

# ASTALOY™ PC/ABS TWG

Polycarbonate + ABS  
Marplex Australia Pty. Ltd.

Message:

ASTALOY™ PC/ABS TWG is a high weldline impact strength alloy of ABS and Polycarbonate and is designed for injection moulding applications with multiple weldlines and requiring a balance of impact toughness, heat resistance, product rigidity, mouldability and easy painting. Typical applications in the automotive area are interior instrument panel fascia panels, console capping mouldings and glovebox assemblies, together with exterior painted components such as wheeltrims, front grilles, rear appliques and other trim panels.

Note: The letters "U" or "W" indicate UV stabilisation has been added [ ie: ASTALOY™ PC/ABS TWGU ].

| General Information                              |                           |                   |             |
|--|---------------------------|-------------------|-------------|
| Features   | Good Moldability          |                   |             |
|  | High Heat Resistance      |                   |             |
|  | High Impact Resistance    |                   |             |
|  | Medium Rigidity           |                   |             |
|  | Paintable                 |                   |             |
| Uses   | Automotive Applications   |                   |             |
|  | Automotive Exterior Parts |                   |             |
|  | Automotive Interior Parts |                   |             |
| Processing Method                                | Injection Molding         |                   |             |
| Physical   | Nominal Value             | Unit              | Test Method |
| Specific Gravity                                 | 1.12                      | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR)                        |                           |                   | ASTM D1238  |
| 250°C/3.8 kg                                     | 8.0                       | g/10 min          |             |
| 260°C/5.0 kg                                     | 20                        | g/10 min          |             |
| 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)                      | 112                       |                   | ASTM D785   |
| Mechanical                                       | Nominal Value             | Unit              | Test Method |
| Tensile Strength <sup>1</sup> (3.20 mm)          | 54.0                      | MPa               | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break, 3.20 mm) | 100                       | %                 | ASTM D638   |
| Flexural Modulus <sup>3</sup> (3.20 mm)          | 2450                      | MPa               | ASTM D790   |
| Flexural Strength <sup>4</sup> (3.20 mm)         | 86.0                      | MPa               | ASTM D790   |
| Impact   | Nominal Value             | Unit              | Test Method |
| Notched Izod Impact (3.20 mm)                    | 600                       | J/m               | ASTM D256   |
| Gardner Impact (3.20 mm)                         | 60.0                      | J                 | ASTM D3029  |
| Thermal  | Nominal Value             | Unit              | Test Method |
| Deflection Temperature Under Load                |                           |                   | ASTM D648   |

| 1.8 MPa, Unannealed, 3.20 mm             | 102              | °C                 |                         |
|--|------------------|--------------------|-------------------------|
| 1.8 MPa, Unannealed, 6.40 mm             | 107              | °C                 |                         |
| 1.8 MPa, Unannealed, 12.7 mm             | 112              | °C                 |                         |
| Vicat Softening Temperature              | 135              | °C                 | ASTM D1525 <sup>5</sup> |
| CLTE - Flow                              | 7.2E-5           | cm/cm/°C           | ASTM D696               |
| Flammability                             | Nominal Value    | Unit               | Test Method             |
| Flame Rating (1.60 mm)                   | HB               |                    | UL 94                   |
| Glow Wire Ignition Temperature (1.60 mm) | 550              | °C                 | AS/NZS 60695            |
| Injection                                | Nominal Value    | Unit               |                         |
| Drying Temperature                       | 95.0 to 100      | °C                 |                         |
| Drying Time                              | 3.0 to 5.0       | hr                 |                         |
| Rear Temperature                         | 235 to 255       | °C                 |                         |
| Middle Temperature                       | 245 to 265       | °C                 |                         |
| Front Temperature                        | 255 to 275       | °C                 |                         |
| Processing (Melt) Temp                   | 250 to 280       | °C                 |                         |
| Mold Temperature                         | 50.0 to 90.0     | °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                            | 4.0 to 8.0       | 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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