

ADSEAL LM 4600 SERIES

WEATHERSEAL NEUTRAL CURE SILICONE SEALANT MAXIMUM ELONGATION

DESCRIPTION

ADSEAL LM 4600 SERIES is a one-component sealant/adhesive that vulcanizes as durable, elastic rubber silicone in contact with ambient humidity. Due to its rheological and non-sagging characteristics, it can be applied above the head, over the joints and on surfaces of vertical and horizontal walls. It is commonly used for sealing expansion and control joints, precast concrete panel joints, exterior insulation, and finish system (EIFS) joints, curtain walls joints, mullion joints, and many other construction joints. ADSEAL LM 4600 SERIES adheres to glass, most types of wood, clean metals, silicone resins, ceramics, vulcanized silicone, synthetic and natural fibers, and many painted surfaces (Validate with your representative) or certain plastics. Additionally, ADSEAL LM 4600 SERIES has an outstanding adhesion on masonry, stone, concrete, granite, and marble. The use of a primer might be necessary. Always perform a test before starting work.

ADSEAL LM 4600 SERIES CAN NOT BE PAINTED.

Due to its neutral vulcanization system, ADSEAL LM 4600 SERIES is used for caulking applications when a slower working time or an elongation of 100% and a compression of 50% are required. It does not give off any unpleasant odor during vulcanization and will not oxidize the metal. (Discoloration of copper-based metals may occur when sealed tightly). Due to its vulcanization system in contact with moisture, the depth of the bead should not exceed 13 mm (1/2 "), otherwise the sealant cannot vulcanize completely. It is recommended to respect a 2:1 ratio (width / depth) bead as possible. For applications with a bead depth of more than 13 mm, we recommend a two components silicone. Minimum movement joint size should be 1/4" x 1/4".

SPECIFICATION

- Meets ASTM C920, S, NS, Class 100/50 (excluding translucent version 4601), use NT, M, G, A, O
- Meets CAN/CGSB-19.13-M87
- V.O.C. emission **UL 1000612730-2046925**: CDPH/EHLB/Standard Method V1.2 (January 2017) "Standard Method for Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" (aka CA Section 01350). Reference LEED V4

LIMITATIONS

- Not designed for permanent immersion joints
- Not designed for structural applications
- Where the sealant is encapsulated and does not have access to ambient humidity
- In contact with strongly acidic or alkaline products
- Not designed for sealing horizontal traffic joints
- Not recommended for joint less than 1/4 " or 6 mm. (width and depth)

PHYSICAL PROPERTIES

Uncured at 23°C (73°F) 50% R.H.	
Appearance	Paste
Color	Available in a wide variety of colors
Density	1.19 g/ml
Extrusion rate (20 psi/diameter 5mm)	75 – 300 g/min
Tack free time	55 – 65 minutes

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Curing time	7 to 14 days
Full adhesion	14 to 21 days
Slump (ASTM D2202)	None
V.O.C. (SCAQMD Method)	83.9 g/L (7%)
Shelf life	24 months

Cured 21 days at 23°C (73°F) 50% R.H	
Hardness (ASTM C661)	28 – 30 (shore A)
Heat aging (ASTM C792)	6.8% (maximum 10% according to ASTM D5893 requirement)
Peel strength (ASTM C794)	36 lb / in.
Elongation at break (ASTM D412)	1558%
Maximum Tensile strength (ASTM D412)	223psi
Tensile strength at 150% elongation (ASTM D412)	37psi
Movement capability (ASTM C719)	+100% / -50% (excluding translucent version 4601)
Ultimate tensile adhesion (ASTM C1135)	93psi
Maximum elongation (ASTM C1135)	743%
Tensile adhesion at 25% (ASTM C1135)	19psi
Tensile adhesion at 50% (ASTM C1135)	26psi
Tensile adhesion at 100% (ASTM C11350)	33psi
Staining on porous surfaces (ASTM C1248)	None
Lap shear (aluminum)	91 psi (cohesive) / shifting 0.61 inch
Tensile adhesion when used in exterior insulation and finish systems (EIFS) joints (ASTM C1382) with ADSEAL Primer MK60095 (no failure in all cases)	<p>at 23°C (73°F) 50% R.H. tensile strength @10% elongation = 11psi tensile strength @25% elongation = 20psi tensile strength @50% elongation = 28psi tensile strength @100% elongation = 40psi</p> <p>After 7 days of water immersion tensile strength @10% elongation = 11psi tensile strength @25% elongation = 19psi tensile strength @50% elongation = 25psi tensile strength @ 100% elongation = 35psi</p> <p>after 24 hours at -18°C (0°F) tensile strength @10% elongation = 12psi tensile strength @25% elongation = 19psi tensile strength @50% elongation = 26psi tensile strength @100% elongation = 38psi</p> <p>after 24 hours at 70°C (160°F) tensile strength @10% elongation = 11psi tensile strength @25% elongation = 19psi tensile strength @50% elongation = 26psi tensile strength @100% elongation = 38psi</p> <p>after 2500 hours UV conditioning tensile strength @10% elongation = 15psi tensile strength @25% elongation = 24psi tensile strength @50% elongation = 32psi tensile strength @100% elongation = 43psi</p>

