

# FM® 450-1

Maleic Anhydride Grafted Polymer

Cytec Industries Inc.

## Message:

FM® 450-1 film adhesive is a next generation high performance BMI adhesive for bonding both composite and metallic structures. This new adhesive provides a unique combination of high Tg, toughness and high temperature shear properties. It is designed for co-cure, co-bond or secondary bonding applications. FM 450-1 has excellent resistance to pre-bond and post-bond humidity and has good retention of properties up to 232°C (450°F). FM 450-1 film adhesive delivers excellent tack and drape and has a minimum shop life of 30 days at 24°C (75°F). FM 450-1 is compatible with Cytec's industry leading CYCOM® 5250-4 BMI prepreg and our new CYCOM® 5261 toughened BMI prepreg. FM 450-1 adhesive film can be supplied as a supported (woven glass or glass mat carrier) or unsupported film at various weights and thicknesses. This adhesive film is suitable for bonding of metallic or composite monolithic or sandwich structures. The unsupported adhesive film can be easily reticulated onto perforated skins or honeycomb for acoustic applications. FM 450-1 adhesive film can be cured at 190°C (375°F) followed by a freestanding post cure at 227°C (440°F) or by following the BMI prepreg cure cycle.

Suggested Applications:

Co-cure, co-bond and secondary bonding of both composite and metallic structures

| General Information |                      |                   |             |
|---------------------|----------------------|-------------------|-------------|
| Features            | Good Adhesion        |                   |             |
|                     | Good Toughness       |                   |             |
|                     | High Heat Resistance |                   |             |
|                     | Humidity Resistant   |                   |             |
| Uses                | Adhesives            |                   |             |
|                     | Bonding              |                   |             |
| Appearance          | Yellow               |                   |             |
| Forms               | Film                 |                   |             |
| Physical            | Nominal Value        | Unit              |             |
| Specific Gravity    | 1.25                 | g/cm <sup>3</sup> |             |
| Cured Properties    | Nominal Value        | Unit              | Test Method |
| Lap Shear Strength  |                      |                   |             |
| 24°C <sup>1</sup>   | 43.4                 | MPa               |             |
| 24°C <sup>2</sup>   | 23.3                 | MPa               | ASTM D1002  |
| NOTE                |                      |                   |             |

1.

Before Postbond Humidity Exposure, Composite Bonding: Co-bonded Wide Area Lap Shear with CYCOM 2561 Pre-cured Substrates

2.

Lap Shear with Aluminum Substrates

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