THERMBOND® REFRACTORIES

TECHNICAL DATA SHEET

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FORMULA 5

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: - High Alumina - Very Dense - Non-Wetting - Fast Setting - Fast Curing -

PACKAGING		
Unit Equivalent	Bags: 1	Jugs: 1
Bag Weight*	60 lbs	27.2 kg
Jug Weight*	8 lbs	3.6 kg
Drum Weight*	400 lbs	181.4 kg
Unit Weight*	68 lbs	30.7 kg
Yield / Unit*	0.39 ft3	0.011 m3
Units / Ton*	29.59 short	32.61 metric
Board Feet / Unit*	4.6 bd ft	
Wet to Dry Ratio*	12.7% - 13.9%	
Liquid Activator	FORMULA	
Bags Per Pallet	48	
Drums Per Dry Pallet	1	

APPLICATION	
Data based on	Casting

BULK DENSITY**		
As Placed	175 lbs/ft3	2803 kg/m3
After 1500F (816C)	165 lbs/ft3	2643 kg/m3

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

ABRASION RESISTANCE** (ASTM C-704)	
After 1500F (816C)	<10 cc loss

MOLTEN METAL CONTACT
- Aluminum - Zinc -

COMPRESSIVE STRENGTH**			
1500F (816C)	5500 psi	387 kg/cm2	38 N/mm2
2200F (1204C)	7500 psi	527 kg/cm2	52 N/mm2
2600F (1427C)	12000 psi	844 kg/cm2	83 N/mm2

PERMANENT LINEAR CHANGE**	
1500F (816C)	-0.20%
2000F (1093C)	-0.44%
2500F (1371C)	-1.62%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**	
Al2O3	85.21%
SiO2	2.31%
Fe2O3	1.06%
P2O5	5.21%
Other	6.20%
Total	100.00%

THERMAL CONDUCTIVITY**		
600F (316C)	14.8 Btu-in/hr-ft2-F	2.14 W/m K
1200F (649C)	12.7 Btu-in/hr-ft2-F	1.83 W/m K
1800F (982C)	12.1 Btu-in/hr-ft2-F	1.75 W/m K
2400F (1316C)	12.5 Btu-in/hr-ft2-F	1.80 W/m K

COLD MODULUS OF RUPTURE**			
1500F (816C)	1250 psi	88 kg/cm2	9 N/mm2
2200F (1204C)	1650 psi	116 kg/cm2	11 N/mm2
2600F (1427C)	3000 psi	211 kg/cm2	21 N/mm2

HOT MODULUS OF RUPTURE**			
1500F (816C)	2270 psi	160 kg/cm2	16 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.