

PRODUCT DATA

AlphaSil

TECHNICAL BULLETIN

SILICONE RUBBER SHEET

Demand for Solid Silicone sheeting continues to grow and is available in three standard colors - white, translucent and red oxide, other color and hardness can be custom made - sizes ranging from 0.5mm thick to 12mm thick and width available are 1m, 1.2m, 1.5m and even up to 2m in roll form.

Flexible, resilient silicone rubber has a unique chemical structure which gives it a high temperature stability and general inertness unavailable in any other elastomer.

Unique Silicone Properties

- Long service life
- Excellent thermal properties
- Superior ablative properties
- Compression set resistance
- Consistent electrical properties
- Excellent weatherability
- Low out gassing
- Chemically inert
- Release ability
- Flame retardance
- Non-toxic
- Food grade

TEST	TEST METHOD	TYPICAL VALUES	UNIT
Density	DIN 53479 A	1.19	g/cm ³
Hardness	DIN 53505	60	Shore A
Tensile Strength	DIN 53504 (S1)	12	N/mm ²
Elongation to break	DIN 53504 (S1)	600	%
Tear Strength	DIN 53515 (C1)	18	N/mm
Compression Set	DIN 53517	11	%
Temperature Range	-60°C to +220°C (Continuous) +260°C (Intermittent)		
Dissipation Factor	VDE 0303	70x10 ⁻⁴	Tan δ
Dielectric Strength	VDE 0303	19	kV/mm
Dielectric Constant	DIN 53482 @ 25°C and 50Hz	3	N/A
Arc Resistance	VDE 0441	90	seconds
Surface Resistance	VDE 0303	5x10 ¹²	Ω.cm

Volume Resistivity	VDE 0303	5×10^{15}	$\Omega \cdot \text{cm}$
Abrasion Resistance	DIN 53516	76	mm^3
Thermal Conductivity	DIN 52612	0.25	$\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
Coefficient of Expansion	DIN 52612	3×10^{-4}	K^{-1}
Weathering	DIN 50018 – SFW 2.0 S	Without changes	15 cycles
Flame Retardancy	UL 94 V 1	pass	
Oil Resistance	Hardness Change	-2	%
ASTM Oil 1	Tensile Strength	-10	%
	Elongation Change	+5	%
	Volume Change	+3.8	%

IN CONTACT WITH FOOD, AlphaSil also have the following approval from some of countries listed below:-

FEDERAL REPUBLIC OF GERMANY

- By VVXV 'Silicones' 182nd notice of official [Federal Gazette 30,211 (1989)] – Positive List
- German KTW recommendation (drinking water), official Federal Gazette 28, No. 12(1985) – Contact with potable water.

USA

- “Rubber Articles Intended for Repeated use in contact with food” FDA code of Federal Regulation, 177.2600.

UNITED KINGDOM

- BS 6920 (WRC Water Byelaws Scheme.)

FRANCE

- Decrets et Circulaires du Ministere de l' Agriculture Brochure No. 1227,1980.