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1. **PRODUCT NAME**
Touch 'n Seal® FR Two Component Class I Fire Retardant Spray Foam
2.0 pcf (32 kg m^3) Density

2. **MANUFACTURER**
DAP Foam Inc.
307 Integram, Pacific, MO 63069 USA
(636) 349-5855
(800) 325-6180
FAX: (636) 349-5335
E-mail: support@touch-n-seal.com
Website: www.touch-n-seal.com

3. PRODUCT DESCRIPTION
Touch 'n Seal FR Two Component Class I Fire Retardant Foam, when applied according to manufacturer's directions, is a Class 1 fire retardant, thermal insulating and sound attenuating, 2-component polyurethane spray foam. Touch 'n Seal spray foam dries within minutes and forms a permanent air barrier.

Touch 'n Seal 2.0 PCF Spray Foam is available in both disposable chemical cylinders and refill systems. These systems provide quick and easy foam application for repairs and renovations, new installations and production applications.

Basic Use
Touch 'n Seal FR spray foam is suitable for use in commercial, residential, agricultural, marine, transportation and many other applications. Use Touch 'n Seal FR spray foam in new, retrofit and renovation applications. Touch 'n Seal spray foam provides increased structural strength/support, sound and thermal insulation and stops energy-robbing air infiltration, thus reducing energy consumption.

Sizes
Foam Kit FK170FR
Item # 4004520170
170 board feet (15.79 m^2 @ 25 mm)

Foam Kit CP660*
Item # 4505500660
660 board feet (61.3 m^2 @ 25 mm)
*Must be used with CPDS spray foam system

RF17 Gallon Refill System
Item # 4505126100
1,800 board feet (167.2 m^2 @ 25 mm)

RF60 Gallon Refill System
Item # 4505126060
6,000 board feet (557 m^2 @ 25mm)

RF120 Gallon Refill System
Item # 4505126120
13,500 board feet (1,254 m^2 @ 25mm)

Features/Benefits
- Complies with IBC/IRC–2009 codes per AC377 Appendix X when used with Touch 'n Seal Ignition Barrier.
- U.S. Coast Guard approved for Marine Use
- For refrigerated trailer side wall and roof repairs
- Fast cure
- High compressive and bond strength
- High R-value; reduces energy loss by as much as 40%
- Closed cell structure/medium density
- Significantly increases structural strength (per the Spray Polyurethane Foam Alliance)
- Reduces use of fossil fuels
- Permanent insulation; does not shrink or settle like cellulose; maintains air seal
- Compatible with all fiber insulation systems including cellulose, fiberglass and rockwool
- No Ozone Depleting Chemicals
- Helps to reduce Green House Gas Emissions
- Expands to fill smallest to largest gaps, cracks and holes, reducing air exchanges
- Better air sealing results in less energy use, fewer HVAC cycle times, and a more consistent "comfort level" in home
- Reduces sound transmission

Limitations
- Not for use as an exterior roofing system
- Foam is combustible. Do not expose to temperatures above 250°F (121°C), open flames or sparks
- Not for exposure to ultraviolet light
- Chemical contents must be 70°F - 90°F (21° – 32°C) prior to spraying
- Do not store in temperatures above 120°F (49°C)
- Always refer to local building code regulations
- Certain structures such as cold storage and freezers have very specific design criteria. Ensure the structure has been designed by an appropriate design professional
- Apply in layers up to 1" thick (25 mm) at a time. Apply in 1/2" (12mm) layers for best adhesion to substrate. Allow foam to cool between application of additional layers.
- Product is not a fire stop
- Proper covering for this foam product may be required for various applications. TNS FR 2 component foam is permitted to be sprayed on sill plates and headers without a thermal or ignition barrier in thicknesses up to 3 ¼ inch thick according to ICC 2009/2012 Building Codes. Always refer to local building code.

4. TECHNICAL DATA
Applicable Standards
- ASTM G21 Fungi Resistance
- ASTM E84 Surface Burning Characteristic
- ASTM E90 Sound Transmission Class
- ASTM E96 Water Vapor Transmission
- ASTM E283 Air Permeance

- ASTM C518 R-Value
- ASTM D1621 Compressive Strength
- ASTM D1622 Density
- ASTM D1623 Tensile Strength
- ASTM D2126 Thermal and Humid Aging – Dimensional Stability
- ASTM 2842 Water Absorption
- ASTM D6226 Closed Cell Content
- AC 377 Appendix X - Use in Attic & Crawl Spaces
- Coast Guard Title 33 CFR, Paragraph 83.114

Approvals/Certifications/Listings
- International Residential Code
- International Building Code
- California Bureau of Home Furnishings and Insulation

Physical/Chemical Properties
See "Typical Properties" table. Test data available upon request.

Surface Burning Characteristics @ 2" (51 mm)
- Flame Spread Index: 20
- Smoke Development: 350

Shelf Life
1 year in unopened container when stored between 60° - 90°F (16° – 32°C), in a dry, well ventilated area.

