

SpeedMask® 726-SC

Plating, Grit Blast, and Heat-Resistant Maskant with See-Cure Technology

APPLICATIONS

- Plating
- Anodizing
- Grit Blasting
- Shot Peening
- Air Plasma Spray - Low Temperature
- Powder Coating

FEATURES

- Blue-to-Pink Upon Sufficient Exposure To UV/Visible Light Cure
- Excellent Surface Protection
- Fast Curing
- Easy Peel After Exposure to Heat
- Spray or Dip
- ISO 10993-5 Cytotoxicity
- Rolls Royce Approval as Metal Spray Maskant with the Designation of OMat 2/240

RECOMMENDED SURFACES

- Nickel Alloys
- Steel
- Stainless Steel
- Aluminum
- Glass
- Cobalt
- ABS
- PC

SpeedMask® 726-SC maskant with See-Cure technology provides excellent surface protection of turbine and metal components during many plating, decorative etching and anodizing, air plasma spray, blasting, and powder-coating processes. The blue color transitions to pink upon exposure to sufficient light energy indicating full cure has been achieved. 726-SC also has the ability to remain flexible at higher temperature processes up to 204°C [400°F]. This resin cures quickly and is easily removed after processing. A hot-water soak (140°F-160°F) may be used to ease removal. When properly cured, 726-SC leaves no residue on non-porous surfaces. SpeedMask resins contain no nonreactive solvents and cure upon exposure to light. Their ability to cure in seconds enables faster processing, greater output, and lower processing costs. When cured with Dymax light-curing spot lamps, focused-beam lamps, or flood lamps, they deliver optimum speed and performance for many masking applications. 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.

UNCURED PROPERTIES *		
Property	Value	Test Method
Solvent Content	No Nonreactive Solvents	N/A
Chemical Class	Acrylated Urethane	N/A
Appearance	Blue Translucent Gel	N/A
Soluble in	Organic Solvents	N/A
Density, g/ml	1.13	ASTM D1875
Viscosity, cP (20 rpm)	52,000 (nominal)	ASTM D2556

OTHER CURED PROPERTIES *		
Property	Value	Test Method
Appearance	Pink Translucent Solid	N/A
Boiling Water Absorption, % (2 hr)	11	ASTM D570
Water Absorption, % (25°C, 24 hr)	20	ASTM D570
Linear Shrinkage, %	2	ASTM D2566

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	D40	ASTM D2240
Tensile at Break, MPa [psi]	6.8 [980]	ASTM D638
Elongation at Break, %	160	ASTM D638
Modulus of Elasticity, MPa [psi]	3.9 [560]	ASTM D638
Glass Transition T _g , °C	39 °C	DSTM 256 [‡]

* Not Specifications
 N/A Not Applicable



CURING GUIDELINES

The blue color of this SpeedMask® with See-Cure technology resin transitions to pink when it is fully cured. Full cure is achieved when additional light exposure does not improve the cured properties. The chart below provides information on how long it takes to complete the transition from blue to pink, using different light sources. Cure rate is dependent upon many variables, including lamp intensity, distance from the light source, and required depth of cure. The times and belt speed for the transition listed below are based on lab results and are intended for reference only. Testing was performed using a 0.38 mm [0.015 in] coating thickness. Time/belt speed was determined by a complete, tack-free cure and transition from blue to pink.

Dymax Curing System (Intensity)	Time or Belt Speed to Complete Transition from Blue to Pink
5000-EC (200 mW/cm ²) ^A	8 s
BlueWave® LED Flood PrimeCure® (575 mW/cm ²) ^B	12.5 s
BlueWave® 200 (10 W/cm ²) ^A	1 s
Porta-Ray® 400 (400 mW/cm ²) ^A	5 s
UVCS Conveyor with Fusion F300S (2.5 W/cm ²) ^C	3.7 m/min [12 ft/min]

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

B Intensity was measured over the UVA/Visible range (350-450 nm) using a Dymax ACCU-CAL™ 50-LED Radiometer.

