

HTS Efficiency Plus

TECHNICAL DATA SHEET

DESCRIPTION: **EFFICIENCY PLUS** is a water blown spray-applied system that cures to a semi-rigid low-density foam. In-place density ranges from 0.45 – 0.65 lb/ft³. The cured product is dimensionally stable in all weather conditions and its insulating properties do not significantly diminish over time. **EFFICIENCY PLUS** is safe for the environment, containing no formaldehyde or ozone depleting chemicals.



TECHNICAL INFORMATION:

EFFICIENCY PLUS can be used to fill 2"x 6" stud wall construction in a single application. Its performance is superior to commonly used fiberglass batting or board stock because of its ability to effectively seal over irregular substrates and reduce air infiltration. **EFFICIENCY PLUS** can be installed to garage ceilings, cantilevered floors, cathedral ceilings and any other location in the exterior envelope of a residence to control thermal transfer and contribute to the reduction in air leakage.

SPECIAL HANDLING PRECAUTIONS: When spraying in poorly ventilated areas, supplied-air breathing apparatus and eye protection is required.

EQUIPMENT RECOMMENDATIONS:

Probler 2 or Graco air purge spray gun:

Minimum Operating Pressure:

1,200 psi with a #01 Chamber

1,400 psi with a #02 Chamber

Optimum Material Temperature:

120°F to 140°F (At the gun)

Property	Test	Unit	Value	
Density	ASTM D-1622	lbs/ft ³	0.50	
		kg/m ³	8.09	
Thermal Resistance	ASTM C-518	BTU.in/ft ² .hr.°F	0.285	
		R Factor	3.6	
		m ² Pasm ² (50mm)	1.25	
Closed Cell Content	ASTM D-2856C	%	< 5%	
Water Vapour Transmission	ASTM E-96	Perms ng Pasm ²	28.5 1641	
Dimensional Stability	ASTM E-2126	% volume change	28 d at -20.2 °F	- .19
			28 d at 158 °F	-9.12
			28 d at 176 °F	-10.01
VOC Emissions	Per CAN/ULC S774 Std.	No harmful effects to human health	Meets requirements	

Surface Burning Characteristics (CAN/ULC S102/S127)

Foam System	Flame Spread Classification	Smoke Developed Classification
Efficiency Plus	42	184

Processing Characteristics

Substrate Surface Temperature	Cream Time	Tack Free Time
77°F (25°C)	½ sec	5-8 sec

TYPICAL LIQUID CHEMICAL PROPERTIES

"A" Component contains polymeric isocyanate.

"B" Component contains polyols, catalysts, fire retardants and blowing agents.

Property	Test Temperature	ASTM Test	Unit	Value
Viscosity: "A" Comp "B" Comp	77°F (25°C)	D-2196-68	cps	180 ± 20 300 ± 20
Lbs/gal / US G. "A" Comp "B" Comp	77°F (25°C)		lbs/ gal	10.25 - 1.230 9.54 - 1.145
Mixing Ratio: "A" & "B" Component	77°F (25°C)	By volume		1:1
Stability: Stored at: 50°F - 70°F (10° - 21°C) "A" & "B" Component				2-6 months***

*** Note: Shelf life depends upon storage temperature. Recommended storage temperature is between 50-70° F.

Prior to installing a spray polyurethane foam interior insulation system, code officials should be consulted for recommendations and approvals. Federal, provincial and municipal building codes vary. All require that spray applied polyurethane foam insulation be covered with an approved thermal barrier. It is recommended that the approved thermal barrier be installed the same day the foam is applied.



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All hot work, i.e., welding, torches and open flame work, must be completed prior to commencing the installation of the polyurethane foam insulation. Smoking in the same area while the spray polyurethane foam insulation is being applied shall be strictly prohibited.

The aforementioned information on this product is to be used as a guide and is subject to change without notice. These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions, methods and use of our products are beyond our control. Any obligation of the seller or manufacturer shall have no force or effect unless it is in writing and signed by officers of the manufacturer.

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LISTED SPRAY FOAM INSULATION EFFICIENCY PLUS

CAN/ULC S102 Flame Spread	45
CAN/ULC S102 Smoke Developed	185
ASTM C518 - Thermal Resistance	
ASTM D1622 - Density	
ASTM D2126 - Dimensional Stability	
ASTM D2842 - Water Absorption	
ASTM E96 - Water/Vapour Transmission	

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