



## SILICONE RUBBER ROLLERS - TECHNICAL DATA SHEET

United Silicone's rollers are the ideal choice for peripheral hot stamping of cylindrical shapes and roll on decorating of large, flat or curved surfaces.

The rubber conforms readily to surface variations in molded plastic parts, ensuring smooth application of hot stamping foils and multi-color heat transfers.

Silicone rubber rollers are used in a variety of applications including banding, laminating, printing, and decorating. Carefully engineered and crafted, our rollers are specifically matched to your application.

**ISM offers a complete line of heat seal tooling and supplies from United Silicone.**

### Common Applications

- Packaging
- Laminating
- Heat Sealing
- Edge Banding
- Liner-less Labels
- Extruded Products
- Cylindrical Shapes
- Feed and Guide rollers
- Heat Transfer and Hot Stamping

### Benefits

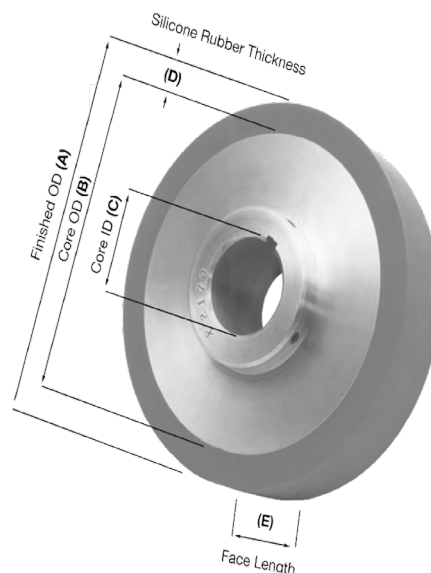
- Seamless Finish
- Recoats Available
- Various Formulations
- Thermally Conductive
- Heat Tolerant to 550°F
- Expedited Lead Times
- Excellent Silicone-to-Metal Bond
- Resistant to Compression Stress
- 40 to 90 Durometer (Shore A) FDA Grade and 3A Certified Materials

### Roller Specifications

- New and "Recoat"
- 40 to 90 Durometer (Shore A)
- Flat, contoured or stepped
- Face lengths up to 120 inches
- Finished OD up to 20"
- Outside diameter (A)
- Rubber thickness (D)
- Face length (E)

### Metal Cores

- Aluminum or standard steel
- Core outside diameter (B)
- Core inside diameter or bore diameter (C)





Ultrasil	Thermosil	FDA and FDA-3A
Demanding vertical and 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.	FDA (CFR Title 21 Part 177.2600) Food Grade Compliant (80 Shore A). 3-A Sanitary Class I Certified (60 Shore A).

Properties of United 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
	70	1030	270	20	550	1.60
	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	2.10
	80	1050	175	12	550	2.09
	70	1030	215	7	550	1.80
	60	980	423	6	550	1.63
FDA-3A (red)	60	1354	423	6	500	1.17

If the application is heated, Ultrasil is an ideal material for external heating, and Thermosil is good for internal heating (heating the roller).

**Durometer** – The hardness of a material as measured with a Shore durometer instrument. Shore A is the durometer scale used to measure the hardness of flexible molded rubbers.

**Tensile Strength** – The pulling stress just before a material breaks into two pieces.

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

**Heat Resistance** – The ability of a material to remain bonded to metal during exposure to extreme temperature.

**Specific Gravity** – The density of a material compared to the density of water.