Firestable™ Insulation Company.

Firestable™

TECHNICAL DATA SHEET- NFPA 275 SPRAY POLYURETHANE FOAM

Firestable™ 2.0 insulating, continuous thermal barrier **is a two component, self-adhering, seamless, closed cell, spray applied, spray polyurethane foam system. This system has been formulated to provide identical performance to industry SPF, *AS WELL AS BEING a* code complying thermal barrier at 2 ½" or more. This spray polyurethane foam complies as a *'single step' code compliant* interior building insulation, air barrier, and moisture vapor retarder and exterior water vapor for applications in Type I, II, III, IV and V construction.**

Distinguishing characteristics:

- **Applied identically to Spray foam insulation with existing plural component equipment**
- **Can be applied as a stand-alone insulation or directly over multiple insulation products to provide code compliant hybrid insulation system**
- **No bonding agent needed over polystyrene or urethane foam insulation prior to application like cementitious Thermal Barriers**
- **Complies with NFPA 275 as a code compliant thermal barrier when installed in accordance with QAI Certification Listing B1134 – 1**
- **AC 377 approval pursuant to IAPMO ER - 857**
- **Water blown, Low VOC per CDPH Standard V 1.2, 2017**
- **Blowing agent *FREE* from CFCs and HCFCs, with zero Ozone Depletion Potential (ODP) and negligible Global Warming Potential (GWP) ≤1**

PHYSICAL PROPERTIES			
ASTM D 1622	Core Density	2.4 ± 10%	
ASTM C 518	Aged Thermal Resistance - R value	1" = R 5.0	
ASTM E 96	Water Vapor Permeance – Vapor barrier at 1"	<1	
ASTM D 2842	Water Absorption (volume)	3%	
ASTM D 1621	Compressive Strength	>15	
ASTM D 1623	Tensile Strength. (>15psi spec)	34.9	
ASTM D 2126	Dim. Stability @158°F(70°C) 97% R.H. -168 hours. (<15% spec)	3.5%	
VOC Emissions	UL Environment (Greenguard Gold)	Meets Criteria	
IBC803.2 Interior Finishes	Paintable	Up to .036"	

FIRE TEST RESULTS		
ASTM E 84	A) Surface Burning Characteristics, 2 ½" thick Flame Spread Index Smoke Developed	Class A 0 250
	B) Surface Burning Characteristics, 4" thick Flame Spread Index Smoke Developed	Class A 15 300
ASTM 2768	Full 30 minute ignition resistance (Extended E 84) 4" thick	Pass
AC 377 Appendix X	Ignition Barrier – Compliant with 2009, 2012, 2015, 2018, & 2021 IBC and IRC, and ICC-ES AC-377 Appendix X, for use in attics and crawl spaces without a prescriptive ignition barrier or intumescent coating.	Pass
UL1715	Alternate Thermal Barrier – Compliant with 2009, 2012, 2015, 2018, & 2021 IBC & IRC, as an interior finish without a prescriptive thermal barrier or intumescent coating.	Pass
NFPA 275	Equivalent Thermal Barrier compliant to NFPA 275. Meets the 2009, 2012 & 2015 IBC and IRC, as an interior code compliant thermal barrier @ 2.5"	CERTIFIED to NFPA 275
ASTM D 1929	Ignition Properties (spontaneous ignition temperature)	>766°F (408°C)

RECYCLED , RENEWABLE & BIODEGRADEABLE CONTENT	
Biodegradable/Recycled Content	25%

REACTIVITY PROFILE			
Cream Time	Gel Time	Tack Free Time	End of Rise
0 – 1 seconds	<2 seconds	3 – 4 seconds	4 – 5 seconds

LIQUID COMPONENT PROPERTIES*		
PROPERTY	A- ISOCYANATE	B - Firestable™ RESIN (AFTER MIXING)
Color	Brown	White Foam – Grey Resin Charcoal Foam – Black Resin
Viscosity @ 77°F (25°C)	400-700 cps	1200-1700 cps
Specific Gravity	1.22	1.3 ± .01
Shelf Life of unopened drum properly stored	12 months	6 months
Storage Temperature	50 – 100°F (10 – 38°C)	50 – 90°F (10 – 32°C)
Mixing Ratio (volume)	1	1

*See SDS for more information.

	RECOMMENDED PROCESSING CONDITIONS High Pressure (Pressure balance required)		(HVLP) Nitrosis HVLP(230V) req'd
	A Side.	B Side	
Minimum Reactor/Heater system/Hose	H25 or E30/15kw/300ft	H25 or E30/15kw/300ft	Nitrosis HVLP 230 v/10+kw/200ft
Gun(s)	Fusion AP	Fusion AP	Short cone nozzle - P/N 234174
Initial Primary Heater Setpoint Temperature(75F)	100°F - 135°F	105°F - 135°F	120f - B side / 115f - A side
Initial Hose Heat Setpoint Temperature	100°F - 135°F	100°F - 135°F	125 F
Drum Pumps	T2, T3, or T4 pump	T2, T3, or T4 pump	T3 pump - air@ 80-100 psi
Initial Processing Setpoint Pres. (Static)	1100 - 1600	1100 - 1600	N/A
Dynamic Pressure(psi)	900 - 1400	900 - 1400	N/A
Substrate Temperature range		Summer > 50 F Winter > 32 F (Heat-sinks > 50 F)	Summer > 50 F Winter > 32f
Moisture Content of Substrate	≤18%		≤18%
Moisture Content of Concrete	≤5%	Concrete must be cured, dry and free of dust and any form of release agents. See Application Guide for further Instruction.	
Re-entry/Re-occupancy	Follow industry guidelines - 24 hours @ 2 ac/hr		

Applicator bear's prime responsibility for the proper application of this *LIFE SAFETY PRODUCT*. Foam application temperatures and pressures can vary widely depending on temperature, humidity, elevation, substrate, equipment and other factors. While processing, the applicator must continuously observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to maintain proper cell structure, adhesion, cohesion and general foam quality. It is the sole responsibility of the applicator to process and apply Firestable™ thermal barrier within specification.

General Requirements: Equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate (PMDI) and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient humidity is below 80%. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect adhesion of the polyurethane foam. Applicators should limit the application of this product to no more than a thickness of 4" (after expansion) to avoid fire hazards resulting from excessive heat generation. If subsequent passes are needed, applicators should wait until the core temperature of the foam has dropped below 100°F to allow any reaction heat to dissipate from the prior applications before attempting to reapply the product.

RECOMMENDED MAXIMUM PASS THICKNESSES		
Ambient Temperature	**Recommended Pass**	**Maximum Pass**
≤70°F (21°C)	**2.5" – 3"**	**4"**
>70°F (21°C); <90°F (32°C)	**2.5" – 3"**	**4"**

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. Though a thermal barrier, you should still protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.