

Technical Bulletin



Silicone Rubber Sheets

Silicone rubber sheet stock is commonly used for hot stamping raised graphics or broad areas on flat, contoured or cylindrical shaped objects. United Silicone offers a wide variety of silicone rubber materials to meet requirements for heat resistance and thermal conductivity. Our complete product line includes rubber materials ideal for heat sealing, nip or feed mediums, packaging and other applications that benefit from a flexible yet non-marring, non-skid material.

Benefits

- Excellent Silicone-to-Metal Bond
- Thermally Conductive
- Heat Tolerant to 600°F
- Various Formulations
- Resistance to Compression Stress
- 40-90 Durometer (Shore A)
- FDA-Grade & 3A Certified Materials

Common Applications

- Bag Sealing
- Blister Packaging
- Heat Sealing
- Heat Transfer & Hot Stamping
- Packaging
- Tipping
- Make-Ready
- Part Holding
- Gripper Fingers
- Gaskets

Hardness

- Measured using a Shore A scale
- 40-90 durometer
- Dual durometer available

Rubber Thickness (A)

- 1/16" & 1/8", standard
- Custom thickness available upon request

Thickness

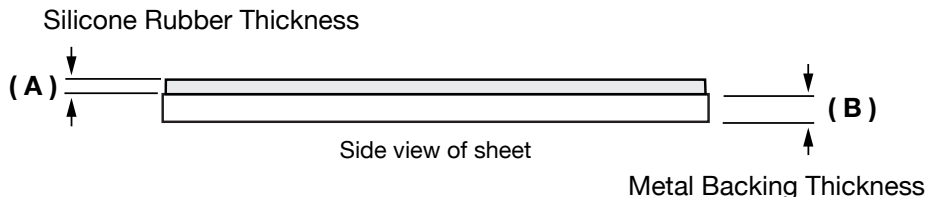
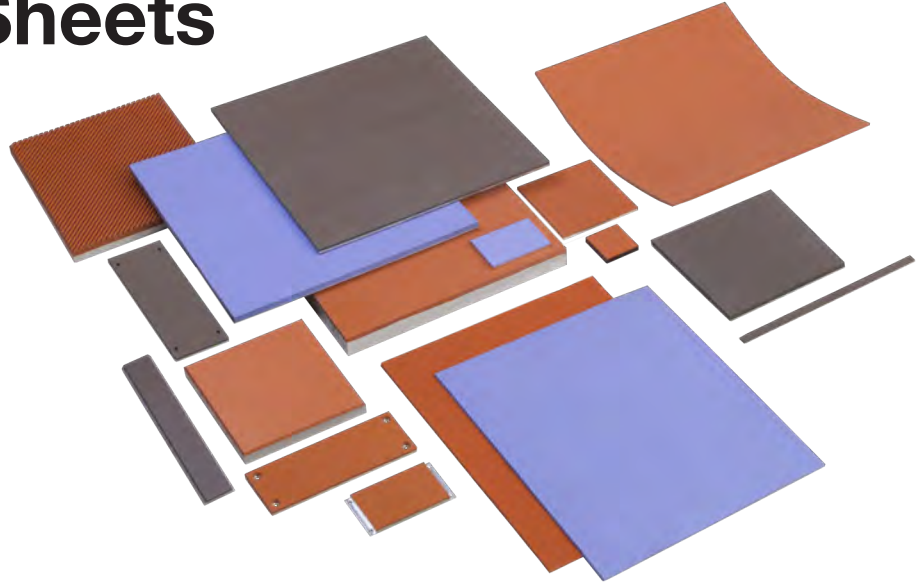
- 1/64" - 1"
- Standard up to 1/8"
- Custom thickness available upon request

Metal Backing (B)

- Aluminum, standard
- Deadsoft- Aluminum, easily formed to a set contour
- Steel
- Stainless steel

Silicone Rubber Sheets

- Standard Sizes 12" x 24"
12" x 36"
24" x 24"
24" x 36"
- Precision Ground for Flatness
- Smooth & Textured Surfaces
- Bonded & Unbonded Available



ITW United Silicone

DESIGNERS AND MANUFACTURERS OF HOT STAMP AND HEAT TRANSFER DECORATING SYSTEMS AND SUPPLIES

Vertical, Roll-on and Peripheral Machines
Automated Systems • Close Tolerance Machines • In-Mold Feed Systems
Metal Dies • Custom Tooling • Silicone Rubber Sheets, Dies and Rollers
Contract Manufacturing • R & D • Custom Engineering & Design

ITW United Silicone
4471 Walden Avenue
Lancaster, NY 14086

Ph: 716.681.8222 Ext. 136
Fax: 716.681.8789
www.unitedsilicone.com

Properties of Silicone Rubber Formulations						
Formulation	Duro (Shore A)	Tensile Strength (PSI)	Elongation (%)	Compression Set (%)	Heat Resistance	Specific Gravity
Supersil (red)	90	800	95	13.8	500	1.77
	80	880	125	8.2	500	1.73
	70	830	250	9.7	500	1.59
	60	835	360	9.5	500	1.49
	50	910	490	9.8	500	1.38
	40	1010	660	10.1	500	1.20
Ultrasil (red)	90	1110	60	30	600	1.75
	80	1100	125	24	600	1.72
	70	1030	185	20	600	1.60
	60	1050	270	18	600	1.45
	50	940	365	17	600	1.35
	40	890	535	15	600	1.11
Thermosil (brown)	90	1075	100	14	600	2.10
	80	1050	120	12	600	2.09
	70	1030	175	7	600	1.80
	60	980	215	6	600	1.63
3A (red) Class I	60	1354	423	6	500	1.17

*Properties listed are typical and subject to change

Durometer - The hardness of a material as measured on the Shore A scale.

Tensile Strength - The pulling stress just before the material breaks into two pieces.

Elongation - The fractional increase in length of a material, stressed in tension, just before it breaks into two pieces.

Compression Set - The measure of material resiliency after being subjected to compression and heat.

Heat Resistance - Ability of a material to remain bonded to metal during exposure to extreme temperature.

Specific Gravity - The density of a material divided by that of water.

United Silicone offers a complete line of Hot Stamp/Heat Transfer Equipment & Supplies.

Silicone Rubber Rollers

- Flat, Stepped & Contoured
- Heat Transfer & Hot Stamping
- Extruded Product
- Heat Sealing
- Edge Banding
- Laminating
- Feed & Guide Rollers

Silicone Rubber & Metal Dies

- Flat
- Contoured
- Photo Etched
- Machine Engraved

Tooling:

- Precision Part Holding Fixtures

Equipment:

- Standard Machines
- Automated Systems



Supersil	Conventional vertical and peripheral operations requiring moderate heat and cycle times – typically manually fed
Ultrasil	Demanding vertical and peripheral operations requiring high temperatures and/or high pressures – usually manually fed
Thermosil	Semi-automatic and fully automated sealing applications requiring very stable high temperatures and rapid heat recovery
High Strength	Vertical and peripheral packaging applications requiring heat resistance and surface durability.
FDA-3A	3A Sanitary Class I test specifications

