

# ASTALAC™ ABS MDA49

Acrylonitrile Butadiene Styrene

Marplex Australia Pty. Ltd.

## Message:

ASTALAC™ ABS MDA49 is a high melt flow flame retardant ABS which meets the stringent Underwriter's Laboratory UL94 V-0 flammability test and offers an optimum balance of flame retardancy, impact toughness, product rigidity and mouldability. Typical applications include dishwasher fascia panels and other domestic/industrial electrical casing components.

Note: The letters "UV" or "W" indicate UV additional stabilisation [ ie: ASTALAC™ ABS MDA49UV ].

| General Information |                                    |
|---------------------|------------------------------------|
| Additive            | Flame Retardant                    |
| Features            | Flame Retardant                    |
|                     | Good Impact Resistance             |
|                     | Good Moldability                   |
|                     | High Flow                          |
|                     | Medium Rigidity                    |
| Uses                | Electrical/Electronic Applications |
|                     | Industrial Applications            |
|                     | White Goods & Small Appliances     |

| Physical                                         | Nominal Value | Unit              | Test Method             |
|--------------------------------------------------|---------------|-------------------|-------------------------|
| Specific Gravity                                 | 1.18          | g/cm <sup>3</sup> | ASTM D792               |
| Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)         | 7.0           | g/10 min          | ASTM D1238              |
| Molding Shrinkage - Flow (3.00 mm)               | 0.60          | %                 | ASTM D955               |
| Water Absorption (24 hr)                         | 0.25          | %                 | ASTM D570               |
| Hardness                                         | Nominal Value | Unit              | Test Method             |
| Rockwell Hardness (R-Scale)                      | 96            |                   | ASTM D785               |
| Mechanical                                       | Nominal Value | Unit              | Test Method             |
| Tensile Strength <sup>1</sup> (3.20 mm)          | 39.0          | MPa               | ASTM D638               |
| Tensile Elongation <sup>2</sup> (Break, 3.20 mm) | 40            | %                 | ASTM D638               |
| Flexural Modulus <sup>3</sup> (3.20 mm)          | 2200          | MPa               | ASTM D790               |
| Flexural Strength <sup>4</sup> (3.20 mm)         | 67.0          | MPa               | ASTM D790               |
| Impact                                           | Nominal Value | Unit              | Test Method             |
| Notched Izod Impact (3.20 mm)                    | 230           | J/m               | ASTM D256               |
| Thermal                                          | Nominal Value | Unit              | Test Method             |
| Deflection Temperature Under Load                |               |                   | ASTM D648               |
| 1.8 MPa, Unannealed, 3.20 mm                     | 72.0          | °C                |                         |
| 1.8 MPa, Unannealed, 12.7 mm                     | 84.0          | °C                |                         |
| Vicat Softening Temperature                      | 99.0          | °C                | ASTM D1525 <sup>5</sup> |
| CLTE - Flow                                      | 9.0E-5        | cm/cm/°C          | ASTM D696               |

| Flammability                             | Nominal Value    | Unit               | Test Method  |
|------------------------------------------|------------------|--------------------|--------------|
| Flame Rating (3.00 mm)                   | V-0              |                    | UL 94        |
| Glow Wire Ignition Temperature (1.60 mm) | 960              | °C                 | AS/NZS 60695 |
| Injection                                | Nominal Value    | Unit               |              |
| Drying Temperature                       | 85.0 to 90.0     | °C                 |              |
| Drying Time                              | 3.0 to 5.0       | hr                 |              |
| Rear Temperature                         | 195 to 215       | °C                 |              |
| Middle Temperature                       | 205 to 225       | °C                 |              |
| Front Temperature                        | 215 to 235       | °C                 |              |
| Processing (Melt) Temp                   | 210 to 240       | °C                 |              |
| Mold Temperature                         | 40.0 to 70.0     | °C                 |              |
| Injection Pressure                       | 60.0 to 140      | MPa                |              |
| Injection Rate                           | Moderate         |                    |              |
| Back Pressure                            | 0.100 to 0.500   | MPa                |              |
| Screw Speed                              | 40 to 60         | rpm                |              |
| Clamp Tonnage                            | 3.0 to 6.0       | kN/cm <sup>2</sup> |              |
| NOTE                                     |                  |                    |              |
| 1.                                       | 5.0 mm/min       |                    |              |
| 2.                                       | 5.0 mm/min       |                    |              |
| 3.                                       | 1.3 mm/min       |                    |              |
| 4.                                       | 1.3 mm/min       |                    |              |
| 5.                                       | Loading 1 (10 N) |                    |              |

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