THERMBOND® REFRACTORIES

TECHNICAL DATA SHEET

www.thermbond.com

USA:(561) 330-9300 STELLAR MATERIALS INCORPORATED EU:+31 (10) 2460264

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FORMULA 5-AG

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 - Abrasion Resistant - Non-Wetting - Fast Setting - Fast Curing -

PACKAGING

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*	0.44 ft3	0.012 m3
Units / Ton*	29.59 short	32.61 metric
Board Feet / Unit*	5.2 bd ft	
Wet to Dry Ratio*	12.7% - 13.9%	
Liquid Activator	FORMULA	
Bags Per Pallet	48	
Drums Per Dry Pallet	1 (plus predampening jugs)*	

APPLICATION***

Data based on	Gunning
Alternative Method***	Casting

BULK DENSITY**

As Placed	155 lbs/ft3	2483 kg/m3
After 1500F (816C)	145 lbs/ft3	2323 kg/m3

MAXIMUM RECOMMENDED SERVICE TEMP**

Hot Face	3000 F	1649 C

ABRASION RESISTANCE** (ASTM C-704)

After 1500F (816C)	<12 cc loss

MOLTEN METAL CONTACT

- Aluminum - Zinc -

COMPRESSIVE STRENGTH**

1500F (816C)	3000 psi	211 kg/cm2	21 N/mm2
2000F (1093C)	3750 psi	264 kg/cm2	26 N/mm2
2500F (1371C)	6500 psi	457 kg/cm2	45 N/mm2

PERMANENT LINEAR CHANGE**

1500F (816C)	-0.15%
2000F (1093C)	-0.35%
2500F (1371C)	-1.45%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**

Al2O3	85.75%
SiO2	1.96%
Fe2O3	0.95%
P2O5	5.15%
Other	6.19%
Total	100.00%

THERMAL CONDUCTIVITY**

600F (316C)	10.0 Btu-in/hr-ft2-F	1.44 W/m K
1200F (649C)	10.0 Btu-in/hr-ft2-F	1.44 W/m K
1800F (982C)	11.0 Btu-in/hr-ft2-F	1.59 W/m K
2400F (1316C)	11.2 Btu-in/hr-ft2-F	1.62 W/m K

COLD MODULUS OF RUPTURE**

1500F (816C)	650 psi	46 kg/cm2	4 N/mm2
2000F (1093C)	850 psi	60 kg/cm2	6 N/mm2
2500F (1371C)	1350 psi	95 kg/cm2	9 N/mm2

HOT MODULUS OF RUPTURE**

1500F (816C)	1750 psi	123 kg/cm2	12 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.

***Application by alternative method may produce somewhat different results.