

# ENFLEX V1045D

Thermoplastic Vulcanizate

ENPLAST Americas, a Ravago Group Company

Message:

Enflex V1045D TPV (thermoplastic vulcanizate) is a general purpose semi-rigid black EPDM/PP compound available in both natural and black. This grade is design for injection molding, extrusion and blow molding applications requiring moderate rigidity with high heat resistance.

| General Information                   |                               |                   |             |
|---------------------------------------|-------------------------------|-------------------|-------------|
| Features                              | Low compressive deformability |                   |             |
|                                       | Solvent resistance            |                   |             |
|                                       | Good UV resistance            |                   |             |
|                                       | Recyclable materials          |                   |             |
|                                       | Workability, good             |                   |             |
|                                       | Ozone resistance              |                   |             |
|                                       | alkali resistance             |                   |             |
|                                       | Alcohol resistance            |                   |             |
|                                       | Heat resistance, high         |                   |             |
|                                       | acid resistance               |                   |             |
|                                       | Detergent resistance          |                   |             |
|                                       | Oil resistance                |                   |             |
|                                       | General                       |                   |             |
|                                       | Medium hardness               |                   |             |
| Appearance                            | Black                         |                   |             |
|                                       | Natural color                 |                   |             |
| Processing Method                     | Blow molding                  |                   |             |
|                                       | Extrusion                     |                   |             |
|                                       | Injection molding             |                   |             |
| Physical                              | Nominal Value                 | Unit              | Test Method |
| Specific Gravity                      | 0.950                         | g/cm <sup>3</sup> | ASTM D792   |
| Hardness                              | Nominal Value                 | Unit              | Test Method |
| Durometer Hardness                    |                               |                   | ASTM D2240  |
| Shaw D, 5 seconds, extruded           | 44                            |                   | ASTM D2240  |
| Shore D, 5 seconds, injection molding | 46                            |                   | ASTM D2240  |
| Elastomers                            | Nominal Value                 | Unit              | Test Method |
| Tensile Stress (100% Strain)          | 10.1                          | MPa               | ASTM D412   |
| Tensile Strength (Break)              | 21.0                          | MPa               | ASTM D412   |
| Tensile Elongation (Break)            | 650                           | %                 | ASTM D412   |

|                                                                                                                                                                                                                         |               |                    |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|-------------|
| Tear Strength <sup>1</sup>                                                                                                                                                                                              | 89.0          | kN/m               | ASTM D624   |
| Compression Set                                                                                                                                                                                                         |               |                    | ASTM D395   |
| 70°C, 22 hr                                                                                                                                                                                                             | 60            | %                  | ASTM D395   |
| 125°C, 70 hr                                                                                                                                                                                                            | 85            | %                  | ASTM D395   |
| Thermal                                                                                                                                                                                                                 | Nominal Value | Unit               | Test Method |
| Brittleness Temperature                                                                                                                                                                                                 | -40.0         | °C                 | ASTM D746   |
| Melting Temperature                                                                                                                                                                                                     | 158           | °C                 | ASTM D1238  |
| Dynamic Service Temperature                                                                                                                                                                                             | 130           | °C                 |             |
| Injection                                                                                                                                                                                                               | Nominal Value | Unit               |             |
| Drying Temperature                                                                                                                                                                                                      | 82.2          | °C                 |             |
| Drying Time                                                                                                                                                                                                             | 2.0 - 4.0     | hr                 |             |
| Suggested Max Moisture                                                                                                                                                                                                  | 0.080         | %                  |             |
| Rear Temperature                                                                                                                                                                                                        | 177 - 188     | °C                 |             |
| Middle Temperature                                                                                                                                                                                                      | 182 - 193     | °C                 |             |
| Front Temperature                                                                                                                                                                                                       | 188 - 199     | °C                 |             |
| Nozzle Temperature                                                                                                                                                                                                      | 199 - 221     | °C                 |             |
| Processing (Melt) Temp                                                                                                                                                                                                  | 199 - 232     | °C                 |             |
| Mold Temperature                                                                                                                                                                                                        | 10.0 - 48.9   | °C                 |             |
| Injection Pressure                                                                                                                                                                                                      | 5.17 - 8.96   | MPa                |             |
| Injection Rate                                                                                                                                                                                                          | Fast          |                    |             |
| Screw Speed                                                                                                                                                                                                             | 50 - 200      | rpm                |             |
| Clamp Tonnage                                                                                                                                                                                                           | 4.1 - 6.9     | kN/cm <sup>2</sup> |             |
| Cushion                                                                                                                                                                                                                 | 5.08 - 12.7   | mm                 |             |
| Injection instructions                                                                                                                                                                                                  |               |                    |             |
| Holding Time: 5 to 7 Sec.Cooling Time: 30 to 50 Sec.                                                                                                                                                                    |               |                    |             |
| Extrusion                                                                                                                                                                                                               | Nominal Value | Unit               |             |
| Hopper Temperature                                                                                                                                                                                                      | 160 - 177     | °C                 |             |
| Cylinder Zone 1 Temp.                                                                                                                                                                                                   | 171 - 191     | °C                 |             |
| Cylinder Zone 2 Temp.                                                                                                                                                                                                   | 171 - 191     | °C                 |             |
| Cylinder Zone 3 Temp.                                                                                                                                                                                                   | 171 - 191     | °C                 |             |
| Cylinder Zone 4 Temp.                                                                                                                                                                                                   | 171 - 191     | °C                 |             |
| Cylinder Zone 5 Temp.                                                                                                                                                                                                   | 171 - 191     | °C                 |             |
| Adapter Temperature                                                                                                                                                                                                     | 191 - 210     | °C                 |             |
| Melt Temperature                                                                                                                                                                                                        | 191 - 199     | °C                 |             |
| Die Temperature                                                                                                                                                                                                         | 191 - 210     | °C                 |             |
| Extrusion instructions                                                                                                                                                                                                  |               |                    |             |
| Screw: L/D 20:1 or greater (L/D 24:1 preferred)Compression Zone: 355 - 390°F (180 - 200°C)Metering Zone: 375 to 410°F (190 to 210°C)Cooling Water: 60 - 85°F (15 - 30°C)Screw Speed: 100 - 200 rpmScreen Pack: 20/40/60 |               |                    |             |
| NOTE                                                                                                                                                                                                                    |               |                    |             |
| 1.                                                                                                                                                                                                                      | C mould       |                    |             |

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