

FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

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HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

Ultratemp SD

Description

Ultratemp-SD is an inorganic, incombustible material. Chemically, Ultratemp-SD features a xonotlite crystal structure that results in exceptional strength and extremely low water of hydration. Ultratemp-SD is composed primarily of lime, silica and reinforcing fibers. The product is white, essentially dust-free, and contains no asbestos.

Ultratemp-SD is manufactured in 4' x 8' (1.22 m x 2.44 m) panels with a sanded finish on both sides. Thicknesses range from 1/2" (13 mm) through 2" (51 mm).

Applications

Since Ultratemp-SD possesses high strength as well as exceptional insulation qualities, it can be readily machined into component parts of many sizes and shapes.

Physical Properties

Density (Average).....	55 pcf (881 kg/m ³)
Maximum Recommended Continuous Service Temperature.....	1700°F (927°C)
Flexural Strength	1400 psi (9,653 kPa)
Compressive Strength @ 10% Deformation ...	4200 psi (28,959 kPa)
Screw Holding Strength (lb/screw)	
1/2" (13 mm) Penetration	150 lbs. (68.0 kg)
3/8" (22 mm) Penetration	400 lbs. (181.4 kg)
Surface Hardness (Units) (Per Type "D" Durameter)	
Top Surface.....	80
Bottom Surface	80
Moisture Content, Normal Percentage of Dry Weight.....	4

Standard Sizes

Thickness*.....	1/2", 3/4", 1", 1 1/2", 2" (13, 19, 25, 38, 51 mm)
Sheet Size.....	4' x 8' (1.22 m x 2.44 m)
Dimensional Tolerances	
Length and Width	± 1/8" (3 mm)
Thickness	± 1/32" (0.8 mm)

* Other thicknesses available upon request.

Specification Compliance

ASTM C 656, Type II, Grade 8
ASTM C 795: Passes
ASTM E 136: Passes

Compressive Strength after exposure to soaking heat for 24 hours

Pressure		300°F (149°C)		400°F (204°C)		600°F (316°C)		800°F (427°C)		1000°F (538°C)	
psi	kPa	DF	PC	DF	PC	DF	PC	DF	PC	DF	PC
500	3,448	0.008	0.000	0.008	0.001	0.052	0.001	0.050	0.002	0.056	0.002
1000	6,895	0.012	0.000	0.013	0.001	0.056	0.002	0.050	0.002	0.060	0.002
2000	13,790	0.017	0.001	0.017	0.002	0.062	0.002	0.053	0.002	0.066	0.002
3000	20,685	0.022	0.001	0.019	0.002	0.066	0.002	0.068	0.003	0.072	0.004
4000	27,580	0.028	0.001	0.022	0.002	0.076	0.002	0.076	0.004	0.079	0.005
5000	34,475	0.030	0.001	0.027	0.004	0.076	0.003	0.086	0.006	0.100	0.010
6000	41,370	0.044	0.002	0.037	0.004	0.084	0.014	0.099	0.011	0.125	0.014

DF = Deformation Under Load, inches. To convert inches to millimeters in above table, multiply by 25.4.
PC = Permanent Consolidation, inches. To convert inches to millimeters in above table, multiply by 25.4.

Dimensional Shrinkage for 1" (25 mm) thick full size sheet

Due to Moisture from Normal to Dry, Inches (mm)

Length	Width	Thickness
0.013 (.33)	0.009 (.22)	0.004 (.10)

Linear Shrinkage after 24 hours at temperature, %

Temperature °F (°C)	Length	Width	Thickness	Weight Loss
1700 (927)	0.6	0.7	3.2	10.4

Thermal Conductivity ("k")

Mean Temperature		"k"	
°F	°C	Btu • in/(hr • ft ² • °F)	W/m • °K
400	204	0.97	0.140
600	316	0.99	0.143
800	427	1.05	0.151