

Data sheet

ENGLISH

IFB Structural Range: Temperatures 1200 - 1430°C (2190 - 2600°F)

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Description

The Structural Range of IFB for applications where temperatures are 1200°C - 1430°C (2200°F - 2600°F).

These products offer superior performance in load bearing applications and in conditions where resistance to mechanical stress is needed together with good insulation.

Our Structural Range of IFB deliver significant energy savings for many markets. Our worldwide footprint enables us to meet your regional and global application demands via a global network of sales and engineering experts.

Type

Insulating firebricks.

Classification temperature

- 1200°C (2200°F)
- 1260°C (2300°F)
- 1300°C (2400°F)
- 1400°C (2550°F)
- 1430°C (2600°F)

Maximum continuous use temperature

The maximum continuous use temperature depends on the application. Please contact your local Morgan Advanced Materials representative for technical advice and guidance.

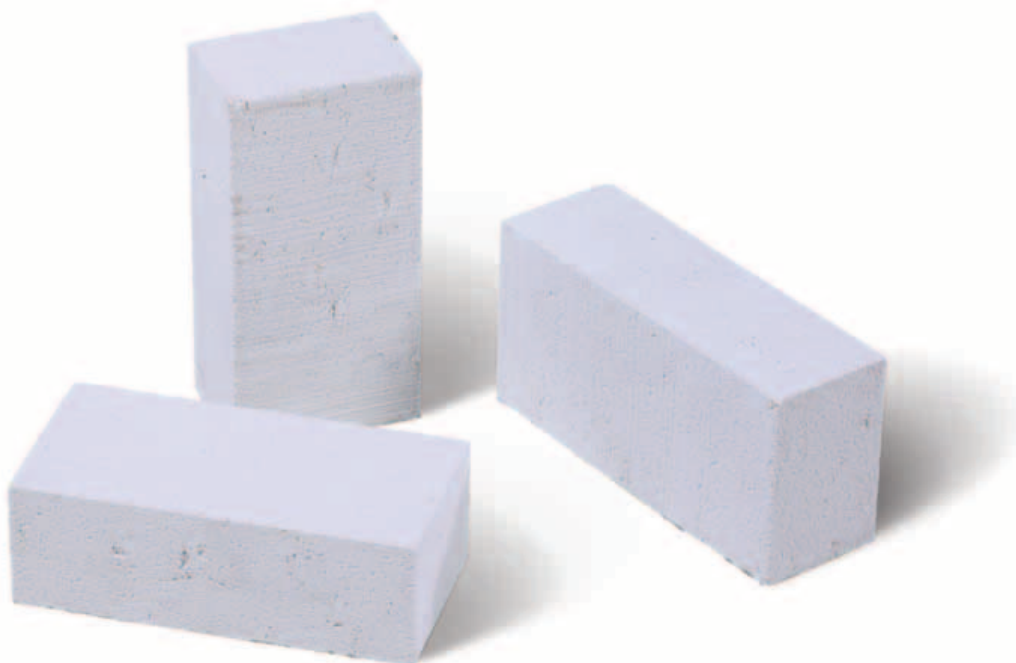
Features:

- Different production processes are in place with a common goal of delivering a product which provides both mechanical and thermal properties
- The light weight and low thermal conductivity reduce heat absorption, producing significant energy savings and emissions
- Low iron and alkali flux content gives high refractoriness under load in operating conditions
- Available in multiple sizes, up to 700mm (27½") in length and 100mm (4") thickness, which can be machined into special shapes or installed, reducing the need for multiple sections and joints
- A comprehensive range of mortars is available to enable long last joints with superior performance

Typical Applications

Hot face refractory lining or as back-up insulation in:

- Aluminium (anode bake furnaces, primary electrolytic cells, holding and melting furnaces and secondary re-melt furnaces)
- Petrochemical (kilns, flues, refining vessels and heaters and reactor chambers)
- Iron and steel industry (heat treatment and galvanising)
- Coke and iron making (blast furnaces, hot blast stoves, hot blast and bustle main)
- Ceramic industry (including kilns for domestic use)
- Glass industry
- Power generation



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Metric and Imperial information

IFB Structural Range: Temperatures 1200 - 1430°C (2190 - 2600°F)

