GA-201

Tack-Free, Moisture- and Chemical-Resistant FIP Gasket

APPLICATIONS

- Sealing Plastic Surfaces & Enclosures
- Sealing Glass Surfaces & Enclosures
- Sealing Metal Surfaces & Enclosures
- Sealing Plated Surfaces

FEATURES

- UV/Visible Light Cure
- Tack Free After Proper Cure
- Moisture and Chemical Resistant
- Soft and Durable After Proper Cure
- Conforms to Intricate Channels and Recesses

SURFACES

- Plastics
- Glass
- Aluminum
- Stainless Steel
- Plated Surfaces

Dymax ® GA-201 form-in-place, cure-in-place gasketing resin is formulated for sealing plastic, glass and metal enclosures, and plated surfaces for automotive door handle, appliance housing, and critical electronic assembly and device applications which require a soft, tack-free, flexible gasket. This FIP gasket acts as a barrier to moisture to prevent absorption or penetration of air, dust, noise, liquids, gaseous substances, or dirt. It can be dispensed in intricate and complex configurations with the added benefit of curing in-line which allows for increased production speed and reduced inventories. Dymax resins contain no nonreactive solvents and cure upon exposure to light. Their ability to cure in seconds enables faster processing, greater output, and lower assembly costs. When cured with Dymax light-curing spot lamps, focused-beam lamps, or flood lamps, they deliver optimum speed and performance for maximum efficiency. Dymax lamps offer the ideal balance of UV and visible light for the fastest, deepest cures. This product is in full compliance with RoHS directives 2015/863/EU.

TYPICAL UNCURED PROPERTIES *

Property	Value	Test Method
Solvent Content	No Nonreactive Solvents	N/A
Chemical Class	Acrylated Urethane	N/A
Appearance	Opaque Gel	N/A
Solubility	Organic Solvents	N/A
Density, g/ml	1.01	ASTM D1875
Viscosity, cP (20 rpm)	65,000 (nominal)	DSTM 502
Soluble in	Organic Solvents	N/A
Shelf Life at Recommended Conditions from Date of Manufacture	9 months	N/A

CURED MECHANICAL PROPERTIES *

Property	Value	Test Method
Durometer Hardness	A35	ASTM D2240
Tensile at Break, MPa [psi]	0.93 [135]	ASTM D638
Elongation at Break, %	165	ASTM D638
Modulus of Elasticity, MPa [psi]	0.75 [110]	ASTM D638
Glass Transition Tg, °C	8	ASTM D5418
Compression Set, % (85°C, 22 hr)**	26	ASTM D395

OTHER CURED PROPERTIES *

Property	Value	Test Method
Linear Shrinkage, %	1.1	ASTM D2566
Boiling Water Absorption, % (2 hr)	1.4	ASTM D570
Water Absorption, % (25°C, 24 h)	1.4	ASTM D570

Chemical Resistance - % of Initial Weight	Weight Immediately After Exposure	Weight 1 Week After Exposure
Motor Oil SAE 10W-30	101%	101%
Brake Fluid	147%	143%
Transmission Fluid	102%	102%
Diesel Fuel	124%	117%
Power Steering Fluid	101%	101%
Salt Water 5% NaCl	100%	99%
Isopropyl Alcohol 99%	184%	97%
Suntan Lotion SPF 50	106%	105%
Hand Lotion	103%	101%

Note:

The samples were immersed in fluid for 72 hours at room temperature.

Immediately - wiped clean and weight measured.

1 week - Wiped clean, left at room temperature for 1 week and then weight measured.

DISPENSE EQUIPMENT RECOMMENDATIONS *

Application	Manual	Semi-Automated	Fully Automated
Beads	SD-100	Model 400 Needle Valve	Eco-PEN

CURING EQUIPMENT RECOMMENDATIONS *

Process Method	Spot Lamp	Flood Lamp	Conveyor
Broad Spectrum	BlueWave® 400	5000 ECE or PortaRay 400	UVCS Conveyor with Fusion F300 Lamp

* Not Specifications

N/A Not Applicable

‡ DSTM Refers to Dymax Standard Test Method

** Compression set is expressed as percentage of deflection per ASTM D395 Method B at 25% deflection.To determine percent recovery, subtract ¼ of the value from 100%.For example, the recovery is 98.8% with a 5% compression set.

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Technical Data Collected PRIOR TO 2013 Rev.02/10/2023

CURING GUIDELINES

Cure rate is dependent upon many variables, including lamp intensity, distance from the light source, and required depth of cure. The cure time listed below is based upon lab tests and is intended for reference only. Cure time is defined as the time to achieve a full cure of a 3.2 mm [0.13 in] thick gasket.

