



## ENFLEX® V1025A

ENPLAST Americas, a Ravago Group Company - Thermoplastic Vulcanizate

Wednesday, November 6, 2019

### General Information

#### Product Description

Enflex V1025A TPV (thermoplastic vulcanizate) is a general purpose EPDM/PP compound available in both natural and black. It is designed to replace thermoset elastomers such as EPDM or polychloroprene, and traditional thermoplastic TPVs. Enflex V grades provide the performance of vulcanized rubber with the advantage of low-cost thermoplastic processing.

#### General

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Status   | • Commercial: Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Availability      | • North America                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Features          | <ul style="list-style-type: none"><li>• Acid Resistant</li><li>• Alcohol Resistant</li><li>• Base Resistant</li><li>• Detergent Resistant</li><li>• General Purpose</li></ul> <ul style="list-style-type: none"><li>• Good Processability</li><li>• High Heat Resistance</li><li>• Low Compression Set</li><li>• Oil Resistant</li><li>• Ozone Resistant</li></ul> <ul style="list-style-type: none"><li>• Recyclable Material</li><li>• Solvent Resistant</li><li>• UV Resistant</li></ul> |
| Appearance        | <ul style="list-style-type: none"><li>• Black</li><li>• Natural Color</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| Processing Method | <ul style="list-style-type: none"><li>• Extrusion</li><li>• Injection Molding</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                     |

### ASTM & ISO Properties <sup>1</sup>

| Physical                         | Nominal Value | Unit   | Test Method |
|----------------------------------|---------------|--------|-------------|
| Density / Specific Gravity       | 0.922         |        | ASTM D792   |
| Elastomers                       | Nominal Value | Unit   | Test Method |
| Tensile Stress (100% Strain)     | 145           | psi    | ASTM D412   |
| Tensile Strength (Break)         | 420           | psi    | ASTM D412   |
| Tensile Elongation (Break)       | 630           | %      | ASTM D412   |
| Tear Strength <sup>2</sup>       | 51.4          | lbf/in | ASTM D624   |
| Compression Set                  |               |        | ASTM D395   |
| 158°F, 22 hr                     | 25            | %      |             |
| 257°F, 70 hr                     | 40            | %      |             |
| Hardness                         | Nominal Value | Unit   | Test Method |
| Durometer Hardness               |               |        | ASTM D2240  |
| Shore A, 5 sec, Extruded         | 26            |        |             |
| Shore A, 5 sec, Injection Molded | 28            |        |             |
| Thermal                          | Nominal Value | Unit   | Test Method |
| Brittleness Temperature          | -94.0         | °F     | ASTM D746   |
| Melting Temperature              | 318           | °F     | ASTM D1238  |
| Dynamic Service Temperature      | 266           | °F     |             |

### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 180           | °F   |
| Drying Time            | 2.0 to 4.0    | hr   |
| Suggested Max Moisture | 0.080         | %    |
| Rear Temperature       | 350 to 370    | °F   |
| Middle Temperature     | 360 to 380    | °F   |
| Front Temperature      | 370 to 390    | °F   |
| Nozzle Temperature     | 390 to 430    | °F   |

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| Injection              | Nominal Value  | Unit                 |
|------------------------|----------------|----------------------|
| Processing (Melt) Temp | 390 to 450     | °F                   |
| Mold Temperature       | 50 to 120      | °F                   |
| Injection Pressure     | 750 to 1300    | psi                  |
| Injection Rate         | Fast           |                      |
| Screw Speed            | 50 to 200      | rpm                  |
| Clamp Tonnage          | 3.0 to 5.0     | tons/in <sup>2</sup> |
| Cushion                | 0.200 to 0.500 | in                   |

## Injection Notes

Holding Time: 5 to 7 Sec.  
Cooling Time: 30 to 50 Sec.

| Extrusion             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Hopper Temperature    | 320 to 350    | °F   |
| Cylinder Zone 1 Temp. | 340 to 375    | °F   |
| Cylinder Zone 2 Temp. | 340 to 375    | °F   |
| Cylinder Zone 3 Temp. | 340 to 375    | °F   |
| Cylinder Zone 4 Temp. | 340 to 375    | °F   |
| Cylinder Zone 5 Temp. | 340 to 375    | °F   |
| Adapter Temperature   | 375 to 410    | °F   |
| Melt Temperature      | 375 to 390    | °F   |
| Die Temperature       | 375 to 410    | °F   |
| Screw L/D Ratio       | 24.0:1.0      |      |

## Extrusion Notes

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 rpm  
Screen Pack: 20/40/60

## Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C