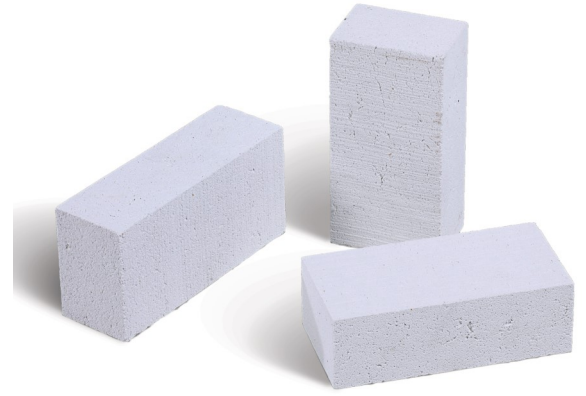


JM[®] Insulating Firebrick Series

Product Data Sheet



Product Description

The JM Insulating Firebrick (IFB) Series are made from high-purity refractory clays, with graduated additions of alumina for the higher temperature products, and a carefully graded organic filler, which burns out during manufacture to give a uniform, controlled pore structure. Each brick is machined to precise tolerances on all six faces.

Our JM IFB series are industry leaders in applications such as Petrochemical, Metals, Ceramics, and Glass where the ability to operate in environments with a classification temperature up to 1650°C (3000°F) is critical.

With low thermal conductivity, due to the unique manufacturing process, the IFB's deliver the perfect balance of low density and homogenous porosity.

Our IFB range - JM, K, and TJM - delivers big energy savings for many markets and our global manufacturing footprint enables Morgan to meet your regional and global application demands.

Features

- Low thermal conductivity
- High purity, consistent raw materials
- High hot compressive strength
- Dimensional integrity
- Large bricks or slabs and special shapes available
- Purpose-designed packaging protects bricks in transit and facilitates on-site handling

Applications

- Aluminium anode bake furnaces, primary electrolytic cells, holding and melting furnaces and secondary remelt furnaces
- Petrochemical heaters, flues, refining vessels and reactor chambers
- Iron and steel industry hot blast furnace stoves, hot blast main and bustle pipe, heat treatment and galvanizing furnaces
- Ceramic industry, including kilns for domestic and laboratory use
- Glass industry
- Hot Face and Backup insulation in industrial furnaces

JM[®] Insulating Firebrick Series

Product Data Sheet



Properties	JM 23 IFB	JM 25 IFB	JM 26 IFB	JM 26HD IFB	JM 28 IFB	JM 30 IFB	JM 30HA IFB
ISO 2245 Classification	125 0.5L	-	140 0.8L	-	150 0.9L	160 1.0L	-
Classification Temperature, °C (°F)	1260 (2300)	1350 (2450)	1430 (2600)	1400 (2600)	1540 (2800)	1650 (3000)	1650 (3000)
Brick markings	23	25	26	26-HD	28	30	30 HA
Density, kg/m³ (pcf), ASTM C134	480 (29.95)	770 (48.05)	800 (49.92)	920 (57.41)	890 (55.54)	1020 (63.65)	1250 (78.00)
Modulus of rupture, MPa (psi), ASTM C133	1 (145)	1 (145)	1.5 (217.5)	2.2 (319)	1.8 (261)	2 (290)	2.1 (304.57)
Cold Crushing strength, MPa (psi), ASTM C133	1 (145)	1.3 (188.5)	1.6 (232)	3.5 (507.5)	2.1 (304.5)	2.3 (333.5)	3.2 (464.12)
Linear Shrinkage, % after 24 hours soaking, ASTM C210							
1230°C (2246°F)	-0.4	-	-	-	-	-	-
1290°C (2354°F)	-	-0.2	-	-	-	-	-
1400°C (2552°F)	-	-	-0.2	-0.3	-	-	-
1510°C (2750°F)	-	-	-	-	-0.4	-	-
1620°C (2948°F)	-	-	-	-	-	-0.6	±0.1
Chemical Analysis, %							
Alumina, Al ₂ O ₃	37	58	58	58	67.1	73.4	79.7
Silica, SiO ₂	45.5	38	38.8	38.8	30.0	24.6	18.0
Iron Oxide, Fe ₂ O ₃	0.9	0.9	0.8	0.8	0.60	0.50	0.40
Titanium Oxide, TiO ₂	0.5	0.4	0.3	0.3	0.5	0.50	0.3
Calcium Oxide, CaO	15.2	0.2	0.1	0.1	0.1	Trace	0.1
Alkali as, MgO + Na ₂ O + K ₂ O	1.9	1.8	1.9	1.9	1.0	0.90	0.7
Thermal Conductivity, W/m·K (BTU·in/hr·ft²·°F), ASTM C182							
400°C (752°F)	0.14 (0.97)	0.24 (1.67)	0.25 (1.73)	0.33 (2.29)	0.3 (2.08)	0.38 (2.64)	0.47 (3.26)
600°C (1112°F)	0.16 (1.11)	0.25 (1.73)	0.27 (1.87)	0.35 (2.43)	0.32 (2.22)	0.39 (2.71)	0.48 (3.33)
800°C (1472°F)	0.17 (1.18)	0.27 (1.87)	0.3 (2.08)	0.37 (2.57)	0.34 (2.36)	0.4 (2.78)	0.49 (3.40)
1000°C (1832°F)	0.19 (1.32)	0.3 (2.08)	0.33 (2.29)	0.39 (2.70)	0.36 (2.50)	0.41 (2.84)	0.5 (3.47)
1100°C (2012°F)	-	-	0.33 (2.29)	-	0.36 (2.50)	0.42 (2.91)	0.51 (3.54)

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials - Thermal Ceramics.