

## Technical Data Sheet

### *Polyman* ABS E/Hi S NAT

Acrylonitrile Butadiene Styrene



#### Product Description

High impact ABS extrusion grade

**Processing Method** Extrusion; Injection Molding

**Attribute** High Impact Resistance

**Resin ID** ABS

| Typical Properties                                                  | Nominal Value | Units                   | Test Method   |
|---------------------------------------------------------------------|---------------|-------------------------|---------------|
| <b>Physical</b>                                                     |               |                         |               |
| Melt Volume Flow Rate, (220 °C/10.0 kg)                             | 9.0           | cm <sup>3</sup> /10 min | ISO 1133      |
| Density, (Method A)                                                 | 1.03          | g/cm <sup>3</sup>       | ISO 1183      |
| <b>Mechanical</b>                                                   |               |                         |               |
| Tensile Stress at Yield, (Type 1A, 50 mm/min)                       | 40.0          | MPa                     | ISO 527-2     |
| Tensile Strain at Yield, (Type 1A, 50 mm/min)                       | 2.5           | %                       | ISO 527-2     |
| Tensile Modulus, (1 mm/min, Type 1A)                                | 1500          | MPa                     | ISO 527-1     |
| <b>Impact</b>                                                       |               |                         |               |
| Charpy Impact Strength - Notched                                    |               |                         |               |
| (23 °C, Type 1, Edgewise, Notch A)                                  | 34            | kJ/m <sup>2</sup>       | ISO 179       |
| (-30 °C, Type 1, Edgewise, Notch A)                                 | 19            | kJ/m <sup>2</sup>       | ISO 179       |
| Charpy Impact Strength - Unnotched                                  |               |                         |               |
| (23 °C, Type 1, Edgewise)                                           | No Break      |                         | ISO 179       |
| (-30 °C, Type 1, Edgewise)                                          | No Break      |                         | ISO 179       |
| <b>Hardness</b>                                                     |               |                         |               |
| Ball Indentation Hardness, (H 358/30)                               | 85.0          | MPa                     | ISO 2039-1    |
| <b>Thermal</b>                                                      |               |                         |               |
| Vicat Softening Temperature                                         |               |                         |               |
| (B (50N), 50 °C/h)                                                  | 90.0          | °C                      | ISO 306       |
| (A (10N), 50 °C/h)                                                  | 109           | °C                      | ISO 306       |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 93.0          | °C                      | ISO 75-2/B    |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 88.0          | °C                      | ISO 75-2/A    |
| <b>Electrical</b>                                                   |               |                         |               |
| Volume Resistivity                                                  | >1.0E+13      | ohm*m                   | IEC 62631-3-1 |
| Comparative Tracking Index (CTI)                                    | 600           | V                       | IEC 60112     |
| Surface Resistivity                                                 | >1.0E+15      | ohm                     | IEC 60093     |
| <b>Flammable</b>                                                    |               |                         |               |

|                                       |      |        |                      |
|---------------------------------------|------|--------|----------------------|
| Burning Rate                          |      |        |                      |
| (2.00 mm)                             | <100 | mm/min | ISO 3795             |
| (2.00 mm)                             | <100 | mm/min | FMVSS 302            |
| Glow Wire Flammability Index          |      |        |                      |
| (1.5 mm)                              | 650  | °C     | IEC 60695-2-12       |
| (3.0 mm)                              | 650  | °C     | IEC 60695-2-12       |
| UL Information                        |      |        |                      |
| Flammability Classification, (1.5 mm) | HB   |        | IEC 60695-11-10, -20 |

| Extrusion Parameters | Nominal  |       |
|----------------------|----------|-------|
|                      | Value    | Units |
| Drying Temperature   | 70 to 80 | °C    |