



## ENFLEX® S3170A HF

ENPLAST Americas, a Ravago Group Company - Thermoplastic Elastomer

Tuesday, November 5, 2019

### General Information

#### Product Description

70 Shore A TPE (Styrenic Block Copolymer based) for injection molding and extrusion applications. This grade offers soft/tactile feel, grippiness and adhesion (overmolding or co-extrusion) to Polypropylene.

#### General

|                   |                       |                       |                       |
|-------------------|-----------------------|-----------------------|-----------------------|
| Material Status   | • Commercial: Active  |                       |                       |
| Availability      | • North America       |                       |                       |
| Features          | • Acid Resistant      | • Good Colorability   | • Ozone Resistant     |
|                   | • Alcohol Resistant   | • Good Processability | • Recyclable Material |
|                   | • Base Resistant      | • High Elasticity     | • Soft                |
|                   | • Detergent Resistant | • Low Compression Set | • Solvent Resistant   |
|                   | • Good Adhesion       | • Oil Resistant       | • UV Resistant        |
| Processing Method | • Extrusion           | • Injection Molding   |                       |

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

| Physical                            | Nominal Value | Unit     | Test Method |
|-------------------------------------|---------------|----------|-------------|
| Density / Specific Gravity          | 0.990         |          | ASTM D792   |
| Melt Mass-Flow Rate (230°C/2.16 kg) | 20            | g/10 min | ASTM D1238  |
| Elastomers                          | Nominal Value | Unit     | Test Method |
| Tensile Stress (100% Strain)        | 392           | psi      | ASTM D412   |
| Tensile Strength (Break)            | 1180          | psi      | ASTM D412   |
| Tensile Elongation (Break)          | 730           | %        | ASTM D412   |
| Tear Strength                       | 195           | lbf/in   | ASTM D624   |
| Compression Set                     |               |          | ASTM D395B  |
| 73°F, 22 hr                         | 25            | %        |             |
| 158°F, 22 hr                        | 59            | %        |             |
| Hardness                            | Nominal Value | Unit     | Test Method |
| Durometer Hardness                  |               |          | ASTM D2240  |
| Shore A, 10 sec, Extruded           | 67            |          |             |
| Shore A, 10 sec, Injection Molded   | 70            |          |             |
| Thermal                             | Nominal Value | Unit     | Test Method |
| Brittleness Temperature             | -74.2         | °F       | ASTM D746   |
| Dynamic Service Temperature         | 194           | °F       |             |

### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 150 to 160    | °F   |
| Drying Time            | 2.0 to 3.0    | hr   |
| Rear Temperature       | 340 to 390    | °F   |
| Middle Temperature     | 350 to 410    | °F   |
| Front Temperature      | 375 to 430    | °F   |
| Nozzle Temperature     | 390 to 445    | °F   |
| Processing (Melt) Temp | 390 to 430    | °F   |
| Mold Temperature       | 50 to 120     | °F   |
| Injection Pressure     | 750 to 1300   | psi  |

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| Injection      | Nominal Value  | Unit                 |
|----------------|----------------|----------------------|
| Injection Rate | Fast           |                      |
| Screw Speed    | 50 to 200      | rpm                  |
| Clamp Tonnage  | 2.0 to 3.5     | tons/in <sup>2</sup> |
| Cushion        | 0.200 to 0.500 | in                   |

## Injection Notes

Holding Time: 5 to 7 Sec.

| Extrusion             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Drying Temperature    | 150 to 160    | °F   |
| Drying Time           | 2.0 to 3.0    | hr   |
| Hopper Temperature    | 320 to 350    | °F   |
| Cylinder Zone 1 Temp. | 340 to 375    | °F   |
| Cylinder Zone 3 Temp. | 355 to 390    | °F   |
| Cylinder Zone 5 Temp. | 375 to 410    | °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)

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.