

PRODUCT INFORMATION

A-4125 / A-4140

Liquid Silicone Rubber - 10:1 Systems

PRODUCT DESCRIPTION:

Two-component, platinum-catalyzed liquid silicone rubber systems designed for liquid injection molding and casting of healthcare and medical devices. A-4125 and A-4140 are supplied as matched Part A and Part B components and are mixed at 10 parts Part A to 1 part Part B by weight.

Both materials are flowable, self-leveling, and rapidly cured at elevated temperatures. Post-curing is not required to achieve the listed typical physical properties, although it may be used when appropriate for a specific application.

Applications

Designed for healthcare and medical-device fabrication, including applications involving less than 30 days of implantation in the human body. The end user is responsible for confirming suitability, safety, and regulatory compliance for the intended application.

Features & Benefits

- 10:1 mix ratio for controlled processing.
- Flowable and self-leveling.
- Rapid cure at elevated temperatures.
- Post-cure is not required to achieve typical physical properties.
- Clear, pigmentable materials.
- Suitable for standard liquid injection molding or casting techniques.
- Airless mixing, metering, and dispensing equipment are recommended for production operations.

PROPERTIES

TYPICAL PROPERTY	ASTM / TEST	A-4125	A-4140
Appearance	TP 038	Clear	Clear
Mix Ratio	—	10:1	10:1
Viscosity - Part A, cP	TP 001	85,000	100,000
Viscosity - Part B, cP	TP 001	2,200	300
Specific Gravity	TP 013	1.08	1.09
Hardness, Shore A	ASTM D2240	28	40
Tensile Strength, psi	ASTM D412	770	975
Elongation, %	ASTM D412	480	350
Tear Strength, Die B, psi	ASTM D624	76	140
Work Life, hr	—	>2	>2

Typical cured-property values below are based on a press cure of 5 minutes at 177°C (350°F). Typical values are not intended for use in preparing specifications.

Instructions for Use

Mixing

A-4125 and A-4140 are supplied as matched Part A and Part B components. Measure and mix each system at 10 parts Part A to 1 part Part B by weight. Accurate measuring and complete mixing are essential to obtaining consistent results. Standard liquid injection molding or casting equipment and techniques may be used; airless mixing, metering, and dispensing equipment are recommended for production operations.

De-airing

If air is introduced during mixing, either material may be de-gassed under vacuum prior to molding or casting.

Cure

Cure is initiated after Part A and Part B are mixed and is accelerated by heat. Cure time depends on molding temperature and part size. A press cure of 5 minutes at 177°C (350°F) is the condition used to establish the listed typical properties.

Cure Inhibition

Maintain clean molds, mixing equipment, and work areas. Traces of amines, sulfur, nitrogen oxide, organotin compounds, carbon monoxide, and certain other foreign materials can poison the platinum catalyst and inhibit cure. Organic rubbers or contaminated processing equipment should not contact the uncured elastomer.

Post-Curing

Post-cure is not required to achieve the typical physical properties of either A-4125 or A-4140. Post-curing may be used when appropriate for the specific application.

Regulatory / Biocompatibility

The manufacturer reports that these materials meet or exceed United States Pharmacopoeia (USP) Class VI testing requirements. Biocompatibility testing addresses cytotoxicity, skin sensitization, and skin irritation under ISO 10993. These materials are not suitable for devices requiring human implantation for greater than 30 days.

Storage

When stored in original packaging: A-4125 Part A 10:1 and A-4140 Part A 10:1 may be stored between -20°C (-4°F) and 50°C (122°F) for up to 12 months from date of manufacture. A-4125 Part B 10:1 and A-4140 Part B 10:1 may be stored between -20°C (-4°F) and 30°C (86°F) for up to 12 months from date of manufacture. Follow the storage instructions and expiration date marked on the product packaging.

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