



HiTHERM®
HOT OR COLD WE GOT YOU COVERED

TECHNICAL DATA SHEET
FOR HT-300

HT-3000 is rigid closed cell polyisocyanurate foam. Its increased insulating efficiency compared to competitive insulations, offers better process controls and yields and therefore, substantially better upgrades in strength, durability, moisture resistance and a lower installed cost when compared to other to other insulation materials.

HT-300 provides exceptional values at continuous service temperatures of -297⁰ F (-183⁰ C) to +300⁰ F (+149⁰ C) and +350⁰ F (+172⁰ C) intermittent. HT-300 is also available as a liquid system for pour-in-place or “in situ” applications and for the manufacture of pre-insulated pipes. HT-300 can be made available in bun stock for in limited sizes. The physical and chemical properties of HT-300 are shown below.

PHYSICAL PROPERTIES*

<u>Property</u>	<u>ASTM Test Method</u>	<u>Result</u>	
Density , pcf (kg/m ³)	D-1622	2.0 (32.0)	3.0 (50.0)
Compressive Strength , psi (kPa)	D-1621		
Parallel to Rise		30 (207)	55 (379)
Perpendicular to Rise		20 (138)	45 (302)
Compressive Modulus , psi (kPa)	D-1621		
Parallel to Rise		720 (5000)	1190 (8180)
Perpendicular to Rise		345 (2380)	520 (3580)
Compressive Strength after exposure to 300⁰ F, for 7 days , psi (kPa)			
Parallel to Rise		26 (180)	52 (359)
Perpendicular to Rise		21 (145)	44 (304)
Compressive Strength after exposure to 350⁰ F, for 7 days , psi (kPa)			
Parallel to Rise		22 (152)	47 (325)
Perpendicular to Rise		18 (122)	40 (276)
Tensile Strength , psi (kPa)	D-1623		
Parallel to Rise		50 (345)	75 (518)
Perpendicular to Rise		30 (207)	52 (359)
Tensile Modulus , psi (kPa)	D-1623		
Parallel to Rise		2040 (14,080)	3060 (20,080)
Perpendicular to Rise		727 (5020)	2275 (15,700)
k-Factor , BTU-in/hr.ft ² °F (W/mK)	C-518-91		
Initial		0.121 (0.017)	0.127 (0.0183)
Aged 180 Days @ 75 ⁰ F (24 ⁰ C)		0.165 (0.0238)	0.172 (0.0248)

Closed Cell Content, %	D-2856	90	92
Water Absorption, psf (g/cm²)	D-2842	0.05 (0.027)	0.075 (0.04)
Water Vapor Permeability, perm-in. (ng/Pa S m)	E-96	4.0 (6.8)	
Dimensional Stability, % Change	D-2126		

Dry Cold, -20⁰ F (-30⁰ C), 7 Days

Length	0.1	0.1
Volume	1.3	0.9

Dry Heat, 212⁰ F (100⁰ C), 7 Days

Length	1.0	1.2
Volume	2.3	2.0

Dry Heat, 300⁰ F (149⁰C), 7, 14 & 28 Days

Length	4.0, 4.5 & 4.6	2, 3.1 & 3.4
Volume	4.1, 4.1 & 3.2	1.7, 2.9 & 4.1

Dry Heat, 350⁰ F (172⁰C), 7 Days

Length	0.9	1.2
Volume	4.8	2.8

Humid Age, 158⁰ F (70⁰ C), 100 % Relative Humidity

Length	2.3	1.85
Volume	3.8	3.4

Surface Burning Characteristics¹

E-83

1" Sample		
Flame Spread	25	25
Smoke Density	45	200

Service Temperature, ⁰F (⁰C)

Continuous	-297F (-183 ⁰ C) to +300 ⁰ F (149 ⁰ C)
Intermittent	To +350 ⁰ F (172 ⁰ C)

CHEMICAL PROPERTIES

Component A

Component B

Ratio, Parts by weight	67	33
Viscosity, cps @ 77⁰ F (25⁰ C)	600-800	250-550
Specific Gravity, @77⁰ F (25⁰ C)	1.24	1.24

Reaction Profile, @77⁰ F (25⁰ C)

200 gm Lab Hand mix with 3000 rpm mixer

Start of Rise:	20-45 secs.
String Gel:	75-150 secs.
Rise time:	100-240 secs.
Free Rise Density:	1.8 to 3.2 pcf (29 to 51 kg/m ³)

- The physical properties of the HT-300 were determined by processing the chemicals through a low pressure high shear mix machine. Chemical temperatures were maintained at 90⁰ F (32⁰ C) for the A component and 80⁰ F (26.5⁰ C) for the B component. Box pours measuring 24" x 24" x 24" (61cm x 61 cm x 61 cm) were made. The resulting foam was cured at room temperature (approximately 70⁰ F or 20⁰ C) for thirty days. Testing was done on core samples cut from the box pour.

¹ The numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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