

Technical Data Sheet

B357 – EPOXY ADHESIVE

Revised 03.08.10



BARNWELL

THE SEAL OF APPROVAL

B357 Epoxy Adhesive

PRODUCT DESCRIPTION

B357 is a single part epoxy adhesive containing an inbuilt rubber toughening component to enhance peel strength and impact resistance. It displays high shear strength in many 'hostile' environments together with good oil, alcohol and water resistance. This adhesive is designed to be cured within the range 100°C to 200°C at varying times. B357 is modified in that a co-catalyst has been added to reduce the cure temperature.

APPLICATIONS

B357 bonds most metals and plastics that are not affected by curing temperature.

INSTRUCTIONS FOR USE

Reference should be made to the MSDS. B357 may be applied by using an extrusion gun. The adhesive does not have any green strength or grab, therefore the articles or assemblies to be bonded must be supported in jigs or clamps until full cure has been reached. B357 will bond oil-contained surfaces, however lightly abraded and clean surfaces will achieve the highest results.

TECHNICAL FEATURES

| | |
|------------------|---------------------|
| Appearance | Viscous white paste |
| Specific gravity | 1.3 |

TYPICAL BOND CHARACTERISTICS

Cured Properties

| | |
|-----------------------------------|-------|
| Glass transition temp | 120°C |
| Differential scanning calorimeter | 150°C |

Hardness shore (A) 90- 95

Heat Exposure Resistance

Steel bonds 1/2" overlap, exposed at 180°C.

| Days | 0 | 1 | 2 | 3 | 4 | 5 | 7 |
|--------------------------------|------|------|------|------|------|------|------|
| Shear strength at 23°C MPA | 23.6 | 24.1 | 24.1 | 24.3 | 24.1 | 24.3 | 24.1 |
| psi | 3415 | 3490 | 3490 | 3525 | 3490 | 3525 | 3490 |
| Shear strength at 180°C MPA | 6.4 | 9.9 | 10.7 | 17.9 | 21.6 | 10.4 | 9.2 |
| psi | 935 | 1440 | 1545 | 2590 | 3130 | 1510 | 1330 |

Initial increase at 180°C indicates post-cure of the adhesive followed by degradation and corrosion of the steel.

Cure Cycle

| | |
|--|-------------------|
| 105°C for 2 1/2hrs | 18.1Mpa, 2625psi |
| 115°C for 1 1/2hrs | 23.3Mpa, 3380psi |
| 125°C for 1 hr | 19.3 Mpa, 2805psi |
| 135°C for 45 mins | 21.3Mpa, 3095 psi |
| 140°C for 30 mins | 23Mpa, 3340psi |
| 160°C for 30 mins | 26Mpa, 3770psi |
| 190°C for 30mins | 28Mpa, 4060psi |
| 200°C for 120mins | 28Mpa, 4050psi |
| 160°C for 30mins @ 60°C | 24Mpa, 3480psi |
| 160°C for 30mins @ 120°C | 17Mpa, 2460psi |
| 160°C for 30mins after 168hrs@ | 28Mpa, 4060psi |
| 160°C for 30mins after 4 months | 25Mpa, 3620psi |
| immersion in ethanol 160°C for 30mins environmental | 29Mpa, 4200psi |
| cycling (-40°C, humid, UV, Dry 160°C for 30mins humidity 100% | 22Mpa, 3190psi |
| 160°C for 30mins salt spray 5% | 20Mpa, 2900psi |

Peel strength on steel 160°C for 30mins - 11N/mm, 63lbs/inch

STORAGE

Store in a cool area out of direct sunlight. Shelf Life >12 months at 20°C.

HEALTH & SAFETY

This technical information sheet does not constitute a Material Safety Data Sheet (MSDS). Before using this product ensure you have read and fully understood B357 MSDS.

PRESENTATION

Cartridge.....310ml

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the product. Warranty: All products purchased from or supplied by Bondloc are subject to terms and conditions set out in the contract. Bondloc warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by Bondloc is considered accurate but are furnished upon the express condition the customer shall make its own assessment to determine the product's suitability for a particular purpose. Bondloc makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.