Storage & Disposal
Keep containers tightly closed in a cool, well-ventilated area. Ideal storage temperature is 60° - 90°F (16° – 32°C). Storage above 90°F (32°C) will reduce shelf life. Do not store at temperatures above 120°F (49°C). Avoid freezing. Do not expose containers to conditions that may damage, puncture, or burst the containers. Dispose of leftover material/containers in accordance with federal, state and local regulations. See Material Safety Data Sheet for more information. Refer to "Foam Kit Operation Instructions" for storage of partially used kits.

5. INSTALLATION / APPLICATION
Refer to "Foam Operation Instructions" found with product packaging or request a faxed set of these instructions by calling Customer Service at 800-325-6180.

Always refer to local building codes prior

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to application of Touch 'n Seal® spray foam. Touch 'n Seal spray foam can be applied to and will adhere to almost any traditional building material surfaces including; wood, concrete, polystyrene, gypsum board, fiberboard, masonry and metal.

Surfaces to be sprayed must be dry, clean and free of dust, dirt, grease and other substances that may inhibit proper adhesion. For best results apply Touch 'n Seal spray foam when surface and ambient temperatures are between 60° - 90°F (16° – 32°C). Chemical contents must be between 70° - 90°F (21° – 32°C) before dispensing.

Use all chemical contents within 30 days of initial dispensing.

SAFETY INFORMATION
Keep out of reach of children.
Always wear proper personal protective equipment, including head covering, gloves, clothing, eyewear and respirator. Use in well-ventilated area.

Refer to manufacturer's *Safe Use, Storage and Handling For Low Pressure Spray Foam Products* brochure prior to handling Touch 'n Seal materials. You may request a copy of this document from Customer Service at 800-325-6180 or by downloading from www.touch-n-seal.com.

6. AVAILABILITY & COST
Availability
Touch 'n Seal Two Component FR Spray Foam Kits are available throughout the U.S., Canada, Mexico and the world. Contact DAP Products Customer Service at 800-325-6180 or FAX 636-349-1708 for distributor information.

7. WARRANTY
If product fails to perform when used as directed, within one year from the date of purchase, call 1-888-DAP-TIPS, with your sales receipt and product container available, for replacement product or sales price refund. DAP will not be responsible for incidental or consequential damages.

8. MAINTENANCE
Minor – Refer to "Foam Operation Instructions."

9. TECHNICAL SERVICE
Technical assistance, including detailed information, product literature, test results, assistance with preparing project specifications and application training is available by contacting Convenience Products.

10. FILING SYSTEMS
Additional information is available from the manufacturer upon request.

The information contained herein was accurate at the time of publishing. Please refer to the Touch 'N Seal website for the latest information.

TYPICAL PROPERTIES OF TOUCH 'N SEAL FR SPRAY POLYURETHANE FOAM 2.0 PCF (32.0 kg/m^3)

Shelf Life	1 year; unopened container
Theoretical Yield*	
Foam Kit 170 FR	170 board feet (15.79 m^2 @ 25 mm)
Foam Kit CP660	660 board feet (61.3 m^2 @ 25 mm)
RF17 Gallon Refill System	1,800 board feet (167.2 m^2 @ 25 mm)
RF60 Gallon Refill System	6,000 board feet (557 m^2 @ 25mm)
RF120 Gallon Refill System	13,500 board feet (1,254 m^2 @ 25mm)
Dry time/Tack Free Time	30 – 60 seconds
Fully Cured	Approximately 1 hour
Cuttable	2 – 5 minutes
AC 377 Appendix X - Use in Attic & Crawl Spaces	Passed. Refer to independent laboratory test reports.
ASTM G21 Fungi Resistance	Does not support growth
ASTM E84 Surface Burning Characteristics @ 2" (51 mm)	
Flame Spread	20
Smoke Development	350
ASTM E90 Sound Transmission Class	.29 @ 1½in. (38mm)1
ASTM E96 Water Vapor Transmission	3.45
ASTM E 283 Air Permeance	0.0004 cfm/ft^2 @ 1.57 psf
ASTM C518-4 R-Value - Initial/Aged per in. (25 mm)	6.3 / 5.1
ASTM D1621 Compressive Strength	31 psi (02.18 kg /cm^2)
ASTM D1622 Density	2.0 pcf ± .2 pcf (32 ± 3.2 kg m^3)
ASTM D1623 Tensile Strength	30.82 psi (2.17 kg/cm^2)
ASTM D2126 Thermal and Humid Aging – Dimensional Stability	
-4°F (-20ºC) 2 weeks	0.9%
158°F (70ºC) 2 weeks	5.7%
176°F (80ºC) 2 weeks	1.6%
ASTM D2842 Water Absorption	2.7%
ASTM D6226 Closed Cell Content	> 92%
IBC/IRC–2012 codes per AC377 Appendix X	Complies when used with Touch 'n Seal Ignition Barrier
Coast Guard Title 33 CFR, Paragraph 183.114	Meets Requirements
International Residential Code	Compliant
International Building Code	Compliant
California Bureau of Home Furnishings and Insulation	Listed

*Theoretical yield is used as an industry standard to represent the size of two-component foam kits. The calculation is based on ideal conditions, does not include blowing agent loss, and may vary according to application method or environmental factors.