ADSEAL LM 4600 SERIES**WEATHERSEAL NEUTRAL CURE SILICONE SEALANT MAXIMUM ELONGATION****APPLICATION**

Construction

- Expansion joints (masonry) (test with and without using primer before doing the complete work)
- EIFS (Exterior insulation and finish system)
- Perimeter construction joints
- Corner block or internal parts of curtain wall

Industrial

- Transportation vehicles
- Manufactured doors and windows
- Sealing of trailers and truck cabs
- Sealing cabins and marine windows

SURFACE PREPARATION

Surface must be free of dust, oil, grease, frost, or any other contaminant. On porous surface, first use mechanical tool such as grinder to remove old sealant or any other contaminant. Use ADSEAL CLEANER 6003 to clean all surfaces. Let it evaporate 20 minutes before sealant application. Ensure that the backer rod ADSEAL BACKER ROD is friction fitted properly and ADSEAL PRIMER have been applied if necessary. For the complete procedure and the type of primer to use, consult our [ADSEAL PRIMER Guide](#). For more details consult the technical document: [Application procedure for sealant movement and waterproofing joints](#).

METHOD OF USE

ADSEAL LM 4600 SERIES is easy to apply with a conventional manual, electric or pneumatic applicator (do not exceed 45 psi for a cartridge). Shape the sealant bead with the ADSEAL TOOLING KIT before skin formation. In order, to facilitate the work, the shaping can be done with a solution of 5% clear dish soap and 95% water. Dip the ADSEAL TOOLING KIT into the solution. Avoid applying solution directly to the sealant. The use of this solution may reduce sealant adhesion if used in an abusive manner. Uncured sealant can be clean with a solvent such as mineral spirit. Bead surface contact should be at least 1/4". ADSEAL LM 4600 SERIES can be applied at temperatures as low as -20°F (-29°C). For more details consult the technical document: Application procedure for sealant movement and waterproofing joints.

TEMPERATURE APPLICATION

Sealants from the ADSEAL product line can be applied throughout the year, even in winter, unlike organic sealants such as polyurethanes, thermoplastics or any solvent-based adhesives or sealants. Never apply sealant in weather conditions where condensation or precipitation exists such as rainfall, freezing rain, snow, or intense fog. Make sure the surface is free of frost. The temperature of the silicone sealant must be the same as the substrates. Avoid applying a warm sealant to a cold surface. The lower the temperature, the longer the sealant will take to vulcanize.

***** Cure of the sealant occurs from the surface down and if the joint is moving during cure, due to large fluctuations in ambient temperature, there will be expansion and contraction of the material creating a risk of cracking or wrinkling / swelling at the surface of the joint.**

To reduce this impact, it is recommended to:

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- Use an open cell polyurethane backer rod to accelerate the curing of the sealant.
- Install the sealant at the average daily temperature to reduce daily movement.
- Ensure that the joint depth does not exceed a ratio of 2:1 or 12 mm (1/2") maximum.
- The use of a primer can accelerates the development of the adhesion. Although not necessarily recommended, this step can help establish the success of the project if there is excessive movement of the joint during cure.

PACKAGING

- 304ml cartridge
- 600ml sausage
- Pail
- Drum

STORAGE

Store the sealant in closed original packaging. Store in dry premises at a temperature between 8°C (46°F) and 25°C (77°F). High humidity and storage below or above these temperatures will shorten shelf life. Expiration date is indicated on each container. Storage beyond the date specified on the container does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality insurance reasons. Contact our technical service.

CAUTION

Always consult SDS (Safety Data Sheet) before using the product. Apply usual hygienic rules. Always test the product on your application before use. For industrial use only. For more information, please contact your technical representative.

IMPORTANT**READ CAREFULLY**

The information and recommendations contained herein are derived from our research and information from other reliable sources. This data applies only to our products and not when used with other products. We believe in the reliability of our information. However, no guarantee is offered to that effect. It is the responsibility of the buyer to verify this data according to their own operating conditions to ensure that they conform to the purpose for which the product is intended, even before using it.

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