



PRODUCT DATA

Brand Name: **FURNACUBED™ 85**

Description: A 85% alumina low-cement castable that offers excellent resistance to alkalis. It contains a non-wetting agent for aluminum contact, and it can be installed via vibration casting, pumping, and shotcreting methods.

Physical properties shown are average values of samples taken under controlled conditions
ASTM test methods used where applicable

Maximum Service Temperature: 2800°F (1538°C) 2200°F (1240°C) Aluminum Non-Wetting

Typical Water Required for Mixing (by weight) :

Vibration Casting	3.50 to 4.50%
Self Flow/Pump Casting	4.50 to 5.50%
Shotcrete	4.00 to 5.00%

Dry Material Required per Cubic Foot:

Vibration Casting	175 - 180 lbs
Self Flow/Pump Casting	171 - 176 lbs
Shotcrete.....	183 - 189 lbs

	Vibration Casting Data		Self Flow/Pump Casting Data		Shotcrete Data	
Bulk Density (pcf)						
After 220°F (105°C)	182 - 187	(2.92 - 3.00 g/cm ³)	176 - 182	(2.82 - 2.92 g/cm ³)	174 - 180	(2.79 - 2.88 g/cm ³)
After 1500°F (815°C)	180 - 185	(2.88 - 2.96 g/cm ³)	176 - 182	(2.82 - 2.92 g/cm ³)	176 - 182	(2.82 - 2.92 g/cm ³)
After 2000°F (1093°C)	180 - 185	(2.88 - 2.96 g/cm ³)	174 - 180	(2.79 - 2.88 g/cm ³)	173 - 179	(2.77 - 2.87 g/cm ³)
Cold Crushing Strength (psi)						
After 220°F (105°C)	15000 - 21000	(1050 - 1470 kg/cm ²)	9000 - 15000	(630 - 1050 kg/cm ²)	9000 - 15000	(630 - 1050 kg/cm ²)
After 1500°F (815°C)	27000 - 33000	(1890 - 2310 kg/cm ²)	23500 - 29500	(1645 - 2065 kg/cm ²)	12000 - 19000	(840 - 1330 kg/cm ²)
After 2000°F (1093°C)	29500 - 35500	(2065 - 2485 kg/cm ²)	24000 - 30000	(1680 - 2100 kg/cm ²)	17000 - 23000	(1190 - 1610 kg/cm ²)
Modulus of Rupture (psi)						
After 220°F (105°C)	2000 - 3000	(140 - 210 kg/cm ²)	1400 - 2400	(98 - 168 kg/cm ²)	1550 - 2550	(109 - 178 kg/cm ²)
After 1500°F (815°C)	4200 - 6200	(294 - 434 kg/cm ²)	4600 - 6000	(322 - 420 kg/cm ²)	2950 - 3950	(207 - 276 kg/cm ²)
After 2000°F (1093°C)	5600 - 7400	(392 - 518 kg/cm ²)	3800 - 5200	(266 - 364 kg/cm ²)	2500 - 3500	(175 - 245 kg/cm ²)
Thermal Conductivity (K Factor)	<u>BTU/ft²/hr/°F/inch</u>	<u>W/mK</u>	<u>BTU/ft²/hr/°F/inch</u>	<u>W/mK</u>	<u>BTU/ft²/hr/°F/inch</u>	<u>W/mK</u>
After 1500°F (815°C)	21.7	3.13	23.8	3.43	19.5	2.81
After 2000°F (1093°C)	22.2	3.20	20.5	2.96	19.5	2.81
Apparent Porosity (%)						
After 220°F (105°C)	7 - 11		9 - 13		12 - 16	
After 1500°F (815°C)	10 - 14		15 - 19		14 - 18	
Permanent Linear Change (%)						
After 1500°F (815°C)	-0.5 to 0.1		-0.4 to 0.2		-0.9 to -0.2	
After 2000°F (1093°C)	-0.3 to 0.3		-0.3 to 0.3		-0.6 to -0.0	

Typical Chemical Analysis (%)
(Calcined Basis)

Alumina (Al ₂ O ₃)	83.5
Silica (SiO ₂)	9.6
Lime (CaO)	2.8
Iron Oxide (Fe ₂ O ₃)	0.8
Titania (TiO ₂)	2.1
Magnesia (MgO)	0.2
Alkalis (Na ₂ O+K ₂ O)	1.4
Other	0.7

Standard Packaging: 55 lb bag. 72 bags per pallet. Bulk packaging available.
Brand Code: 1113

The properties shown on this data sheet represent typical average results using standard ASTM test methods (unless otherwise noted) conducted under controlled condition (using standard rectangular shapes), and should not be considered to be guaranteed specifications. Properties are subject to normal manufacturing statistical standard deviation ranges, and Resco Products, Inc. reserves the right to modify the properties and specifications at any time without prior notice.

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