Illustrative Mechanical Properties of Bonded MgO+C Composite Refractory Bricks (U.S. Supplier Data)

Mineral Comp'n.	Initial Bond	Coked % C	Coked B.D., g/cm³	Coked POR, %	Uncoked MOR, kg/cm²	Hot (Coked) @ (T°C)	MOR, kg/cm² @ (T°C)
97M[a]	Pitch	4.9[b]	3.0	12	85	210 (1095)	350 (1540)
96M	Pitch	4.4[b]	3.1	9	120	120 (1095)	
94M	Pitch	4.5[b]	3.1	8	105	110 (1095)	140 (1400)
94M	Resin	9.0	3.0	8	140		125 (1400)
92M	Pitch	10.0	3.0	8	105	120 (1095)	175 (1400)
90M	Resin	9.5[c]	2.9	11.5	175	160 (1095)	210 (1540)
97M	Resin	19.5	2.8	8.5	75	55 (1095)	40 (1400)
94M	Resin	20.5	2.8	8.5	105	50 (1095)	50 (1400)
90M	Resin	18.0	2.8	11	100	85 (1095)	125 (1540)
95M	Resin	26.5	2.7	12	75	65 (1095)	60 (1540)

Notes: a – 97M=97% MgO; etc.
b – Carbon exclusively from pitch. In all other cases, from added graphite.
c – Contains deoxidant metal powder.
Source: *Handbook of Industrial Refractories Technology.* Noyes Publications, 1992.