

Typical Properties of Magnesium-Based Refractories

Samples	Mag-Chro brick-1	Mag-Chro brick-2	Mag-Chro brick-3	MgO-CaO-ZrO ₂ brick (95)
Apparent porosity (%)	16.7	16.9	16.5	17.1
Bulk density (g/cm ³)	3.02	3.04	3.07	3.07
Cold crushing strength (MPa)	58	52	65	56
Thermal expansion at 1000°C (%)	1.1	1.1	1.1	1.2
Hot modulus of rupture (MPa)				
at 1000°C	5.9	5.4	8.3	8.3
at 1400°C	3.9	4.0	7.2	6.5
Chemical composition (%)				
MgO	81.9	74.2	77.8	82.0
CaO	-	-	-	6.0
ZrO ₂	-	-	-	9.5
SiO ₂	1.5	1.8	1.3	-
Al ₂ O ₃	5.0	7.2	5.2	-
Fe ₂ O ₃	3.6	4.4	4.6	-
Cr ₂ O ₃	7.2	11.3	10.0	-

Source: UNITECR '97 Proceedings.