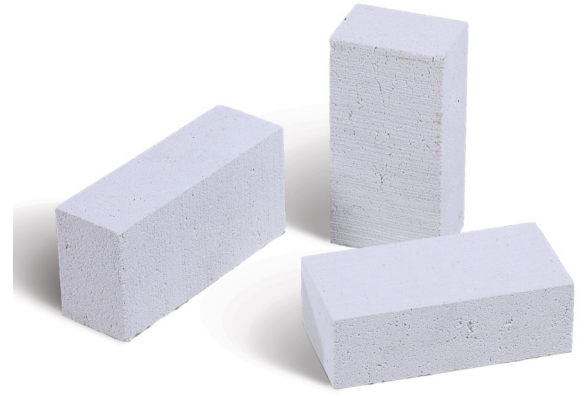


# K™ Insulating Firebrick Series

## Product Data Sheet



### Product Description

The K Insulating Firebrick (IFB) Series are made through a process that creates a matrix of microporosity that produces low thermal conductivity and excellent thermal shock characteristics. The thermal properties of the K IFB series is a result of the high-temperature firing. This firing process results in an anorthite mineralogy that provides excellent strength at operating temperatures and resistance to coercive alkali environments.

Our K 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 1790°C (3250°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
- Hobby kilns
- Ceramic industry, including kilns for domestic and laboratory use
- Glass industry
- Hot Face and Backup insulation in industrial furnaces

# K™ Insulating Firebrick Series

## Product Data Sheet



Properties	K 23	K 25	K 26	Insalcor
<b>ISO 2245 Classification</b>	-	-	-	180 1.3L
<b>Classification Temperature, °C (°F)</b>	1315 (2400)	1370 (2500)	1430 (2600)	1790 (3250)
<b>Brick markings</b>	23	25	26	-
<b>Density, kg/m<sup>3</sup> (pcf), ASTM C134</b>	513 (32.0)	617 (38.5)	657 (41.0)	1314 (82.0)
<b>Modulus of rupture, MPa (psi), ASTM C133</b>	0.79 (114.5)	0.95 (137.7)	0.9 (130.5)	2.4 (350.0)
<b>Cold Crushing strength, MPa (psi), ASTM C133</b>	1 (145)	1.3 (188.5)	1.3 (188.5)	6.9 (1000)
<b>Linear Shrinkage, % after 24 hours soaking, ASTM C210</b>				
1230°C (2246°F)	-0.1	-	-	-
1350°C (2462°F)	-	-0.3	-	-
1400°C (2552°F)	-	-	-1.00	-
5 hours, 1730°C (3146°F)	-	-	-	0.4
<b>Chemical Analysis, %</b>				
Alumina, Al <sub>2</sub> O <sub>3</sub>	38.3	47	51	77
Silica, SiO <sub>2</sub>	44.3	38	35	21
Ferric oxide, Fe <sub>2</sub> O <sub>3</sub>	0.3	0.2	0.4	0.4
Titanium oxide, TiO <sub>2</sub>	1.6	1.4	1.4	0.6
Calcium oxide, CaO	15	13.5	11.0	0.1
Alkali as, MgO + Na <sub>2</sub> O + K <sub>2</sub> O	0.5	0.5	0.4	0.4
<b>Thermal Conductivity, W/m·K, ASTM C182</b>				
260°C	0.13	0.15	0.2	0.79
540°C	0.17	0.18	0.23	0.8
815°C	0.2	0.2	0.26	0.91
1100°C	0.24	0.22	0.29	1.09
1370°C	-	-	0.31	1.33
<b>Thermal Conductivity, BTU·in/hr·ft<sup>2</sup>·°F, ASTM C182</b>				
500°F	0.90	1.04	1.39	5.48
1000°F	1.18	1.25	1.60	5.55
1500°F	1.39	1.39	1.80	6.31
2012°F	1.67	1.53	2.01	7.56
2500°F	-	-	2.15	9.23

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.