



TECHNICAL DATA SHEET

Hard FireBrick

DESCRIPTION:

Hard Refractory Bricks, also known as: Super Duty, High Duty, or High Alumina bricks, are a heavy, dense, and durable refractory brick. The bricks are fired to 1450-1470C using an advanced process with strict quality compliance. These bricks retain heat and are structural, not insulating in comparison to their more porous insulating fire brick (IFB) counterparts. Special tools, such as a tile or brick saw, are required for cutting and modifying the bricks.



Benefits

- High Temp performance and firing
- Excellent acid and vase slagging resistance
- Excellent thermal shock resistance and mechanical strength
- Great corrosion and wear resistance
- Prolongs lives of furnaces
- High bulk density
- Low iron content

Typical Applications

- Industrial furnaces, boilers, and high temperature areas
- Blast furnaces and hot blast stove
- Electric arc furnace roofs
- Coke oven and quench tower
- Soaking pit and kilns
- mining and metallurgy
- Chemical and refinery industries
- Cement and refractory industries

Technical Specifications Board

Properties	Unit	High Duty	Super Duty	High Alumina
Classification Temperature	°F °C	2900 1593	3000 1650	3254 1790
Density ASTM C 134	lb/ft ³ g/cm ³	130-139 N/A	141 2.26	161 2.58
Modulus of Rupture ASTM C 133	lb/in ² MPa	900 -1500	900 - 1500 6.2 - 10.3	1970 13.6
Cold Crushing Strength ASTM C 210	lb/in ² MPa	2500-4000	3000 - 5000 20.7 - 34.5	9000 62.1
Apparent Porosity ASTM C 830	%	13-18	14-19	15.5
Chemical Composition %	Al ₂ O ₃ SiO ₂ TiO ₂ Fe ₂ O ₃ CaO MgO P ₂ O ₅ Alkalies, as Na ₂ O & K ₂ O SiO	38.40 - 2.80 - .21 .61 - .98 55.20	41.5 52.8 2.86 1.89 0.03 0.20 0.00 0.93 -	67.3 26.2 2.50 1.40 0.20 0.30 1.60 0.50 -