



Our grades of Insulating Fire Brick (IFB) are designed for use in applications from 1100°C up to 1760°C, also matching specific thermal and physical requirements. For most severe applications, 33 and 34 grades are available upon request

Advantages

High Insulating Value. The light weight and high insulating value of IFB make possible an improved efficiency of lining.

Strong. The high compressive strength of IFB allows for stronger lining construction.

Low Heat Storage. Low density and low conductivity reduce heat storage, allowing for faster process schedules and reduced energy costs of shuttle furnaces.

High Purity. IFB grades are low in impurities, such as iron, which can damage the performance in many applications. Some bricks (for example, the 26-60 grade) are particularly designed for furnaces with special atmosphere, such as the ones with the presence of high quantity of Hydrogen.

Chemical Stability. Some grades are particularly designed for furnaces where CO resistance is required, and for electrolytic cells in aluminum industry for resistance to liquid aluminum and to fluorinated sodium products.

Accurate Dimensions. As IFB are machined to precise dimensions (on all faces, to assure the compliance to severe dimensional and squareness tolerances), installation of strong and tight lining is fast and easy.

Typical Applications

Recommended for use in primary hot face refractory linings as well as back-up insulation behind other refractory lining, in applications such as

- Petrochemical furnaces;
- Furnaces for ceramic industry (ceramic tiles and sanitary ware);
- Hot blast stoves, coke ovens and heat-treatment furnaces in steel industry;
- Galvanizing lines;
- Anode baking furnaces and reduction cells in aluminum industry;
- Furnaces for glass industry;
- Power plants.

Available Forms

Standard Bricks Series are based on five basic dimensions (mm)

- 230x114x64 (NF1)
- 230x114x76 (NF1-76)
- 250x124x64 (NF2)
- 250x124x76 (NF2-76)
- 220x110x60 (NF0).

Slabs are large solid bricks up to 610x230x64, 610x230x76, 640x250x64, 640x250x76 mm, particularly used for manufacturing special shapes with less mortar joints, and for covering burner or flue gas openings. The formats 500x230x64, 500x230x76, 500x250x64, 500x250x76 are popular as well.

Jumbo Blocks are large solid blocks with surfaces such as 600x400, 600x500, 800x500 mm, with usual thicknesses 64, 76, 100 and sometimes 120 mm, particularly used in the glass industry.

Suspended Roof Block and BB-Blok. IFB blocks, usually 130 or 154 mm thick, are largely used for suspended arches of Roller Kilns in Ceramic Industry and for Petrochemical Furnaces. While traditional suspended roof blocks have a Metallic Anchor System, BB-Blok Modules have a Ceramic Anchor System, allowing for unique protection to corrosion of the anchor, and for much lower arch thickness, very important for reducing the heat storage of arches of shuttle kilns.

Standard Shapes. End arches, side arches, keys, skewbacks.

Special Shapes. IFB shapes with drilled holes, grooves, tapers, and other, are possible in most IFB Grades.

Design

Classification Temperatures should be considered together with other properties in determining the proper grade for each application. The hot load deformation along with the mean temperature (i.e. the temperature at the midpoint of the brick) is an important feature to assure a successful application.

Please consult UNIC or UNISTARA Sales Engineers for recommendation on best combination of products for your furnace conditions.

Complementary Mortars

UNIC and UNISTARA manufacture a range of air-setting refractory mortars for laying porous Insulating Fire Brick and Super Insulating Brick as well as Dense Refractory Brick.

Please consult UNIC or UNISTARA Sales Engineers for the correct recommendation of the proper mortar.