

Weatherseals

Sealeze's Weatherseal brush has been engineered to keep cold or hot air from entering around any opening. Our brush seals can be used around entry doors, sliding doors, sectional overhead, rolling steel doors, dock levelers and hangar doors.

We carry several designs for entry doors, including double door center seals. For overhead and hangar doors we have numerous retainers and brush lengths. Our dock leveler seals include both screw-on and weld-on types.

Our Weatherseal brush is far more durable than vinyl or neoprene seals. Independent testing results show that our brush seals can last for over 2 million cycles without noticeable wear. In addition, the nylon brush has added UV protection that is not available on other seals.

Attached are the following reports:

- Two Million Cycle Report
- Air infiltration Report
- UL Label Report
- Made in the USA

Sealeze brush has been tested by UL and our label states that Sealeze brush can be applied on up to a three-hour rated fire door. Sealeze will provide a UL label upon request. Sealeze products are proudly made in the USA.



8000 Whitepine Rd.
Richmond, VA 23237
Tel: 800-446-7325 Fax: 800-448-2908
E-mail: weatherseal@sealeze.com

THERM-BRUSH TEST REPORT

- 2,000,000 Cycle-Life Test -

INITIATED BY:

Al Behar/Lloyd Moore
SCOVILL Security Products Division
Research and Development Division
Product: Therm Brush (nylon weatherseal brush)

PRODUCT:

To determine if the nylon Therm-Brush will stand up to the 2,000,000 cycle life of Grade 1 door closer test (now 1,5000,000 cycles) ANSI 156.4, 1980. This is a cycle test only.

TEST TO BE PERFORMED:

Visual inspection each 100,000 cycles to see if the product is retaining its original shape and design.

FUNCTIONAL DATA:

On March 9, 1982 a Therm-Brush kit was installed in the Test Lab. It was installed on Bay 40 which is a full size door (3' - 0" x 7' - 0"). It was installed per template supplied by the vendor in the installation kit. The door is powered by a Deltron Rotary Actuator and uses air as the driving force.

SUMMARY:

On August 12, 1982, this unit reached 2,000,000 cycles and was performing satisfactorily. Please note at 31,640 cycles there was a slight bending of the brush due to an incorrect angle of the brush (per instruction template). During the length of the test this did not worsen. We cycled the unit at a rate of 200,000 cycles per month.

DATE:

7 Dec. 82



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AIR INFILTRATION REPORT

Air infiltration -- it is a problem in most every building. Not only is it costly, but for the people who live or work in a drafty environment it can be uncomfortable as well.

It is easy to understand air infiltration. In the summer, heat may enter a building through small cracks around windows, doors and other openings. Of course, air conditioned air escapes from these same cracks. In the winter, this problem is compounded by something known as "chimney" or "stack" effect. Essentially, hot air rises and escapes through the openings near the top of the structure while cold air is drawn in through cracks or openings near the bottom of the building. The chimney effect can cause air movement as high as 10 m.p.h.!

Every cubic foot of infiltrated air will be heated or cooled at your expense. Over the course of a year, the additional energy costs really add up. But, it is not necessary to settle for a drafty environment.

Sealeze Brush Weatherseals are the most effective weathersealing solution.
Brushes prevent 98.5% of air infiltration and are three times more effective than vinyl.
Brush Weatherseals are durable and almost never need to be replaced.
Sealeze brushes generally last the life of the door.

Brush is most effective

Sealeze Brush Weatherseals allow significantly less air leakage than vinyl seals. what does that mean? For a 10' x 10' sectional door, over a six-month heating season, Brush Weatherseal will keep out an additional five million cubic feet of air -- that is five million cubic feet of air you will not be heating! and with high wind on large doors such as airport hangars, Sealeze Brush Weatherseal is the only weatherseal that works at all.

Brush has a short payback period

No discussion of energy savings would be complete without mentioning the payback from your investment. **Sealeze Brush Weatherseal generally pays for itself in savings in about one year!** And considering it has a life expectancy of at least 10 years, brush offers a considerable return over its lifetime. Exact payback calculations are dependent on a number of variables unique to each situation. However, a study by the U.S. Navy on energy conservation in aircraft hangars found nylon brush seals to be the superior weatherseal material.

This chart shows the relative amounts of air leakage among three different sealing scenarios. The test was conducted on a 10' x 10' residential garage door. Flow rates are measured in cubic feet per minute per square foot of door opening (cfm/ft²).

