

## Impact Resistant Multi-Substrate Bonder with Vibration Absorption

### PRODUCT DESCRIPTION

Incure Cyro-Weld™ 459 is two-part epoxy primarily used for bonding of metals, plastics, ceramics, glass and rubbers with gap sizes between 0.2mm to 0.5mm. With a working pot life of 4 hours, it cures completely in 24hrs at room temperature. For faster cure, it can be expedited to 2hrs at 65°C. Incure 459 cures to form a tough and semi-hard grey material and provides excellent impact and vibration resistance. Formulated to meet ISO 10993-5 for cytotoxicity.

### UNCURED PROPERTIES

|   |                      |                   |                |   |            |
|---|----------------------|-------------------|----------------|---|------------|
| Chemical Type   | Epoxy Resin Compound |                   |                |   |            |
| Appearance  | Grey                 |                   |                |   |            |
| Density, g/ml   | 1.20                 | Flash Point       | 93°C (199.4°F) |   |            |
| Viscosity, cP (rpm)   | 20                   | 600,000 - 800,000 | Spindle        | 7 |            |
| Other viscosities are available upon request. If the viscosity range requested is not our standard offering, this product may be produced with a small lab fee. |                      |                   |                |   | ASTM D2556 |
| Email us at: support@uv-incure.com or your nearest local distributor for more information.  |                      |                   |                |   |            |

Viscosity (cP) taken at 25°C (77°F) - Call to enquiry for other viscosities.

### SETTING TIME FOR MATERIALS (s)

|       |      |      |      |   |
|-------|------|------|------|---|
| Steel | N.A. | EPDM | N.A. | 0 |
| ABS   | N.A. | Wood | N.A. | 0 |

### FULL CURE (hr)

|               |    |
|---------------|----|
| @25°C, 85% RH | 24 |
| @25°C, 60% RH | 36 |

### CURED PROPERTIES

|                     |                                    |
|---------------------|------------------------------------|
| Service Temperature | -40°C to 150°C<br>(-40°F to 302°F) |
|---------------------|------------------------------------|

**Incure Inc.**  
1 Hartford Square, Box 16 West,  
Suite C-3 West Gate, Door 18, New Britain,  
CT 06052, USA

**Incure Adhesives Manufacturing Pte Ltd**  
33 Ubi Avenue 3 #04-23, Vertex Tower B  
Singapore 408868  
support@uv-incure.com www.uv-incure.com



### SHELF-LIFE, STORAGE, USE AND HANDLING

Shelf-Life of this unopened product is a minimum of 6 mths from date of manufacture. Avoid direct exposure of bottle to visible light at all times. Containers should remain covered when not in use. Product should be stored 15°C to 25°C (59°F to 77°F). Transfer of product into other packages void all warranties. Users should ensure all bonding surfaces are free of grease, mold release, or any contaminants, as bonding performance will be compromised. Dispense only to one surface only. Bonding parts should be firmed held together for a few seconds before releasing. All tests for cured bonds should be carried out at ambient temperature. For safe handling of this product, please read Material Safety Data-sheet (MSDS) prior to use. Organic solvents, such as IPA, may be used to wipe away uncured material from surfaces.

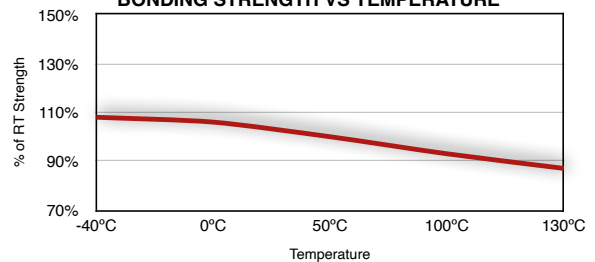
### EtO and GAMMA STERILIZATION (Not Applicable)

All Incure Medical products are formulated to subject to standard sterilization methods, such as EtO and Gamma Radiation of 25 to 50 kGrays (cumulative). Enhanced moisture and thermal resistance of this product show excellent adhesion and bonding strength after one cycle of steam auto-clave test. Depending on bond design and structure of the application, users should test specific assemblies after subjecting them to the test requirements. Please consult Incure Support Team for assistance, if your devices are subjected to more than one sterilization cycles.

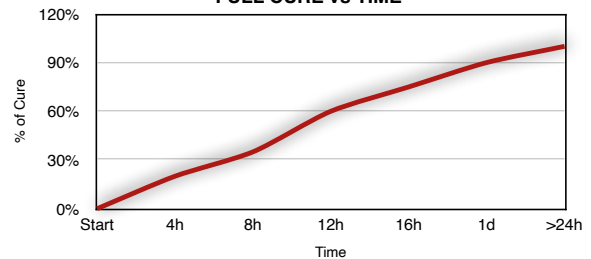
### NOTE

The data contained in this document are furnished for information only. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein. INCURE will not be liable for any indirect, special, incidental or consequential loss or damage arising from this INCURE product, regardless of the legal theory asserted. INCURE recommends that each user adequately test its proposed use and application before repetitive use, using this data as a guide.

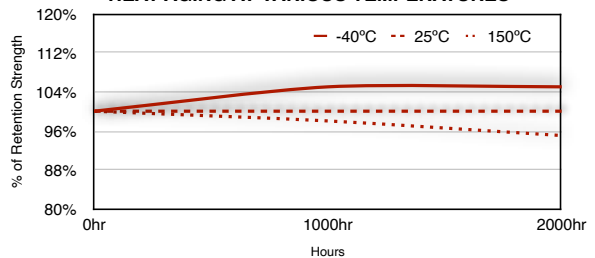
### BONDING STRENGTH VS TEMPERATURE



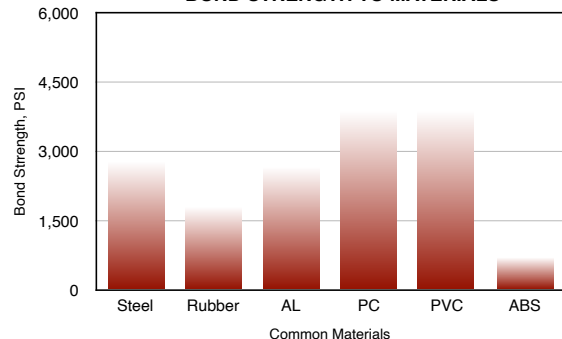
### FULL CURE vs TIME



### HEAT AGING AT VARIOUS TEMPERATURES



### BOND STRENGTH TO MATERIALS



Figures are tested to ASTM 4501. Results may differ with varying application bonding areas, contact surface areas, coatings and material grades, etc.