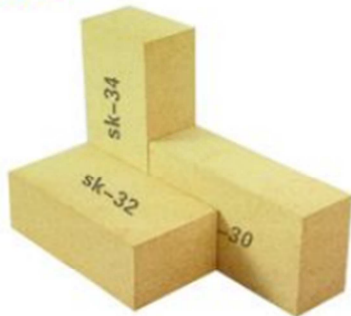


## FIRECLAY BRICKS



### PROPERTIES

- Alumina content in fireclay bricks approximate 28-45% are classified to Medium-duty Fireclay brick, High-duty Fireclay brick and Super-duty Fireclay brick.
- Alumina content in fireclay bricks between about 10-28% are classified to low alumina fireclay brick.
- Good thermal shock and spalling resistance.
- Good resistance to abrasion and corrosion.
- Good volume stability at high temperature.
- High mechanical strength.

### APPLICATIONS

The main applications for fireclay brick are listed below:

- Furnace construction
- Blast furnace/Hot blast stove
- Steel foundries
- Furnace in the nonferrous metal industry
- Coke oven and gas furnace
- Glass industry
- Cement industry
- Safty lining of ladle
- Backup lining of boiler

## SK30

### CLASSIFICATION: MEDIUM-DUTY FIRECLAY BRICK

#### PHYSICAL PROPERTIES

|                                      |                    |             |
|--------------------------------------|--------------------|-------------|
| Pyrometric cone equivalent           | Orton cone         | 29-30       |
| Refractoriness                       | °C                 | 1,670       |
| Bulk Density                         | kg/m <sup>3</sup>  | 2,100-2,150 |
| Apparent Porosity                    | %                  | 22.0-26.0   |
| Cold crushing strength               | MPa                | 22-25       |
| Modulus of rupture                   | Kg/cm <sup>2</sup> | 55-70       |
| Reheat test, Permanent linear change |                    |             |
| After heating at 1,400°C             | %                  | 0.0-0.06    |

#### THERMAL EXPANSION

|            |   |      |
|------------|---|------|
| At 800°C   | % | 0.55 |
| At 1,000°C | % | 0.60 |
| At 1,200°C | % | 0.70 |
| At 1,400°C | % | 0.71 |

#### CHEMICAL COMPOSITION: (APPROXIMATE)

|  |   |      |
|--|---|------|
| Silica (SiO <sub>2</sub> )                                       | % | 64.1 |
| Alumina (Al <sub>2</sub> O <sub>3</sub> )                        | % | 31.8 |
| Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )                     | % | 2.2  |
| Calcium Oxide (CaO)  | % | 0.4  |
| Alkalines (Na <sub>2</sub> O+K <sub>2</sub> O+Li <sub>2</sub> O) | % | 0.5  |

★All the technical data are typical of the properties of commercial standard brick. The data are subject to reasonable variation, should not be used for specification purpose.

## SK32

### CLASSIFICATION: HIGH-DUTY FIRECLAY BRICK

#### PHYSICAL PROPERTIES

|                                      |                    |             |
|--------------------------------------|--------------------|-------------|
| Pyrometric cone equivalent           | Orton cone         | 31-32       |
| Refractoriness                       | °C                 | 1,715       |
| Bulk Density                         | kg/m <sup>3</sup>  | 2,150-2,200 |
| Apparent Porosity                    | %                  | 22.0-24.0   |
| Cold crushing strength               | MPa                | 22-32       |
| Modulus of rupture                   | Kg/cm <sup>2</sup> | 55-70       |
| Reheat test, Permanent linear change |                    |             |
| After heating at 1,400°C             | %                  | 0.0-0.2     |

#### THERMAL EXPANSION

|            |   |      |
|------------|---|------|
| At 800°C   | % | 0.50 |
| At 1,000°C | % | 0.60 |
| At 1,200°C | % | 0.70 |
| At 1,400°C | % | 0.72 |

#### CHEMICAL COMPOSITION: (APPROXIMATE)

|  |   |      |
|--|---|------|
| Silica (SiO <sub>2</sub> )                                       | % | 57.8 |
| Alumina (Al <sub>2</sub> O <sub>3</sub> )                        | % | 36.2 |
| Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )                     | % | 2.0  |
| Calcium Oxide (CaO)  | % | 0.5  |
| Alkalines (Na <sub>2</sub> O+K <sub>2</sub> O+Li <sub>2</sub> O) | % | 0.5  |

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## SK34

### CLASSIFICATION: SUPER-DUTY FIRECLAY BRICK

#### PHYSICAL PROPERTIES

|                                      |                    |             |
|--------------------------------------|--------------------|-------------|
| Pyrometric cone equivalent           | Orton cone         | 33-34       |
| Refractoriness                       | °C                 | 1,760       |
| Bulk Density                         | kg/m <sup>3</sup>  | 2,200-2,250 |
| Apparent Porosity                    | %                  | 18.0-20.0   |
| Cold crushing strength               | MPa                | 30-35       |
| Modulus of rupture                   | Kg/cm <sup>2</sup> | 60-80       |
| Reheat test, Permanent linear change |                    |             |
| After heating at 1,400°C             | %                  | -0.18       |

#### THERMAL EXPANSION

|            |   |      |
|------------|---|------|
| At 800°C   | % | 0.55 |
| At 1,000°C | % | 0.60 |
| At 1,200°C | % | 0.70 |
| At 1,400°C | % | 0.75 |

#### CHEMICAL COMPOSITION: (APPROXIMATE)

|  |   |      |
|--|---|------|
| Silica (SiO <sub>2</sub> )                                       | % | 52.4 |
| Alumina (Al <sub>2</sub> O <sub>3</sub> )                        | % | 42.1 |
| Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )                     | % | 1.4  |
| Calcium Oxide (CaO)  | % | 0.4  |
| Alkalines (Na <sub>2</sub> O+K <sub>2</sub> O+Li <sub>2</sub> O) | % | 0.5  |

★All the technical data are typical of the properties of commercial standard brick. The data are subject to reasonable variation, should not be used for specification purpose.