Simulated Wind Speed	No Weatherseal	Vinyl seal on Top & Sides	Sealeze Weatherseal Brush on Top & Sides
15 mph	6.24 cfm/ft ²	0.30 cfm/ft ²	0.10 cfm/ft²
25 mph	see note	0.64 cfm/ft ²	0.21 cfm/ft²
50 mph	see note	see note	0.63 cfm/ft²
Note: Infiltration rate exceeded capacity of measuring equipment.			



UNDERWRITERS LABORATORIES INC.
NORTH BROOK, HI • MELVILLE, NY • SANTA CLARA, CA • TAMPA, FL

an independent, not-for-profit organization testing for public safety

File R9997-1
Project 82NK421

August 26, 1982

REPORT

on

GASKETING MATERIALS FOR FIRE DOORS

Sealeze Corp.
Richmond, VA

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D E S C R I P T I O N

PRODUCT COVERED:

"Therm-L-Brush," gasketing material.

USE:

This gasketing material is intended for application to Listed steel fire door frames and Classified Hollow Metal Type and Steel Covered Composite Type Fire Doors rated up to and including 3 h.

WRC/JJU:ist

C O N C L U S I O N S

The following conclusions represent the judgement of Underwriters Laboratories Inc., based upon the results of the examination and tests presented in this Report as they relate to established principles and previously recorded data.

A sample of the product covered by this Report has been found to comply with the requirements covering the class, and the product is judged to be eligible for Classification and Follow-Up Service. The manufacturer is authorized to use the Laboratories' Mark on such products which comply with the Follow-Up Service Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Laboratories' Mark are considered as Classified by Underwriters Laboratories Inc.

The Classification Marking of Underwriters Laboratories Inc. on the gasketing material will be evidence that the product has been produced under the Follow-Up Service Program.

The gasketing material Classification Marking shall be as follows:



GASKETING MATERIALS FOR FIRE DOORS
CLASSIFIED BY

UNDERWRITERS LABORATORIES INC.

28H6

INTENDED FOR APPLICATION TO HOLLOW METAL OR
STEEL COVERED COMPOSITE TYPE FIRE DOORS

RATED UP TO 3 H

Report by:

W. R. Carney

WILLIAM R. CARNEY
Engineering Associate
Fire Protection Department

WRC/JJU:ist

Reviewed by:

J. J. Urban

JAMES J. URBAN
Engineering Group Leader
Fire Protection Department

T E S T R E C O R D N O. 1SAMPLES:

The assembly consisted of a Classified hollow metal dutch door, with both halves operating independently of each other with the Therm-L-Brush material installed around the perimeter of the door and frame. The door mounted in a Listed pressed steel door frame incorporating 5/8 in. centered stops. Each door leaf was provided with two full mortise hinges and a single point mortise latch.

DOORS

The dutch door assembly was designed for an opening 42 in. wide by 90 in. high. The door leaves incorporated 16 gauge Z-shaped stiffeners around the door reinforcements and 24 gauge hat-shaped vertical stiffeners spaced 6 in. OC, 17 gauge galvanized steel faces, with the spaces between stiffeners insulated with 1-3/4 in. thick, 0.516 lb/ft³ density fiberglass. The door was noted provided with an astragal. Each door leaf was provided with a Listed single point mortise latch with a 3/4 in. throw that secured into the frame. Each door leaf was provided with two 4-1/2 in. high by 0.134 in. thick full mortise steel hinges. They were secured to the door and frame with steel machine screws.

FRAME

The Listed pressed steel frame in which the doors were mounted consisted of head and jamb members of No. 16 gauge steel, reinforced for the hinges, strikes, and provided with base anchors and adjustable masonry anchors.

The frame members incorporated centered stops 5/8 in. in height.

GASKETING MATERIAL

The gasketing system consisted of Type 6 nylon filaments, approximately 0.003 in. in diameter and 0.94 in. long, secured in an aluminum channel. The system was secured around the entire perimeter of the door by means of No. 6 sheet metal screws, spaced 4 in. OC per the manufacturer's installation instructions. The system was installed so as not to restrict the closing of the swinging door assembly.

The gasketing materials are produced in a ready-to-use form. Information with regard to the composition and the components of the finished unit is proprietary and is on file at the Laboratories for use in the Follow-Up Service Program.