	TJM™B4	K®23 HS	TJMB5	TJMC1	TJM26C	TJMB6	TJMC2	JM™26 HD
Manufacturing Method	Extrusion	Cast	Extrusion	Extrusion	Extrusion	Extrusion	Extrusion	Slinger
Manufacturing Location	Asia	NA	Asia	Asia	Asia	Asia	Asia	EU
Product Identification - printed on brick	-	-	-	-	-	-	-	26-HD
Physical Properties								
Classification Temperature, °C (°F)	1200 (2200)	1260 (2300)	1300 (2400)	1300 (2400)	1400 (2550)	1400 (2550)	1400 (2550)	1400 (2550)
Density, kg/m ³ (pcf), ASTM C-134	800 (49.92)	714 (44.55)	800 (49.92)	1000 (62.4)	800 (49.92)	800 (49.92)	1100 (68.64)	920 (57.41)
Modulus of Rupture, Mpa (psi), ASTM C-133	1.2 (174)	1.2 (174)	1.2 (174)	2.1 (304.5)	1.2 (174)	1.8 (261)	3 (435)	2.2 (319)
Cold Crushing Strength, Mpa (psi), ASTM C-133	2 (290)	2.8 (406)	2 (290)	3.5 (507.5)	1.8 (261)	2.5 (362.5)	4 (580)	3.5 (507.5)
Permanent Linear Shrinkage, (ASTM C-210) % after 24 hrs Soaking								
@ 1200°C (2192°F)	-1	-	-	-	-	-	-	-
@ 1230°C (2246°F)	-	-0.1	-	-	-	-	-	-
@ 1300°C (2372°F)	-	-	-0.5	-0.5	-	-	-	-
@ 1400°C (2552°F)	-	-	-	-	-0.8	-0.5	-0.5	-0.3
Reversible Linear Expansion, max. %	0.7	-	0.7	0.7	0.7	0.7	0.7	0.7
Deformation under hot load, % after 90 min. (ASTM C-16) (JM brick tested according to ISO 3187)								
1100°C @ 0.034 Mpa (2012°F @ 5 psi)	0.2	-	0.2	0.1	0.1	-	-	-
1260°C @ 0.069 Mpa (2300°F @ 10 psi)	-	-	-	-	0.7	0.3	0.2	0.1
Thermal Conductivity, W/m·K (BTU·in/hr·ft²·°F), ASTM C-182								
200°C (392°F)	0.24	-	0.2	0.28	0.25	0.28	0.34	-
260°C (500°F)	-	0.17	-	-	-	-	-	-
400°C (752°F)	0.26	-	0.24	0.3	0.27	0.29	0.36	0.33
540°C (1004°F)	-	0.2	-	-	-	-	-	-
600°C (1112°F)	0.28	-	0.3	0.34	0.29	0.32	0.38	0.35
800°C (1472°F)	0.3	-	-	0.38	0.32	0.36	0.42	0.37
815°C (1500°F)	-	0.23	-	-	-	-	-	-
1000°C (1832°F)	0.34	-	-	0.42	0.36	0.4	0.46	0.39
1100°C (2012°F)	-	0.27	-	-	-	-	-	-
Chemical Composition, %								
Al ₂ O ₃	45	38	45	45	50	55	55	58
SiO ₂	50	48	48	49	45	41	41	38.8
Fe ₂ O ₃	1	0.6	1	0.9	0.9	0.9	0.9	0.8
TiO ₂	0.6	1.5	0.6	-	0.6	-	-	0.3
CaO	0.5	11	0.5	-	0.4	-	-	0.1
MgO	0.2	-	0.2	-	0.2	-	-	-
MgO + Na ₂ O + K ₂ O	-	0.7	-	-	-	-	-	1.9
Na ₂ O + K ₂ O	1	-	1	1	-	0.9	1	-

Contact
Europe:

 Telephone:
+44 (0) 151 334 4030

 E-mail:
marketing.tc@morganplc.com

North America:

 Telephone:
+1 (706) 796 4200

 E-mail:
northamerica.tc@morganplc.com

South America:

 Telephone:
+54 (11) 4373 4439

 E-mail:
marketing.tc@morganplc.com

Asia:

 Telephone:
+65 6595 0000

 E-mail:
asia.mc@morganplc.com

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