

IFB above 2600°F (1427°C) - TC™-26, JM™-28, JM-30 IFB

Datasheet Code US: 1-14-2

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Product Description

Thermal Ceramics insulating firebrick over 2600°F (1427°C) are produced from slinger manufacturing process. During the high temperature firing, a ceramic bond is formed producing IFB that are very stable and strong at temperatures up to 2600°F (1427°C) and over.

High temperature IFB include:

TC™-26 are 2600°F (1427°C) rated

- Good hot strengths
- Low shrinkage

JM™-28 are 2800°F (1538°C) rated

- Very good hot strengths
- Low shrinkage

JM-30 are 3000°F (1649°C) rated

- Excellent refractoriness up to use temperature
- Good crushing strength

Applications

- Atmosphere furnace
- Forge furnaces
- Ethylene furnace sidewalls
- Ceramic kilns
- High temperature back-up insulation
- Carbon baking furnaces
- High temperature kiln linings
- Removable furnace doors



Features

- Operating use limits up to 3000°F (1649°C)
- Excellent strength and thermal stability
- Low heat storage
- High purity
- Excellent thermal conductivity

Standard Sizes, in (mm)

9 x 4-1/2 x 2-1/2 (229 x 114 x 63)

9 x 4-1/2 x 3 (229 x 114 x 76)

9 x 6-3/4 x 3 (229 x 172 x 76)

IFB and Firebrick Product Name	TC-26	JM-28	JM-30
Material Class	Crystalline Silica	Crystalline Silica	Crystalline Silica
Physical Properties			
Color	off white	off white	off white
Hot Face use Temperature, °F	2600	2800	3000
Hot Face use Temperature, °C	1427	1538	1649
Coefficient of reversible thermal expansion, in/in•°F	-	3.4	3.5
Printed brick identifier	26	28	30
Density, ASTM C 134, pcf			
fired	49	55	65
lb/9 in straight	2.8	3.2	3.8
Density, ASTM C 134, kg/m³			
fired	785	890	1041
kg/229 mm straight	1.3	1.46	1.72

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Material Class	Crystalline Silica	Crystalline Silica	Crystalline Silica
Physical Properties			
Modulus of Rupture, MOR, ASTM C 133, psi			
ambient	175	220	275
Modulus of Rupture, MOR, ASTM C 133, MPa			
ambient	1.2	1.5	1.9
Cold crushing strength, CCS, ASTM C 133, psi			
ambient	250	275	375
Cold crushing strength, CCS, ASTM C 133, MPa			
ambient	1.7	1.9	2.6
Deformation under hot load, ASTM C 16, 10 psi (0.07 MPa), %			
1.5 hrs @ 2200°F (1204°C)	0.2	0.1	-
1.5 hrs @ 2400°F (1315°C)	-	0.2	0.3
Permanent Linear Shrinkage, ASTM C 210, 24 hours, %			
2450°F (1343°C)	-0.2	-	-
2550°F (1400°C)	-0.9	-	-
2750°F (1510°C)	-	-0.5	-
2950°F (1620°C)	-	-	-0.7
3150°F (1732°C)	-	-	-0.4
Chemical Analysis, % weight basis after firing			
Alumina, Al ₂ O ₃	47	67	70
Silica, SiO ₂	49.5	30.5	28
Ferric Oxide, Fe ₂ O ₃	0.7	0.5	0.3
Titanium Oxide, TiO ₂	1.3	0.6	1.2
Calcium Oxide, CaO	0.3	0.3	0.2
Magnesium Oxide, MgO	0.1	0.1	0.1
Alkalies as Na ₂ O and K ₂ O	1.8	1.0	0.2
Thermal Conductivity, BTU•in/hr•ft², per ASTM C201			
Mean temperature @500°F	1.6	2.3	2.8
1000°F	1.9	2.4	2.9
1500°F	2.2	2.5	3.1
2000°F	2.6	2.6	3.3
2500°F	-	2.7	3.5
Thermal Conductivity, W/m•K, per ASTM C201			
Mean temperature @260°C	0.23	0.33	0.4
538°C	0.27	0.34	0.42
815°C	0.32	0.36	0.45
1093°C	0.37	0.37	0.47
1371°C	-	0.38	0.49

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