

# ENFLEX V1065A

Thermoplastic Vulcanizate

ENPLAST Americas, a Ravago Group Company

Message:

Enflex V1065A 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 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                       |                   |             |
|                                       |                               |                   |             |
| Appearance                            | Black                         |                   |             |
|                                       | Natural color                 |                   |             |
| Processing Method                     | Extrusion                     |                   |             |
|                                       | Injection molding             |                   |             |
| Physical                              | Nominal Value                 | Unit              | Test Method |
| Specific Gravity                      | 0.970                         | g/cm <sup>3</sup> | ASTM D792   |
| Hardness                              | Nominal Value                 | Unit              | Test Method |
| Durometer Hardness                    |                               |                   | ASTM D2240  |
| Shaw A, 5 seconds, extruded           | 64                            |                   | ASTM D2240  |
| Shore A, 5 seconds, injection molding | 66                            |                   | ASTM D2240  |
| Elastomers                            | Nominal Value                 | Unit              | Test Method |
| Tensile Stress (100% Strain)          | 2.60                          | MPa               | ASTM D412   |
| Tensile Strength (Break)              | 5.70                          | MPa               | ASTM D412   |
| Tensile Elongation (Break)            | 590                           | %                 | ASTM D412   |
| Tear Strength <sup>1</sup>            | 29.0                          | kN/m              | ASTM D624   |
| Compression Set                       |                               |                   | ASTM D395   |

|                                                                                                                                                                                                                         |                      |                    |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------|--------------------|
| 70°C, 22 hr                                                                                                                                                                                                             | 30                   | %                  | ASTM D395          |
| 125°C, 70 hr                                                                                                                                                                                                            | 45                   | %                  | ASTM D395          |
| <b>Thermal</b>                                                                                                                                                                                                          | <b>Nominal Value</b> | <b>Unit</b>        | <b>Test Method</b> |
| Brittleness Temperature                                                                                                                                                                                                 | -60.0                | °C                 | ASTM D746          |
| Melting Temperature                                                                                                                                                                                                     | 158                  | °C                 | ASTM D1238         |
| Dynamic Service Temperature                                                                                                                                                                                             | 130                  | °C                 |                    |
| <b>Injection</b>                                                                                                                                                                                                        | <b>Nominal Value</b> | <b>Unit</b>        |                    |
| 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                 |                    |
| <b>Injection instructions</b>                                                                                                                                                                                           |                      |                    |                    |
| Holding Time: 5 to 7 Sec.Cooling Time: 30 to 50 Sec.                                                                                                                                                                    |                      |                    |                    |
| <b>Extrusion</b>                                                                                                                                                                                                        | <b>Nominal Value</b> | <b>Unit</b>        |                    |
| 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                 |                    |
| <b>Extrusion instructions</b>                                                                                                                                                                                           |                      |                    |                    |
| 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 |                      |                    |                    |
| <b>NOTE</b>                                                                                                                                                                                                             |                      |                    |                    |
| 1.                                                                                                                                                                                                                      | C mould              |                    |                    |

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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

