

# Silicone Rubber Die Solutions



Silicone Rubber Dies are commonly used for application of thermal graphics onto flat, contoured or cylindrical - shaped products. Silicone rubber conforms to surface variations and delivers a consistent, high quality impression. We offer standard silicone formulations designed with excellent thermal conductivity and physical properties to ensure the success of your applications. United Silicone's standard die sizes offer improved set up efficiency and repeatable artwork position from die-to-die. Die changes become routine, as re-drilling the die mounting block is unnecessary.

### Silicone Rubber Formulations

- Ultrasil (Red): High heat endurance
- Thermosil (Brown): High thermal conductivity

### Hardness

- 60-90 durometers available in all Formulations (Shore A)
- Dual durometers (90/60) is also available

### Character Height (A)

- .035", .065" and .120" relief, standard

### Rubber Thickness (B)

- 3/32" is used for .035" relief
- 1/8" is used for .065" relief dies
- 1/8" is used for .120" relief dies
- Custom thickness available upon request

### Aluminum Thickness (C)

- 1/8" is standard
- Deadsoft- Aluminum, easily formed to set a contour

### Benefits:

- Increased Productivity and Reduced Cost
- Consistent Die - to - Die artwork placement
- Precision machined holes
- Reduced set - up time
- Improved set - up efficiency

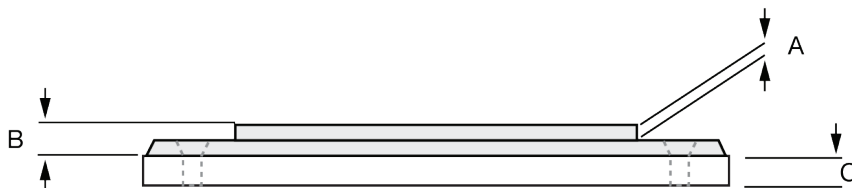
### Additional Supplies & Tooling Available:

#### Magnesium Dies

- 16 gauge material (.064") .035" relief
- 11 point material (.153") .065" relief
- 1/4" material (.250") .065" and .120" relief

#### Die Mounting Blocks

- 1/4" material (.250")
- Standard die mounting blocks available for immediate delivery
- Custom die mounting blocks available
- Magnetic Quick Change



### Trusted Partner for Your Product Decorating Needs

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## RUBBER DIES — TECHNICAL BROCHURE

### Properties of Silicone Rubber Formulations

Formulation	Duro (Shore A)	Tensile Strength (PSI)	Elongation (%)	Compression Set (%)	Heat Resistance	Specific Gravity
Ultrasil (Red)	90	1110	125	30	550	1.75
	80	1100	185	24	550	1.72
	70	1030	270	20	550	1.6
	60	1050	365	18	550	1.45
	50	940	535	17	550	1.35
	40	890	100	15	550	1.11
Thermosil (Brown)	90	1075	120	14	550	2.1
	80	1050	175	12	550	2.09
	70	1030	215	7	550	1.8
	60	980	423	6	550	1.63

Ultrasil	Thermosil
Demanding vertical & peripheral operations requiring high temperatures and/or high pressures – typically manually fed.	Semi-Automatic and fully automated sealing applications requiring very stable high temperatures and rapid heat recovery.

**Durometer** –The Hardness of a material as measured on the Shore A Scale

**Tensile Strength** – The pulling stress just before the material breaks into 2 pieces

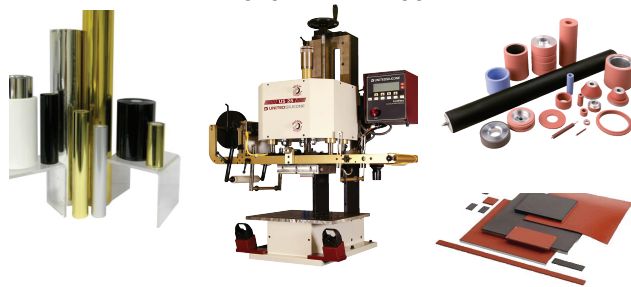
**Elongation** – The fractional increase in length of a material, stressed in tension, just before it breaks into two pieces

**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 material divided by that of water

Contact U.S. to see our complete line of Hot Stamp & Heat Transfer Equipment & Supplies!



United Silicone, part of Industrial Decorating Solutions (IDS), specializes in the design and production of standard and custom hot stamp and heat transfer decorating machines.

United Silicone also provides a complete range of supplies including: silicone rubber dies, rollers, sheets, part holding fixtures and heat seal supplies.

As a leading designer and manufacturer of state-of-the-art plastics decorating systems, United Silicone has the in-house engineers to provide solutions to your toughest decorating problems.

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