

2 Part HFO Foam

TECHNICAL DATA SHEET

TYPICAL PROPERTIES	VALUE	UNIT	METHOD
Nominal density	1.76	lb/ft³	ASTM D1622
Compressive strength	21.2	psi	ASTM D1621
Tensile Strength	43.8	psi	ASTM D1623
Thermal resistance per inch (R-value)		ft²·h·°F/Btu.	ASTM C518
Initial 1"	6.7		
Initial 2"	13.2		
Aged 1" (180 days 73°F)	6.2		
Aged 2" (180 days 73°F)	13		
Flame spread/smoke developed* @ 2" thick, full coverage	20/350		ASTM E84/UL723
Air leakage rate at 75 Pa (1" thick).	0.02	L/s/m²	ASTM E283
Dimensional stability			ASTM D2126
-40°C (-40°F)	-0.2	%	
70°C/97% RH (158°F/97% RH)	6.6	%	
37.8°C/97% RH (100°F/97% RH).	3.5	%	
Water vapor transmission (2" thick)	1.869	perms	ASTM E96
Gel time	30	s	
Maximum service temperature	165	°F	ASTM C411/ASTM C447



Mentioned values are typical for production samples, but are not sales specifications.

* Note: fire classifications are not intended to reflect hazards presented by this or any other material under actual fire conditions.

DESCRIPTION

BOSS® 2 Part HFO Foam is a high quality, quick rise, 2-component, polyurethane spray foam for insulating, filling and sealing in professional and industrial applications. It is air and watertight, but vapor open. The foam is class 1 (A) fire rated (flamespread index <25 and smoke developed index <450) which makes it suitable for many industrial and commercial applications which demands a high quality foam. It is supplied in a box containing two portable, disposable and pressurized cylinders requiring no external power source, no extra pressure and no pumps. The two tanks are connected by hoses to the dispensing gun equipped with special developed nozzles to assure a high quality foam is produced. **BOSS® 2 Part HFO Foam** systems are containing a non-flammable, non-VOC, ultra-low GWP (<1) and zero ODP propellant which complies with the latest US regulations banning all CFC-, HCFC- and HFC-propellants. **BOSS® 2 Part HFO Foam** is ICC ES listed (evaluation report ESR-4728).

APPLICATION AREA

BOSS® 2 Part HFO Foam is developed for many uses in professional building and industrial applications. It can be used as thermal insulation, structural support, for repair jobs, filling and sealing of voids and cracks. This product is not suitable for load bearing applications (eg floors, roofs,...) which require a higher compressive strength.

RECOMMENDATIONS OF USE

Storage		
Temperature	59°F - 77°F	Higher storage temperature will speed up aging
Conditions		Store in upright position and dry conditions
Application		
For more product info and detailed instructions: check Product and Application guide.		
Ambient temperature	59°F - 95°F	
Substrate temperature	40°F - 95°F	A too low or too high temperature can have a negative effect on foam (adhesion)
Component temperature	68°F - 77°F	Too high or too low temperatures can have a negative influence on the mix ratio and foam quality
Substrate conditions	Dry and clean	Good adhesion on all surfaces (except for PE, PP and PTFE). Materials such as oil, grease, dust, loose debris, water and ice can affect adhesion. Substrates like aluminium and steel might require treatment with a primer or a coating. A damp surface can cause pin holes, blisters, a high percentage of open cells, poor mechanical strength, potential shrinkage and poor adhesion. Due to the exothermic reaction, substrates should be resistant to heat. When in doubt, the adhesion and/or heat resistance should be checked on the substrate or on a comparable sample.

BEST PRACTICE**Preparing the system:**

- Before use, shake both cylinders for approximately 20 seconds.
- Apply an amount of gun lubricant to the inside of the dispensing gun.
- Attach the end of the red hose to the ISO cylinder and the end of the blue hose to the polyol cylinder. Tighten securely with the included wrench. The wrench is developed to deform if excessive pressure is applied.
- Slowly open the valves of both cylinders until fully open and check for leaks and liquid flow inside hoses.

Purging and checking the system:

- Purge the system for 5 seconds into a waste container by first activating the yellow safety trigger and subsequently the main black trigger completely. Both product flows should be equal in volume to assure good foam quality.
- When both flows are visually equal in volume, clean the gun with BOSS® 335 Gun & Foam Cleaner and re-apply some gun lubricant to the inside of the gun
- Insert the nozzle into the front of the gun. Make sure the nozzle fits perfectly in the dispensing gun until a "click" is audible.
- Before spraying it is advised to do some test shots in a waste container to check if foam quality is good and if color of produced foam is homogeneous. A homogeneous foam indicates a good mix ratio. Before starting with the spray process, it is advised to do some test shots to get used to the spraying process if this is not the case.

Applying:

- Check if the application conditions meet the requirements mentioned in Product properties.
- Hold the dispensing gun about 6" - 24" away from the surface/space that has to be sprayed.
- Gun is equipped with a yellow safety trigger and a black variable action trigger. Both triggers should be activated. When a new foam kit is used it's advised to not completely activate the black trigger as this may result in a (too) high foam output.