Dymax Curing System (Intensity)	Fixture Time or Belt Speed [A]
5000-EC (250 mW/cm^2)[B]	30 sec
BlueWave® 200 (10 W/cm^2)[B]	3 sec
UVCS Conveyor with Two 5000-EC, In Series (250 mW/cm^2)[C]	0.6 m/min [2 ft/min]
UVCS Conveyor with Fusion F300S (2.5 W/cm^2)[C]	7.6 m/min [25 ft/min]

A Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 50 Radiometer. Curing through light-blocking substrates may require longer cure times if they obstruct wavelengths used for light curing (320-400 nm for UV light curing, 320-450 nm for UV/Visible light curing). These fixture times/belt speeds are typical for curing thin films through 100% light-transmitting substrates.

B Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 50 Radiometer.

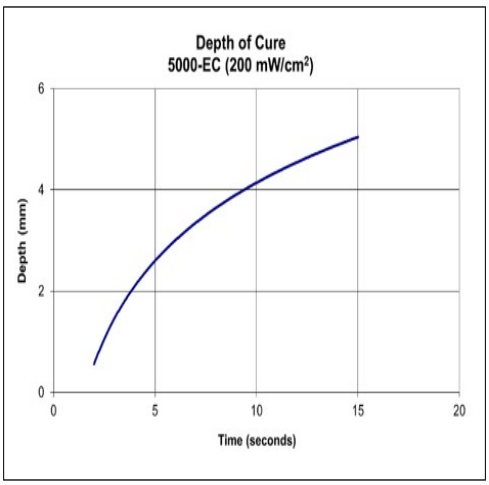
C At 53 mm [2.1 in] focal distance. Maximum speed of conveyor is 8.2 m/min [27 ft/min]. Intensity was measured over the UVA range (320-395 nm) using the Dymax ACCU-CAL™ 160 Radiometer.

Full cure is best determined empirically by curing at different times and intensities, and measuring the corresponding change in cured properties. Full cure is defined as the point at which more light exposure no longer improves cured properties. Higher intensities or longer cures may degrade Dymax light-curable resins.

Dymax recommends that customers employ a safety factor by curing longer and/or at higher intensities than required for full cure. Although Dymax Application Engineering can provide technical support and assist with process development, each customer must ultimately determine and qualify the appropriate curing parameters required for their unique application.

DEPTH OF CURE

The graph below shows the increase in depth of cure as a function of exposure time. A 9.5 mm [0.37 in] diameter specimen was cured in a polypropylene mold and cooled to room temperature. It was then released from the mold and the cure depth was measured.



OPTIMIZING PERFORMANCE AND HANDLING

1. This product cures with exposure to UV and visible light. Exposure to ambient and artificial light should be kept to a minimum before curing. Dispensing components, including needles and fluid lines, should be 100% light blocking, not just UV blocking.
2. All surfaces in contact with the resin should be clean and free from grease, mold release, or other contaminants prior to dispensing the gasketing resin.
3. Oxygen in the atmosphere may inhibit surface cure. Surfaces exposed to air may require higher intensity UV (> 100 mW/cm^2) to produce a tack-free cure. Flooding the bond area with an inert gas, such as nitrogen, can also reduce the effects of oxygen inhibition.
4. Part should be allowed to cool after cure before testing.
5. Light curing generally produces some heat. If necessary, cooling fans can be placed in the curing area to reduce the heating effect on components.
6. At the point of curing, an air exhaust system is recommended to dissipate any heat and vapors formed during the curing process.
7. Cure speed is dependent upon many variables, including lamp intensity, distance from the light source, required depth of cure, bond gap, and percent light transmission of the substrate.

DISPENSING SUPPORT

The Dymax Application Engineering team is ready to discuss your application requirements to provide the most appropriate dispensing and/or spraying solution. Visit our current dispensing equipment portfolio here or consult our global contact phone numbers and online chat feature (available in North America only) during normal business hours for instant support.

STORAGE AND SHELF LIFE

Store the material in a cool, dark place when not in use. Do not expose to visible or UV light. This product may polymerize upon prolonged exposure to ambient and artificial light. Keep covered when not in use. This material shelf life is noted on page 1 of this document, when stored between 10°C (50°F) and 32°C (90°F) in the original, unopened container. GA-201 in pails may exhibit a hazy, whitish appearance after exposure to cold temperatures. If such an appearance is noticed, the material should be placed in an ambient environment of 20°C – 24°C (68°F – 75°F) for at least 3 days. We do not recommend accelerating the warming with additional heat as it will adversely impact the uncured material. After the recommended warming-up step, the clear material is suitable for its intended use.

CLEAN UP

Uncured material may be removed from dispensing components and parts with organic solvents. Cured material will be impervious to many solvents and difficult to remove. Cleanup of cured material may require mechanical methods of removal.

GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the Safety Data Sheet before use.

The data provided in this document are based on historical testing that Dymax performed under laboratory conditions as they existed at that time and are for informational purposes only. The data are neither specifications nor guarantees of future performance in a particular application. Dymax does not guarantee that this product's properties are suitable for the user's intended purpose.

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