



Globalene TPV 4045A NT

PRODUCT DATA SHEET

A low hardness, multi-purpose thermoplastic elastomer featuring excellent compression set and high temperature performance. Globalene TPV 4045A NT can be processed by extrusion or molding for applications such as weatherstrip profile, seals, window gaskets and other soft touch articles.

Attributes:

- Globalene TPV 4000 series is a fully cured Thermoplastic Elastomers containing EPDM and PP.
- 4045A NT is specifically formulated with Styrene based TPEs for enhanced mechanical properties.
- It is designed for applications requiring good performance even at elevated temperatures.
- Suitable for injection molding and profile extrusion and conventional thermoplastic processing equipment can be used.
- No pre-drying is required.

Applications:

Globalene TPV has quality sealing property, good chemical and weathering resistance and electrical property that is suitable to replace main stream TPV, thermoset EPDM rubber, Styrene based TPEs, flexible PVC and other TPEs. It is an excellent choice for applications requiring flexibility in the following markets: automotive parts, appliance, business machines, construction, consumer products, and electronics.

| Property | Typical Value | Unit | Test Method |
|-----------------------------------------------------------|---------------|---------|-------------|
| PHYSICAL | | | |
| Hardness: Injection Molded, 15 sec | 48 | Shore A | ISO 868 |
| Specific Gravity 23°C | 0.94 | N/A | ISO 1183 |
| Melting Point | 150 | °C | LCY Method |
| Compression Set 22 hr @ 70°C 70 hr @ 125°C | 32 60 | % | ISO 815 |
| Brittle Point | -65 | °C | ISO 812 |
| Ozone Resistance 500 hr, 100 pphm O ₃ conc. | Excellent | | ASTM D-1149 |
| MECHANICAL | | | |
| Tensile Strength 23°C, 500 mm/min | 6.0 | MPa | ISO 37 |
| Tensile Modulus @ 100% 23°C, 500 mm/min | 1.5 | MPa | ISO 37 |
| Ultimate Elongation 23°C, 500 mm/min | 780 | % | ISO 37 |
| Tear Strength 23°C, 500 mm/min | 18 | kN/m | ISO 34-1 |



PROCESSING & HANDLING GUIDE

Globalene TPV 4000 series is an EPDM based thermoplastic rubber, which can be processed on conventional thermoplastic equipment by injection molding and extrusion. This product has a wide processing window in most applications with melt temperatures ranged from 180°C to 220°C. No pre-drying is required before processing.

INJECTION MOLDING CONDITIONS

| | |
|----------------------------|------------------------------|
| Melt Temperature | 180-220°C |
| Barrel Temperatures - Rear | 180-190°C |
| Middle | 200-220°C |
| Front | 200-220°C |
| Nozzle | 200-220°C |
| Injection Pressure | : 700-1000 psi (4.8-6.9 MPa) |
| Holding Pressure | : 300-600 psi (2.1-4.1 MPa) |
| Holding Time | : 4-10 seconds |
| Cooling Time | : 15-30 seconds |
| Mold Temperature | 30-55°C |
| Screw Speed | 100-200 RPM |
| Vent Depth | 0.001 inch |
| Back Pressure | 10-150 psi |

EXTRUSION CONDITIONS

| | |
|-------------------------------------|-----------------------------------------------------------|
| Melt Temperature | 180-220°C |
| Barrel Temperatures - Zone 1 (Feed) | 180°C |
| Zone 2 | 190°C |
| Zone 3 (Transition) | 200°C |
| Zone 4 (Metering) | 210°C |
| Zone 5 (Front) | 210°C |
| Die | 210-220°C |
| Roll Temperature | 20-50°C |
| Screen Pack | 20 to 60 mesh |
| Screw | General Purpose 3:1 Compression ratio ≥ 24:1 L/D ratio |

Purging

Recommended to purge thoroughly before and after use of this product with fractional MFR polypropylene.

Recycling & Regrinding

This product can be reprocessed with physical properties not degraded in general. Dry grind prior to reprocessing required.

Coloring

The use of polyolefin (PP or PE) based color concentrates is recommended when require for Natural TPV grades only. Apply back pressure in injection molding to disperse color.

Storage & Handling

Globalene TPV 4000 series is available in 25 kg with PE bags (up to 750 kg per pallet). It has a storage life of 3 years from production date with proper storage at normal temperature away from direct sunlight. Please refer to the Material Safety Data Sheet for this material prior to first time handling or contact LCY representative for further information.