Various chemical tests were conducted on the finished material and the components. The results developed from these tests were employed in establishing specifications for use in the Follow-Up Program.

INSTALLATION:

The test assembly was built into a 12 in. thick brick wall in a test frame. After the door was installed, the clearances averaged 3/32 in. along the top edge, 1/8 in. along the hinge edges, 3/32 in. along the meeting edges, and 1/4 in. above the sill.

The appearance of the exposed and unexposed faces of the test assembly is shown on ILLS. 1 and 2.

FIRE ENDURANCE TEST:

METHOD

After the brick wall had seasoned, the fire test was conducted in accordance with the Standard for Fire Tests of Door Assemblies, UL 10B.

Throughout the fire test, observations were made on the character of the fire, the condition of the exposed and unexposed faces, and all developments pertinent to the doors and hardware as a fire barrier with special reference to stability and flame passage. For furnace temperature results, see ILL. 6.

RESULTS

Observation Of Fire Side - The fire was luminous and well distributed during the fire test. The temperatures within the furnace chamber were controlled in accordance with the Standard Time-Temperature Curve, as shown on Page 7 of the Standard for Fire Tests of Door Assemblies.

The steel faces of the doors and frame head began to buckle and bulge inward within the first 15 min of the test and, after about 60 min, further movement was very slow.

Observation Of The Unexposed Side - During the first 5 min of the test, the doors began to bow toward the fire. This bowing increased as the test progressed. The deflections were determined by measurements at the meeting edges of each door on a horizontal line across the mid-height of the doors. The following tabulation indicates these deflections. -

<u>Time, min</u>	<u>Deflections, in.</u>	
	<u>Dutch Door</u>	<u>Doors Louver</u>
0	-	-
15	1	7/8
30	1	7/8
60	1-3/8	7/8
90	1-1/4	7/8
120	1-1/2	7/8
150	1-1/2	7/8
180	1-1/2	7/8

During the fire test, the meeting edges of the pair of doors started to separate in a direction parallel to the door faces. This separation measured at mid-height reached a maximum of 1/4 in. at 15 min of exposure.

At 30 min, the gasketing material began to melt and drip from the aluminum securing channel. By 60 min, most of the gasketing material had melted from the aluminum securing channel. There was no evidence of flaming or through openings throughout the entire duration of the fire test.

At the end of the 180 min fire endurance test, the top and bottom bolts of the mortise lock were noted to have remained engaged throughout the fire test.

There was no passage of flame through or around the doors during the test.

HOSE STREAM TEST:

METHOD

Immediately after the 180 min fire exposure, the assembly was withdrawn from the furnace and subjected to the impact and cooling effects of the 45 psi hose stream for 5 min, 23 s as specified in the Standard for 3 h doors.

RESULTS

During the application of the hose stream, the faces flattened and the doors remained securely in the opening. No through openings developed, and the top and bottom bolts of both exit devices were noted to have remained engaged throughout.

After the hose stream test the separation at the meeting edges of the doors in a direction parallel to the door faces was a maximum of 1/4 in.

The separation of the meeting edges away from the adjacent door edge in a direction perpendicular to the plane of the doors was a maximum of 1/8 in.

There was no evidence of through openings around the gasketing material system.

The general appearance of the exposed and unexposed faces after the fire and hose stream tests is shown by ILLS. 4 and 5.

WRC



Underwriters Laboratories Inc.®

File R9997

Vol 1

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FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

GASKETING MATERIALS FOR FIRE DOORS
(GVWZ)

Manufacturer: SEALEZE, UNIT OF
(889393-001) JASON INC
8000 WHITEPINE RD
RICHMOND VA 23237

Applicant: SAME AS MANUFACTURER
(889393-001)

Classified Company: SAME AS MANUFACTURER
(889393-001)

This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. upon request.

This PROCEDURE, and any subsequent revisions, is the property of UNDERWRITERS LABORATORIES INC. and is not transferable.

UNDERWRITERS LABORATORIES INC.

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A



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ISO 9001 Certified
A Jason Company
www.sealeze.com

Contact Name
Company Name
Address
City, State, Zip Code

To Whom It May Concern,

This letter serves as verification that Sealeze brush is made in the USA.

Sealeze brand brush is produced in our facility in North Chesterfield County in the state of Virginia in the United States of America.

If I can be of further assistance, please feel free to contact me by phone or email.

Regards,

Person of Authority
Person's Title
Sealeze, A Jason Company

Problem solved.