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ENGLISH

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# THERMBRAKE 403-G

Formerly Thermbrake Three-G

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:** - Silica - Light Weight - Fast Setting - Fast Curing - Insulating -

PACKAGING		
Bag Weight*	20 lbs	9.1 kg
Jug Weight*	8 lbs	3.6 kg
Drum Weight*	500 lbs	226.8 kg
Unit Weight*	30 lbs	13.6 kg
Yield / Unit*	0.38 ft <sup>3</sup>	0.011 m <sup>3</sup>
Units / Ton*	66.67 short	73.49 metric
Board Feet / Unit*	4.5 bd ft	
Wet to Dry Ratio*	50% - 55%	
Liquid Activator	THERMBRAKE	
Bags Per Pallet	64	
Drums Per Dry Pallet	1.5 (plus predampening jugs)*	

APPLICATION	
Data based on	Gunning

BULK DENSITY**		
As Placed	80 lbs/ft <sup>3</sup>	1281 kg/m <sup>3</sup>
After 1500F (816C)	60 lbs/ft <sup>3</sup>	961 kg/m <sup>3</sup>

MAXIMUM RECOMMENDED SERVICE TEMP**		
Hot Face	1800 F	982 C

COMPRESSIVE STRENGTH**			
1500F (816C)	550 psi	39 kg/cm <sup>2</sup>	4 N/mm <sup>2</sup>
2000F (1093C)	600 psi	42 kg/cm <sup>2</sup>	4 N/mm <sup>2</sup>
2500F (1371C)	175 psi	12 kg/cm <sup>2</sup>	1 N/mm <sup>2</sup>

PERMANENT LINEAR CHANGE**	
1500F (816C)	-0.70%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**	
Al <sub>2</sub> O <sub>3</sub>	11.61%
SiO <sub>2</sub>	61.01%
Fe <sub>2</sub> O <sub>3</sub>	1.31%
P <sub>2</sub> O <sub>5</sub>	17.89%
Other	8.18%
Total	100.00%

THERMAL CONDUCTIVITY**		
1000F (538C)	1.7 Btu-in/hr-ft <sup>2</sup> -F	0.25 W/m K
1300F (704C)	1.9 Btu-in/hr-ft <sup>2</sup> -F	0.27 W/m K
1600F (871C)	1.8 Btu-in/hr-ft <sup>2</sup> -F	0.26 W/m K
2100F (1149C)	2.2 Btu-in/hr-ft <sup>2</sup> -F	0.32 W/m K

COLD MODULUS OF RUPTURE**			
1500F (816C)	125 psi	9 kg/cm <sup>2</sup>	1 N/mm <sup>2</sup>
2000F (1093C)	80 psi	6 kg/cm <sup>2</sup>	1 N/mm <sup>2</sup>
2500F (1371C)	30 psi	2 kg/cm <sup>2</sup>	0 N/mm <sup>2</sup>

\*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.