THERMBOND® REFRACTORIES
TECHNICAL DATA SHEET
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FORMULA 2120-L

Formerly Formula 2120

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 - High Alumina - Very Dense - Abrasion Resistant - Non-Wetting - Fast Setting - Fast Curing - Longer Working Time

P R E L I M I N A R Y D A T A

PACKAGING		
Unit Equivalent	Bags: 1	Jugs: 1
Bag Weight*	76 lbs	34.5 kg
Jug Weight*	8 lbs	3.6 kg
Drum Weight*	400 lbs	181.4 kg
Unit Weight*	84 lbs	37.9 kg
Yield / Unit*	0.44 ft3	0.012 m3
Units / Ton*	23.92 short	26.37 metric
Board Feet / Unit*	5.3 bd ft	
Wet to Dry Ratio*	10% - 11%	
Liquid Activator	FORMULA	
Bags Per Pallet	48	
Drums Per Dry Pallet	1	

APPLICATION	
Data based on	Casting

BULK DENSITY**		
As Placed	190 lbs/ft3	3044 kg/m3
After 1500F (816C)	180 lbs/ft3	2883 kg/m3

MAXIMUM RECOMMENDED SERVICE TEMP**		
Hot Face	3100 F	1704 C

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

MOLTEN METAL CONTACT
- Iron - Steel

COMPRESSIVE STRENGTH**			
1500F (816C)	10000 psi	703 kg/cm2	69 N/mm2
2700F (1482C)	16000 psi	1125 kg/cm2	110 N/mm2

PERMANENT LINEAR CHANGE**	
1500F (816C)	-0.20%
2700F (1482C)	-0.90%

TYPICAL CHEMICAL ANALYSIS (After 1500F (816C))**	
Al2O3	85.66%
SiO2	2.32%
Fe2O3	0.82%
P2O5	3.39%
Other	7.81%
Total	100.00%

THERMAL CONDUCTIVITY**		
600F (316C)	16.9 Btu-in/hr-ft2-F	2.43 W/m K
1200F (649C)	14.3 Btu-in/hr-ft2-F	2.06 W/m K
1800F (982C)	13.5 Btu-in/hr-ft2-F	1.95 W/m K
2400F (1316C)	13.9 Btu-in/hr-ft2-F	2.00 W/m K

COLD MODULUS OF RUPTURE**			
1500F (816C)	1600 psi	112 kg/cm2	11 N/mm2
2700F (1482C)	2000 psi	141 kg/cm2	14 N/mm2

HOT MODULUS OF RUPTURE**			
1500F (816C)	1200 psi	84 kg/cm2	8 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.