



## 501-E-REV-A Activator

### Environmentally Safe for Fast, Reliable, Structural Bonding

#### APPLICATIONS

- Cure of Dymax Multi-Cure® Adhesives
- Suitable for Gaps <0.001 to 0.020"
- (preferred gap 0 – 0.002")

#### FEATURES

- Strong Structural Bonds
- Fixtures in Seconds
- Solvent Free

#### RECOMMENDED SUBSTRATES

- Metals
- Ceramic
- Glass
- Plated surfaces

501-E-REV-A activator, when pre-applied to metallic, plated, ceramic, or glass substrates, rapidly cures high-strength Dymax Multi-Cure® and structural adhesives in gaps from less than 1 mil to 20 mils. It's free of solvents and is environmentally friendly. 501-E-REV-A's low volatility and high flash point also enhances safety in the workplace. Activator bonding increases efficiencies, consistency, and reliability. Dymax formulations provide a broad range of process control advantages by matching the cure speed with assembly needs, thereby increasing total process efficiency. Activator 501-E-REV-A provides broad tolerance of adhesive-to-activator ratios. Rapid, on-demand curing to fixture or handling strength allows in-line quality control and increased production throughput. This product is in full compliance with RoHS directives 2015/863/EU.

#### UNCURED PROPERTIES \*

Property	Value	Test Method
Appearance	Yellow to Amber	N/A
Solvent Present	None	N/A
Flash Point (Closed Cup)	245°F (118°C)	N/A
Shelf Life at Recommended Conditions from Date of Manufacture	12 months	N/A

#### CURING GUIDELINES

Curing Conditions	Dymax 846-GEL	Dymax 6-621
Fixture Time/Handling Strength	15-20 sec	10-15 sec
Lap Shear with CRS laps 5 minutes	829 psi	1267 psi
Lap Shear with CRS laps 30 minutes	1244 psi	1644 psi
Lap Shear with CRS laps 24 hours	2095 psi	2239 psi
Lap Shear with CRS laps 72 hours	2028 psi	2574 psi
Lap Shear with CRS laps 1 hour at 200°F	2255 psi	3516 psi

#### RECOMMENDED SPEED OF CURE FIXTURE TEST

This test is recommended for inspection of incoming adhesive and activator and for in-line process control. Production parts are ideal for in-line inspection and QC. Alternatively, microscope slides or steel laps may be used as the test substrate. It is recommended that this test be performed at the beginning of each shift and the results charted. This will ensure the adhesive and activator are in good working order.

Step 1: Apply a thin film of activator to one part. Cover about one square inch.

Step 2: Apply a thin, 1/16" BEAD of adhesive (do not spread) to the other part.

Step 3: With a 3/4" to 1" overlap, press the two parts together and hold for 5 seconds. (Note – as the adhesive bead rolls across the activator, it picks up the activator – this is how they mix.)

Step 4: Every 5 seconds, gently tap the end of one part while holding the other part still. Fixture time is when the parts resist movement with light finger pressure.

Step 5: Record the fixture time. Fixture time should fall within the range set during process validation. If outside these limits, repeat, check method, and check with different lot of activator or adhesive.

/

\* Not Specifications

N/A Not Applicable

© 2023 Dymax Corporation. All rights reserved.

All trademarks in this guide, except where noted, are the property of, or used under license by Dymax Corporation, U.S.A.

Technical Data Collected 2017 Rev.02/10/2023





## OPTIMIZING PERFORMANCE AND HANDLING

For most bonding applications, activator is applied to one bonding surface and adhesive to the other. Spraying, dipping, brushing, or pad transfer are all acceptable techniques for application.

Activators are oxygen sensitive. Containers must be kept closed or stored under nitrogen when not in use in order to maintain shelf life. Remove only enough activator from the container that can be used in a short period of time.

### Recommended Technique:

1. Apply a thin film of activator to one of the surfaces to be bonded. Activator should not stand in pools. Surfaces will have an oily appearance. Activating both surfaces may produce better results on some porous surfaces or if bond-line gaps exceed 0.015".
2. Apply a single drop or small bead of adhesive (DO NOT SPREAD) onto the mating surface. When the parts are joined the adhesive spreads, mixing with activator to completely fill the joint.
3. Assemble parts and clamp or leave undisturbed until fixture (handling strength) occurs. Assembled parts should be held immobile until adhesive fixture occurs. Movement of parts relative to each other prior to achieving fixture or handling strength can result in weaker bond lines.

### Additional Technical Considerations:

**Adhesive Application:** Adhesive should only be applied as a drop or bead that squeezes from the center to the edges of the bonding surfaces. This technique promotes mixing and assures maximum contact of adhesive and activator over the entire bond area. Use the optimum amount of adhesive to COMPLETELY FILL the joint. Apply just enough adhesive so that a small fillet becomes visible around all edges when the parts are pressed together. Do not overfill. The "fillet" should cure if the proper ratio of adhesive to activator has been used.

**Adhesive/Activator Ratio:** Dymax Multi-Cure® and structural bonding adhesive systems are formulated to allow a wide tolerance of adhesive-to-activator ratios. The same approximate strength results when using ratios from 15:1 to 30:1. The critical factor is that a thin film of activator on one mating surface contact adhesive bead(s) on the other mating surface and that both mix during assembly. With these criteria met, the actual adhesive-to-activator ratio may vary with assembly design and adhesive/activator dispensing systems. It should be noted that flooding or over-activation may result in weaker ultimate bond strengths.

## DISPENSING SUPPORT

Activator is easily applied with dispensing equipment for automated assembly. Best methods are spraying or pad printing. Natural felt, lamb's wool, horsehair or chemically resistant polyurethane and silicone foams are suitable. Spray application is also satisfactory. Proper ventilation must be provided, as well as proper design of spray nozzles to prevent overspray. Overspray on surrounding surfaces does not dissipate. Activated surfaces have an oily appearance. Pressurize dispensers only with nitrogen, never with air.

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 oxygen. Keep tightly sealed when not in use. This material shelf life noted on page 1 of this document, when stored between 10°C (50°F) and 32°C (90°F) in the original, unopened container. No shelf life is stipulated once opened. Activator is oxygen sensitive. Containers should be closed immediately following dispensing. Resealing container under nitrogen can help to extend shelf life. If activator turns dark in color, run the fixture test (on previous page) to determine its potency.

## CLEAN UP

Excess activator and adhesive may be cleaned with organic solvents. Ketones, like Acetone, should not be used on surfaces to be bonded as they sometimes leave a harmful residue. 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.

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 [General Terms & Conditions of Sale](#). 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.

## CONTACT DYMAX

[www.dymax.com](http://www.dymax.com)

### Americas

USA | +1.860.482.1010 | [info@dymax.com](mailto:info@dymax.com)

### Europe

Germany | +49 611.962.7900 | [info\\_de@dymax.com](mailto:info_de@dymax.com)

Ireland | +353 21.237.3016 | [info\\_ie@dymax.com](mailto:info_ie@dymax.com)

### Asia

Singapore | +65.67522887 | [info\\_ap@dymax.com](mailto:info_ap@dymax.com)

Shenzhen | +86.755.83485759 | [dymaxasia@dymax.com](mailto:dymaxasia@dymax.com)

Hong Kong | +852.2460.7038 | [dymaxasia@dymax.com](mailto:dymaxasia@dymax.com)

Korea | +82.31.608.3434 | [info\\_kr@dymax.com](mailto:info_kr@dymax.com)