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Insulating Fire Brick

Armil CFS carries several grades of insulating firebrick for use in applications up to 3200°F. Each type is formulated to meet specific thermal and physical requirements, and after firing is machined to precise tolerances. Made from high purity refractory clays and other ceramic raw materials, these IFB are manufactured to provide a uniform, controlled pore structure. ***All off the following IFB are low iron*.** **BNZ 23HS** is a high strength ASTM 23 Grade. The higher strength and density make this brick an excellent choice for furnaces utilizing a controlled atmosphere**.** **C22Z** are a higher strength IFB typically used in load bearing applications. **BNZ 26** is the standard ASTM Grade 26 used in higher temperature applications, such as in forging furnaces or ceramic kilns. **BNZ 28** is the traditional ASTM Grade 28, often used in higher temperature kilns or reheat furnaces. **BNZ 3000** has long been the standard for true ASTM Grade 30 brick. Its low reheat shrinkage at testing temperature of 2950°F is an indication of its ability to tolerate excursions above normal operating temperatures in applications such as strip annealing furnaces. **BNZ 32** is a reasonably priced alternative to bubbled alumina brick in many high temperature applications or where high alumina content is required.
All BNZ Insulating Firebrick is manufactured in the USA

Typical Data	**BNZ 23HS**	**C22-Z**	**BNZ 26**	**BNZ 28**	**BNZ 3000**	**BNZ 32**
ASTM Classification	23	23	26	28	30	32
Temperature Use Limit	2300°F	2300°F	2600°F	2800°F	3000°F	3200°F
Density *ASTM C 134*	42 pcf	46 pcf	48 pcf	55 pcf	65 pcf	75 pcf
Modulus of Rupture *ASTM C 133*	140 lb/in²	210 lb/in²	200 lb/in²	220 lb/in²	250 lb/in²	300 lb/in²
Cold Crushing Strength *ASTM C 133*	190 lb/in²	320 lb/in²	270 lb/in²	340 lb/in²	440 lb/in²	450 lb/in²
Permanent Linear Change *ASTM C 210* *24 hrs at soaking temp*	0.0 @2250°F	0.0 @2250°	-0.1 @2550°F	-0.7 @2750°F	-0.7 @2950°F	-0.4 @3150°F
Reversible Linear Thermal Expansion @ 2000°F	0.6	0.6	0.6	0.65	0.65	O.65
Hot Load Strength *ASTM C 16* *10 psi load for 1-1/2 hours* *% deformation*	0.0 @2000°F	0.0 @2000°F	0.2 @2200°F	0.1 @2200°F	0.3 @2400°F	0.2 @2400°F
Thermal Conductivity *ASTM C 182* *Btu-in/ft²,hr,°F*						
500°F	1.2	1.5	1.6	2.3	2.8	3.9
1000°F	1.5	1.8	1.9	2.4	2.9	4.1
1500°F	1.7	2.2	2.2	2.6	3.1	4.2
2000°F	2.0	2.5	2.6	2.7	3.3	4.3
Chemical Analysis						
Al_2O_3	38.8	38.8	47.0	67.0	69.9	78.3
SiO2	47.8	47.8	48.6	30.5	28.1	20.7
Fe2O3	0.4	0.4	0.7	0.3	0.3	0.2
TiO2	1.6	1.6	1.3	0.9	1.2	0.5
CaO	10.9	10.9	0.3	0.3	0.2	0.1
MgO	0.2	0.2	0.1	0.0	0.1	0.1
Alkalies	0.3	0.3	2.0	1.0	0.2	0.1