THERMBOND® REFRACTORIES

TECHNICAL DATA SHEET

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FORMULA 9-AB

Thermbond Refractories use the patented Stellar Binder System™ for easy and accurate mixing, controlled setting, fast dry-out and heat up, thermal shock resistance and other unique properties. Thermbond chemically bonds to existing fired refractories. CHARACTERISTICS: - Alumina - Silica - Dense - Abrasion Resistant - Fast Setting - Fast Curing

PACKAGING		
Unit Equivalent	Bags: 1	Jugs: 1
Bag Weight*	56 lbs	25.4 kg
Jug Weight*	8 lbs	3.6 kg
Drum Weight*	400 lbs	181.4 kg
Unit Weight*	64 lbs	28.8 kg
Yield / Unit*	0.42 ft3	0.012 m3
Units / Ton*	31.45 short	34.66 metric
Board Feet / Unit*	5.1 bd ft	
Wet to Dry Ratio*	13.6% - 14.9%	
Liquid Activator	FORMULA	
Bags Per Pallet	48	
Drums Per Dry Pallet	1	

APPLICATION	
Data based on	Casting

BULK DENSITY**		
As Placed	150 lbs/ft3	2403 kg/m3
After 1500F (816C)	140 lbs/ft3	2243 kg/m3

MAXIMUM RECOMMENDED SERVICE TEMP**		
Hot Face	3000 F	1649 C

ABRASION RESISTANCE** (ASTM C-704)	
After 1500F (816C)	<20 cc loss

COMPRESSIVE STRENGTH**			
1500F (816C)	4000 psi	281 kg/cm2	28 N/mm2
2000F (1093C)	6000 psi	422 kg/cm2	41 N/mm2
2500F (1371C)	9000 psi	633 kg/cm2	62 N/mm2

PERMANENT LINEAR CHANGE**	
1500F (816C)	-0.20%
2000F (1093C)	-0.45%
2500F (1371C)	-0.50%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**	
Al2O3	50.62%
SiO2	29.08%
Fe2O3	0.70%
P2O5	5.41%
Other	14.19%
Total	100.00%

THERMAL CONDUCTIVITY**		
600F (316C)	8.5 Btu-in/hr-ft2-F	1.23 W/m K
1200F (649C)	9.1 Btu-in/hr-ft2-F	1.31 W/m K
1800F (982C)	9.5 Btu-in/hr-ft2-F	1.37 W/m K
2400F (1316C)	10.1 Btu-in/hr-ft2-F	1.45 W/m K

COLD MODULUS OF RUPTURE**			
1500F (816C)	850 psi	60 kg/cm2	6 N/mm2
2000F (1093C)	1500 psi	105 kg/cm2	10 N/mm2
2500F (1371C)	2250 psi	158 kg/cm2	16 N/mm2

HOT MODULUS OF RUPTURE**			
1500F (816C)	2150 psi	151 kg/cm2	15 N/mm2

*Measures are approximate and may vary. For mixing partial units, contact Stellar Materials for specific wet-to-dry ratios. See Installation Guide for more detailed information.

**Test data shown are based on averages subject to normal variation on individual tests, and therefore should not be assumed to be maximum or minimum specifications.

Due to the unique nature of the Stellar binder system, test procedures vary slightly from ASTM. Documentation of these variations is available upon request.