

# Product Definition

Insulating Bricks and Slabs

Product :

**TG33-15**

Other names : 33-180, HR 33-180, RL33

Ref-date : 2009-9

Maximum Classified Temperature : **1 850 °C** Mark on the brick \* : TG33-15

Brand Code : G210

Description : Fused alumina bubbles bonded with mullite

Properties :	Standards	Units	Average μ	Std. Dev. s	Limits			
					Ti (lower)	Ts (upper)		
Classification :	ISO 2245		180					
Classification :	ASTM C155		33					
Bulk Density :	ISO 5016	g/cm <sup>3</sup>	1.5	0.08		1.7		
Cold Crushing Strength : (// to extrusion or perpendicular to pressing direction)	ISO 8895	MPa	10	2	7			
Permanent Linear Change : 12h at 1600 °C	ISO 2477	%	0		-1			
Chemical Analysis :	XRF	%						
			Al <sub>2</sub> O <sub>3</sub>	92		88		
			SiO <sub>2</sub>	7				
			Fe <sub>2</sub> O <sub>3</sub>	0.15			0.3	
			TiO <sub>2</sub>	0.1			0.2	
			CaO+MgO	0.2			0.4	
	Na <sub>2</sub> O+K <sub>2</sub> O	0.3			0.6			
Thermal Conductivity : (Through 114 mm dimension)	ASTM C182	W/m.K						
			200 °C					
			400 °C					
			600 °C			1.34		1.60
			800 °C			1.29		1.55
			1 000 °C			1.30		1.55
	1 200 °C		1.40		1.70			
Reversible Thermal Expansion : (20 °C to 1000 °C)	NF B40 308	%	0.8					
Pyroscopic Cone Equivalent :	ISO 528	°C	1 900					

Dimensional tolerances:	Standard Pieces		Non Standard Pieces
	N : Unmachined, S : Surfaced R : Machined 6 faces	Length Width Thickness Squareness	±1.5%, mini ±2mm ±1.5%, mini ±2mm N : ±2mm, S : ±1mm* 1mm / 100mm

Other Informations :	
Recommended Mortar :	Heatset : TC1850 S or TC1850 H (S = Dry, H = Ready to use) Airset : TH1850 S or TH1850 H (S = Dry, H = Ready to use)
Manufacturing Plant :	LIBOS (F47500)

Physical properties are based on averages of routine quality controls carried out from bricks 230 x 114 x 64 mm or 230 x 114 x 76 mm.  
Averages and standard deviations are indicative values, limits (Ti et Ts) are guaranteed values.

\* The marking is not contractual.

Frequency, Sampling, Acceptation Methods are detailed in our C.T.C./Q.P.D. (Document n° 8030).