SR-90, SR-99 and SR-99 LS Firebrick

Product Information

The SR-90, SR-99, and SR-99 firebricks are premium high alumina firebricks that are capable of handling very difficult applications. These premium bricks are very dense and have excellent load bearing strength at temperatures above 3000°F *(1649°C)* and they provide excellent thermal shock resistance. The extremely low silica content of both products make them ideal for hydrogen atmospheres.

Features

- 90 and 99% alumina firebrick
- Excellent low SiO_2 contents for use in Hydrogen atmospheres
- Excellent high temperature stability
- Extremely high service temperature

Applications

- Sulphur recovery units
- Incinerators
- Secondary ammonia reformers

Physical Characteristics

Standard sizes* 9" x 4½" x 2½" and 9" x 4½" x 3"
(22.5 cm x 11.25 cm x 6.25 cm and 22.5 cm x 11.25 cm x 7.5 cm)

* Special sizes available upon request.

SR-90 Firebrick
SR-99 LS Firebrick

Product Information

Physical properties	**SR-90**	**SR-99**	**SR-99 LS**
Density, nominal pcf *(kg/m³)*	183 *(2933)*	193 *(3093)*	193 *(3093)*
Modulus of rupture, psi *(MPa)*			
@ room temperature	3600 *(24.83)*	3800 *(26.21)*	4200 *(28.97)*
@ 2000°F *(1093°C)*	4500 *(31.03)*	2900 *(20.00)*	-
@ 2300°F *(1260°C)*	4200 *(28.97)*	1600 *(11.03)*	2000 *(13.79)*
@ 2600°F *(1427°C)*	2900 *(20.00)*	800 *(5.52)*	800 *(5.52)*
@ 2800°F *(1538°C)*	2100 *(14.48)*	650 *(4.48)*	-
Cold crushing strength, psi *(Mpa)*	12,000 *(82.76)*	10,000 *(68.97)*	12,000 *(82.76)*
Permanent linear shrinkage, % , after 24 hours			
5 hours @ 3200°F *(1760°C)*	+1.5	-	-0.17
72 hours @ 3200°F *(1760°C)*	-	+0.3	-0.6
Deformation under hot load, % @ 10 psi *(0.07 Mpa)*			
100 hours @ 2640°F *(1449°C)*	+0.8	-	-0.7
100 hours @ 2800°F *(1538°C)*	-0.22	-	-
1½ hours @ 3000°F *(1649°C)*	+0.1	-	-
100 hours @ 3000°F *(1649°C)*	<-0.5	-	-
1½ hours @ 3200°F *(1760°C)*	<0.25	-	-
Chemical analysis, nominal, %			
Alumina, Al_2O_3	88	99.4	99.5
Silica, SiO_2	12	0.4	0.1
Ferric oxide, Fe_2O_3	0.2	0.1	trace
Titanium oxide, TiO_2	trace	trace	trace
Calcium oxide, CaO	0.1	trace	0.2
Magnesium oxide, MgO	trace	trace	trace
Alkalies, as Na_2O and K_2O	trace	0.1	0.2
Thermal conductivity, BTU•in./hr•ft²•°F *(w/m•k)*, ASTM C 201			
Mean temperature			
@ 500°F *(260°C)*	24.6 *(3.55)*	38.9 *(5.61)*	38.9 *(5.61)*
@ 1000°F *(538°C)*	21.5 *(3.10)*	30.7 *(4.42)*	30.7 *(4.42)*
@ 1500°F *(815°C)*	19.4 *(2.80)*	25.5 *(3.68)*	25.5 *(3.68)*
@ 2000°F *(1093°C)*	17.7 *(2.55)*	21.6 *(3.11)*	21.6 *(3.11)*
@ 2500°F *(1371°C)*	16.5 *(2.38)*	19.1 *(2.75)*	19.1 *(2.75)*

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