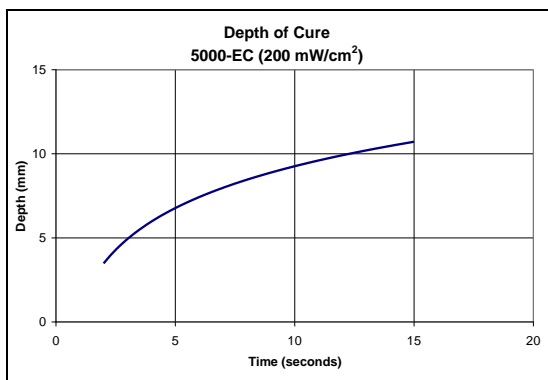
C At 53 mm [2.1 in] focal distance. Maximum speed of conveyor is 8.2 m/min [27 ft/min]. Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 160 Radiometer.

Full cure is best determined empirically by curing at different times and intensities. Full cure can also be determined by measuring cured properties such as tackiness, adhesion, hardness, etc. Higher intensities or longer cures may degrade Dymax light-curable masks.

Dymax recommends that customers employ a safety factor by curing longer and/or at higher intensities and/or temperatures 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 to be masked should be clean and free from grease, mold release, or other contaminants prior to dispensing the mask.
3. Oxygen in the atmosphere may inhibit surface cure. Surfaces exposed to air may require higher intensity UV (>100 mW/cm²) 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 THE RESIN

This material may be dispensed with a variety of manual, semi-automated, and fully automated fluid delivery systems. Dymax's SG family of regular, high-flow, and super-flow spray guns can be utilized for spraying larger surface areas. The fluid delivery systems are supported with various size cartridge containers and ram pumps for larger volume applications. Small area applications including beads and small dots can be achieved using hand-held Dymax dispensing systems like our SD-100 syringe dispenser and our Model 400 needle valve systems. Dymax has several other dispensing systems that may be suitable for use with our masking materials. Questions relating to and defining the best fluid delivery system and curing equipment for specific applications should be discussed with the Dymax Application Engineering Team.

STORAGE AND SHELF LIFE

Store the material in a cool, dark place when not in use. Do not expose to light. This product may polymerize upon prolonged exposure to ambient and artificial light. Keep covered when not in use. This material has a 12-month shelf life from date of manufacture, unless otherwise specified, when stored between 10°C (50°F) and 32°C (90°F) in the original, unopened container.

CLEANUP

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 such as ultrasonic bath, water jet, vacuum tweezers, air knife and/or warming to aid in the 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.

Numerous factors—including, without limitation, transport, storage, processing, the material with which the product is used, and the ultimate function or purpose for which the product was obtained—may affect the product's performance and/or may cause the product's actual behavior to deviate from its behavior in the laboratory. None of these factors are within Dymax's control. Conclusions about the behavior of the product under the user's particular conditions, and the product's suitability for a specific purpose, cannot be drawn from the information contained in this document.

It is the user's responsibility to determine (i) whether a product is suitable for the user's particular purpose or application and (ii) whether it is compatible with the user's intended manufacturing process, equipment, and methods. Under no circumstances will Dymax be liable for determining such suitability or compatibility. Before the user sells any item that incorporates Dymax's product, the user shall adequately and repetitively test the item in accordance with the user's procedures and protocols. Unless specifically agreed to in writing, Dymax will have no involvement in, and shall under no circumstances be liable for, such testing.

Dymax makes no warranties, whether express or implied, concerning the merchantability of this product or its fitness for a particular purpose. Nothing in this document should be interpreted as a warranty of any kind. Under no circumstances will Dymax be liable for any injury, loss, expense or incidental or consequential damage of any kind allegedly arising in connection with the user's handling, processing, or use of the product. It is the user's responsibility to adopt appropriate precautions and safeguards to protect persons and property from any risk arising from such handling, processing, or use.

The specific conditions of sale for this product are set forth in Dymax's Conditions of Sale which are available at <https://dymax.com/resources/sales-terms-conditions>. Nothing contained herein shall act as a representation that the product use or application is free from patents owned by Dymax or any others. Nothing contained herein shall act as a grant of license under any Dymax Corporation Patent.

Except as otherwise noted, all trademarks used herein are trademarks of Dymax. The "®" symbol denotes a trademark that is registered in the U.S. Patent and Trademark Office.

The contents of this document are subject to change. Unless specifically agreed to in writing, Dymax shall have no obligation to notify the user about any change to its content.