



TECHNICAL DATA SHEET

For our detailed Installation Guide and more information, visit us at www.thermbond.com

ENGLISH

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FORMULA 18-R

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 Purity - Tabular Alumina - Very Dense - Non-Wetting - Fast Setting - Fast Curing

PACKAGING		
Unit Equivalent	Bags: 2	Jugs: 1
Bag Weight*	39 lbs	17.7 kg
Jug Weight*	8 lbs	3.6 kg
Drum Weight*	400 lbs	181.4 kg
Unit Weight*	86 lbs	38.8 kg
Yield / Unit*	0.45 ft3	0.013 m3
Units / Ton*	23.36 short	25.75 metric
Board Feet / Unit*	5.4 bd ft	
Wet to Dry Ratio*	10% - 11%	
Liquid Activator	FORMULA	
Bags Per Pallet	48	
Drums Per Dry Pallet	1	

APPLICATION	
Data based on	Ramming

BULK DENSITY**		
As Placed	190 lbs/ft3	3044 kg/m3
After 1500F (816C)	185 lbs/ft3	2963 kg/m3

MAXIMUM RECOMMENDED SERVICE TEMP**		
Hot Face	3300 F	1816 C

ABRASION RESISTANCE** (ASTM C-704)	
After 1500F (816C)	<6 cc loss

MOLTEN METAL CONTACT	
- Aluminum - Zinc - Iron - Steel	

COMPRESSIVE STRENGTH**			
1500F (816C)	8500 psi	598 kg/cm2	59 N/mm2
2700F (1482C)	10000 psi	703 kg/cm2	69 N/mm2

PERMANENT LINEAR CHANGE**	
1500F (816C)	-0.20%
2700F (1482C)	-1.00%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**	
Al2O3	93.94%
SiO2	0.04%
Fe2O3	0.12%
P2O5	3.39%
Other	2.51%
Total	100.00%

THERMAL CONDUCTIVITY**		
600F (316C)	18.2 Btu-in/hr-ft2-F	2.62 W/m K
1200F (649C)	15.3 Btu-in/hr-ft2-F	2.21 W/m K
1800F (982C)	14.5 Btu-in/hr-ft2-F	2.09 W/m K

COLD MODULUS OF RUPTURE**			
1500F (816C)	1200 psi	84 kg/cm2	8 N/mm2
2700F (1482C)	1300 psi	91 kg/cm2	9 N/mm2

HOT MODULUS OF RUPTURE**			
1500F (816C)	1500 psi	105 kg/cm2	10 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.