As foam is sprayed and created from the kit, this trigger can be activated more to obtain similar output as in the beginning of the spray process

- Move the dispensing gun under controlled movement to cover the desired surface/space with foam.
- Spray in foam layers of approx. 1" - 2" thickness. While spraying the product an amount of heat is released because of the exothermic nature of the chemical PU reaction. Make sure that the substrate is not affected by this heat release. It is advised to do a test shot to verify this.
- Replace nozzle when not been used for more than 20 seconds (earlier at higher component temperatures as 68°F).
- Check during spraying continuously if the foam is homogeneous of color and if a rigid, hard foam is formed after some minutes.

Application interruption:**Empty cylinder(s):**

When the cylinders are empty, 2 new tanks should be connected. Make sure both cylinders are completely empty for disposal (see manual):

- Close the valves of both cylinders.
- Empty remaining liquid in hoses into a waste container by activating the dispensing gun trigger.
- Follow instructions mentioned in the disposal part (see manual).
- Clean both hose ends with BOSS® 335 Gun & Foam Cleaner. Pay special attention for cleaning of the ISO hose end. If not cleaned properly blockages or leaks may occur.
- Connect the hoses to the new cylinders.
- Remove nozzle and clean dispensing gun with BOSS® 335 Gun & Foam Cleaner.
- Shake new cylinders thoroughly for 20 seconds.
- Open cylinder valves slowly and check for leaks.
- Purge system as mentioned before and visually check if both flows are equal in volume.
- Clean dispensing gun with BOSS® 335 Gun & Foam Cleaner.
- Apply sufficient gun lubricant and insert new nozzle.

- Spray process can be continued.

When cylinders are not empty and should be stored for a short period (1-7 days):

- Close both valves of the cylinders.
- Remove the nozzle and clean the gun with BOSS® 335 Gun & Foam Cleaner.
- Apply sufficient gun lubricant to the inside of the gun and reinsert the used nozzle.
- System can be stored according to storage conditions up to 1 week.
- If spray process has to be continued, remove nozzle, shake both canisters for 20 seconds and open valves of both cylinders.
- Follow "purging and checking the system" instructions before starting new spray job.

When cylinders are not empty and should be stored for a period longer than 1 week:

- Close both valves of the cylinders.
- Remove the nozzle and clean the gun with BOSS® 335 Gun & Foam Cleaner. Apply sufficient gun lubricant to the inside of the gun and reinsert the used nozzle.
- If the system has not been used for one week, it should be activated once a week.
- This is done by shaking both cylinders for 20 seconds and opening the valves of both cylinders completely.
- Remove nozzle and purge for few seconds in a waste container by pressing trigger completely. This will rinse the hoses.
- It is advised to repeat this once a week as long as the system is not used.
- Clean the gun with BOSS® 335 Gun & Foam Cleaner.
- Apply sufficient gun lubricant in the dispensing gun and reinsert the used nozzle for storage.
- Close both valves of the cylinders.
- System can be stored according to storage conditions.
- If the spray process has to be continued, remove nozzle, shake both canisters for 20 seconds and open both cylinder valves.
- Follow "purging and checking the system" instructions before starting

TECHNICAL DATA SHEET

Foam layers		
Layer thickness	Approx. 2"	High foam thickness can be reached using several layers of 1" - 2". It is advisable to wait 20 minutes between applying more layers onto each other.
UV-Protection	Coating	For outside applications, foam should be protected against UV-radiation.

PACKAGING

	BOSS® 2284 HFO	BOSS® 2684 HFO (**)
Total net weight	26.5 lb	88.2 lb
Packaging	1 box with: -1 cylinder BOSS® 2284 HFO poly -1 cylinder BOSS® 2284 HFO iso -GHA 9 or 15ft -plastic bag with 8 Cone, 4 Fan nozzles, wrench and gun lubricant	-1 box with 1 cylinder BOSS® 2684 HFO iso -1 box with 1 cylinder BOSS® 2684 HFO poly
Theoretical yield (Board ft)*	185	615
Color	Champagne	
Shelf life	12 months	
Accessories (available separately)	-BOSS® dispensing gun with hoses (9,15 and 30 ft hose lengths available) -BOSS® 335 Gun & Foam Cleaner -Fan nozzles -Cone nozzles -Tube gun lubricant -Wrench	

* Note: Theoretical volume yield calculations are determined in perfect laboratories conditions, without taking into consideration the loss of blowing agent during application. Lower component temperatures (<59°F) have a negative impact on yield, mix ratio and foam properties in general. **GHA must be ordered separately

SAFETY

Both cylinders are under pressure. Do not puncture the cylinders, do not dispose before emptying. Avoid prolonged storage in direct sunlight or near heat sources.

Do not breathe vapors or spray. Use only in a well-ventilated area. Use proper protective clothing (e.g. impermeable coveralls, no skin should be exposed) and chemical resistant gloves. It is recommended to wear respiratory protection, according to OSHA requirements, while operating the BOSS® 2 Part HFO systems (e.g. half face mask respirator with appropriate filter) in combination with safety goggles. Check SDS for further information on personal protection and protection of the environment.

CERTIFICATION

- UL certified (R21831)
- ICC-ES (ESR - 4728)
- NFPA 286
- ICC-ES AC377 Appendix X
- ASTM C411

USERS PLEASE READ

The information and data contained herein is believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since the supplier cannot know all the uses, or the conditions of use to which these products may be exposed, no warranties concerning the fitness or suitability for a particular use or purpose are made.

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