 million cycles, it was still performing beautifully...and looked like new...although the closer and exit device push pad had to be replaced multiple times.

Thermal performance leaves hollow metal doors in the cold

The thermal efficiency of the building envelope has never been more important. Our SL-17 Door can help reduce heating and cooling loads by providing superior thermal performance versus hollow metal doors. Compare independent lab results with those for hollow metal doors...that is, if you can find any. And don't be fooled by claims that equate the performance of the core material alone with the performance of a complete door; they are not the same.

Meets toughest indoor air quality criteria

Special-Lite's entire product line—doors,* framing, and panels, were the first commercial entrance products of *any* type from *any* manufacturer to earn GREENGUARD Certification, including the stringent new Children & Schools Standard.™ GREENGUARD Certification is your independent assurance of low-emission performance. The GREENGUARD Environmental Institute (GEI) criteria are the toughest in the industry, involving tests for formaldehyde, VOCs, phthalates and hundreds of other pollutant emissions, using scientific environmental chamber protocols.

To view our GREENGUARD Certification online, visit the GEI site at www.greenguard.org.



Achieves highest rating for security

ASTM F 476 measures a door assembly's ability to resist, delay, and frustrate certain kinds of burglaries. Special-Lite SL-17 FRP Flush Door assemblies conform to Classification Grade 40—the highest rating available under this ASTM test method! As a result, you can be assured that the SL-17 is suitable for use in commercial buildings in high risk areas.

*Excludes fire-rated doors.

The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute.



The cycles add up during the swing test of our SL-17 Door at Architectural Testing.

Thermal Properties: Special-Lite FRP Door Components, Panels, and Doors

	U-value	R-value	CRF
Special-Lite FRP Door Components			
1 1/2" thick urethane foam	.11	9.1	88
1" FRP and urethane foam panel	.23	4.3	81
1 3/4" FRP and urethane foam panel	.10	10.0	87
Special-Lite FRP Door Assembly	.29	3.4	55

Tests conducted by Architectural Testing, Inc. Contact Special-Lite for detailed test results.



Air Quality Sciences chamber testing verifies that Special-Lite products meet GREENGUARD Certification criteria.



A 215-pound sand bag is winched back to measured height.



The sand bag is released.



The sand bag impacts a door with bottom edge blocked.

Proprietary Testing

Our doors can take whatever life—or we—throw at them

To evaluate the performance of our doors, we've developed our own proprietary test protocols. Here are a couple of extreme examples:

Impact Test

A common situation in the life of a highly abused entrance is the use of extreme physical force—like a shove or kick—to open the door. Often times, the door is blocked open at either the hinge or the lock side, and excessive opening force causes the door to wrap around the obstacle.

To test how our doors compared to competitive doors in these situations, we created our own "sand bag slam test." A bag with 215 pounds of sand was suspended in front of the door, pulled back a measured distance, and allowed to slam into the door. We continued to increase the distance incrementally until the impact force reached as much as 750 ft/lbs.

We tested all doors to the point of failure. The competing doors we tested were able to resist the impacts for awhile, and then they completely blew apart at a level of force that left our doors still fully functional. This test, and similar abuses in the real world, continues to validate our unique design approach of building heavy-duty doors that are lightweight and flexible.

Exposure Test

Daily exposure to extreme heat and intense direct sunlight can damage entrances just as easily as intentional abuse. To test our existing doors and latest product developments, we chose one of the most extreme North American locations we could find...the Arizona desert...with over 80% sunshine annually and average high temperatures above 100° Fahrenheit all summer long.

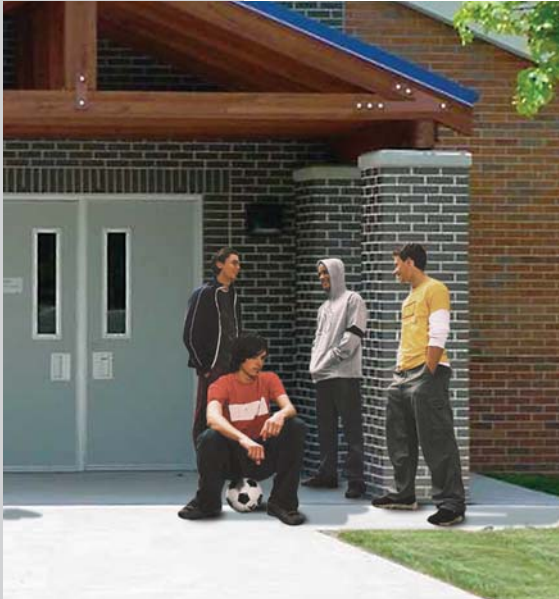
We subject our products to these extreme conditions for years to test their performance. In the hottest part of the summer, we've measured door skin temperatures of over 180° Fahrenheit. This test validates our doors' fade-resistance and ability to withstand thermal extremes.



Special-Lite doors and door components weathering the intense heat and direct sunlight of the Arizona desert.

Real Life Testing

Our doors have taken more tests than a No. 2 pencil



Just how long would 25 million cycles take in the real world? The Architectural Testing swing test took 50 months to complete in the lab. If one thousand high school students passed through the same door one at a time twice each school day, more than 62 years would pass before the door was opened and closed 25 million times.

The best measure of the performance of our doors is how they stand the test of time in actual installations. Our doors have been tested night and day and passed with rave reviews in some of the most challenging commercial building applications, including world-famous theme parks, wave pools, sports venues, animal pens in major zoos, and prisons. Just a few of our more recognizable “test” sites include: California State Parks, Chicago’s Navy Pier, Newark Bay Pumping Station, New York City’s Museum of Modern Art, and Bowling Green State University.

We pioneered the use of FRP on doors and specifically designed our SL-17 FRP Flush Door to withstand decades of abuse from the roughest door users imaginable—kids! Because they provide long service life and the lowest lifecycle cost, the SL-17 has become the door of choice for schools and universities.

The fact is, all of our flush and monumental doors provide lasting value in real world installations. And once most facility managers experience their superior performance, they typically specify Special-Lite products for subsequent replacements and new construction.

Learn more about Special-Lite

Special-Lite, Inc. manufactures complete entrance systems consisting of flush, monumental and colonial doors, panels and framing for new construction and replacement installation in commercial, institutional, industrial and municipal applications. For more information including detailed independent lab test results, contact your sales representative or Special-Lite.



Special-Lite, Inc.

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