



LIM* 6045

Liquid Silicone Rubber

Product Description LIM6045 liquid silicone rubber is a two-component product formulated for use in liquid injection molding to produce elastomeric parts where high clarity is a key requirement. In addition, the combination of excellent tear strength and very high tensile strength makes this product suitable for a wide variety of applications. Mechanical parts such as connector inserts, seals, flexible mounts, and valve parts can be made readily from LIM6045 liquid silicone rubber.

Other possible applications include sports goggles and masks, health care equipment, camera parts, and coating metal rolls. The excellent clarity and high tear strength of LIM6045 liquid silicone rubber suggests its use for baby bottle nipples.

Key Performance Properties

- High clarity for excellent visibility
- Excellent tear strength
- Convenient 1:1 mix ratio for use with automatic equipment
- Rapid cure time: 10 to 40 seconds depending upon part size, configuration, and molding temperature
- Wide range of molding temperatures: 150⁰C (302⁰F) to 205⁰C (400⁰F)
- Excellent release from metal molds

Typical Product Data

CURED PROPERTIES			
Physical Properties	As Molded 30 sec@ 177⁰C (350⁰F)	Postbaked 1 hr @ 204⁰C (400⁰C)	Postbaked 4 hr @ 204⁰ (400⁰F)
Hardness, Shore A, Durometer	42	44	45
Tensile Strength, psi (MPa)	1200 (8.3)	1225 (8.4)	1250 (8.6)
Elongation, %	650	650	630

Tensile Modulus, 100%, psi MPa)	175 (1.2)	175 (1.2)	190 (1.3)
Tear Strength, ppi (KN/M)	230 (40.4)	230 (40.4)	230 (40.4)
Compression Set, % 22 hrs @ 177 ⁰ C (350 ⁰ F)	25	20	15
Bashore, %	54	50	50
After Heat Aging, 168 hrs @ 204⁰C (400⁰F)			
Hardness, Shore A, Durometer	49		
Tensile Strength, psi (MPa)	1175 (8.1)		
Elongation, %	495		
Tensile Modulus, 100%, psi (MPa)	255 (1.8)		
Tear Strength, ppi (KN/M)	215 (37.7)		
Electrical Properties:			
Dielectric Strength, V/mil	530	546	549
Dielectric Constant @ 10 ³ Hz	3.08	3.20	3.12
Dissipation Factor @ 10 ³ Hz	0.0008	0.0003	0.0002
Volume Resistivity, Ohm-cm	1.67 x 10 ¹⁴	2.09 x 10 ¹⁴	4.15 x 10 ¹⁴

AGENCY STATUS

LIM6045 liquid silicone rubber may be used as a food-contact surface of articles intended for repeated use in the producing, manufacture, packing, processing, preparing, treating, packaging, transporting, or holding of food, in accordance with the following prescribed conditions:

1. Articles are manufactured in accordance with Good Manufacturing

Practice.

2. Articles are thoroughly cleansed prior to their first use.

Momentive Performance Materials has on file data which indicate LIM6045 liquid silicone rubber, when cured at 375F and then postbaked at 400F for one hour, meets the extractive limitations for use in contact with dry, aqueous, acid, fatty, and alcoholic foods in accordance with [FDA](#) Regulation 21CFR177.2600. Manufacturers are cautioned to evaluate the level of extractives under their specific curing and postbaking conditions.

Food additive regulations do not apply to the manufacture of baby bottle nipples. Momentive Performance Materials has on file an opinion of counsel confirming that use of LIM 6045 liquid silicone rubber in bottle nipples is appropriate under the Federal Food, Drug, and Cosmetic Act and is consistent with [FDA](#) regulatory policies. Momentive Performance Materials has conducted an analysis of LIM6045 liquid silicone rubber for volatile nitrosamines pursuant to [FDA](#) Compliance Policy Guide No. 7117.11 (12/26/84)] which indicates that any volatile nitrosamines are present at less than 10 parts per billion. The fabricator is cautioned to verify that nipples manufactured from this product comply with applicable structural integrity requirements.

Instructions for Use **BONDING**

LIM6045 liquid silicone rubber usually requires a primer to bond to nonsilicone surfaces. If chemical bonding onto a substrate is required for insert molding or supported extrusion, thoroughly clean the substrate with a non oily solvent such as naphtha or methyl ethyl ketone and let dry. Then apply a uniform thin film [0.01-0.02 mm (0.05-.1 mil)] of a Momentive Performance Materials silicone primer, such as SS4155 or SS4120 primers, and allow to air dry for one hour or more before molding or extruding onto the substrate. For more details on priming and adhesion, please refer to Momentive Performance Materials data sheet on RTV primers (CDS1873).

LIM SYSTEM EQUIPMENT

Pumping and metering systems for LIM6045 liquid silicone rubber and appropriate injection molding machines are available from a number of manufacturers, most of whom will provide a complete system (exclusive of the mold itself) ready to run. Contact Momentive Performance Materials for further information.

The warranty period for LIM6045 liquid silicone rubber is six months from date of shipment from Momentive Performance Materials if stored in the original unopened container at temperatures 27C (80F). For best results keep containers closed at all times.

Products may be ordered from Momentive Performance Materials, Waterford, New York 12188, or the Momentive Performance Materials sales office nearest you.

Prior to considering use of a Momentive Performance Materials™ product in fulfilling any government requirement, please contact the Government and Trade Compliance office at 413-448-4864.

*LIM is a registered trademark of Momentive Performance Materials

CDS4884

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent. Patent Information to be determined for product by client.

Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Material Safety Data Sheets are available at www.momentive.com or, upon request, from any Momentive Performance Materials representative. Use of other materials in conjunction with Momentive Performance Materials products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Typical product data values should not be used as specifications.

Assistance and specifications are available by contacting

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