

# ENFLEX EA3745A

Thermoplastic Elastomer

ENPLAST Americas, a Ravago Group Company

Message:

45 Shore A TPE (Styrenic Block Copolymer based) available in black and natural for injection molding and extrusion applications. This grade offers soft/tactile feel and adhesion (overmolding or co-extrusion) to ABS, PC and HIPS/PS.

| General Information                       |                      |                   |             |
|-------------------------------------------|----------------------|-------------------|-------------|
| Features                                  | High elasticity      |                   |             |
|                                           | Solvent resistance   |                   |             |
|                                           | Good UV resistance   |                   |             |
|                                           | Recyclable materials |                   |             |
|                                           | Workability, good    |                   |             |
|                                           | Good coloring        |                   |             |
|                                           | Good adhesion        |                   |             |
|                                           | Ozone resistance     |                   |             |
|                                           | alkali resistance    |                   |             |
|                                           | Alcohol resistance   |                   |             |
|                                           | acid resistance      |                   |             |
|                                           | Detergent resistance |                   |             |
|                                           | Oil resistance       |                   |             |
|                                           | Soft                 |                   |             |
| Appearance                                | Black                |                   |             |
|                                           | Natural color        |                   |             |
| Processing Method                         | Extrusion            |                   |             |
|                                           | Injection molding    |                   |             |
| Physical                                  | Nominal Value        | Unit              | Test Method |
| Specific Gravity                          | 0.988                | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 5.0                  | g/10 min          | ASTM D1238  |
| Hardness                                  | Nominal Value        | Unit              | Test Method |
| Durometer Hardness                        |                      |                   | ASTM D2240  |
| Shaw A, 10 seconds, extruded              | 42                   |                   | ASTM D2240  |
| Shore A, 10 seconds, injection molding    | 45                   |                   | ASTM D2240  |
| Elastomers                                | Nominal Value        | Unit              | Test Method |
| Tensile Stress (100% Strain)              | 1.48                 | MPa               | ASTM D412   |
| Tensile Strength (Break)                  | 4.81                 | MPa               | ASTM D412   |
| Tensile Elongation (Break)                | 570                  | %                 | ASTM D412   |

|                 |      |      |            |
|-----------------|------|------|------------|
| Tear Strength   | 26.3 | kN/m | ASTM D624  |
| Compression Set |      |      | ASTM D395B |
| 23°C, 22 hr     | 20   | %    | ASTM D395B |
| 70°C, 22 hr     | 69   | %    | ASTM D395B |

| Thermal                     | Nominal Value | Unit | Test Method |
|-----------------------------|---------------|------|-------------|
| Brittleness Temperature     | -55.0         | °C   | ASTM D746   |
| Dynamic Service Temperature | 90            | °C   |             |

| Injection              | Nominal Value | Unit               |
|------------------------|---------------|--------------------|
| Drying Temperature     | 54.4 - 71.1   | °C                 |
| Rear Temperature       | 149 - 171     | °C                 |
| Middle Temperature     | 171 - 191     | °C                 |
| Front Temperature      | 199 - 221     | °C                 |
| Nozzle Temperature     | 199 - 221     | °C                 |
| Processing (Melt) Temp | 191 - 210     | °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          | 3.4 - 4.8     | kN/cm <sup>2</sup> |
| Cushion                | 5.08 - 12.7   | mm                 |

| Injection instructions    |
|---------------------------|
| Holding Time: 5 to 7 Sec. |

| Extrusion             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Drying Temperature    | 54.4 - 71.1   | °C   |
| Hopper Temperature    | 149 - 171     | °C   |
| Cylinder Zone 1 Temp. | 171 - 191     | °C   |
| Cylinder Zone 3 Temp. | 171 - 191     | °C   |
| Cylinder Zone 5 Temp. | 179 - 199     | °C   |
| Adapter Temperature   | 179 - 210     | °C   |
| Melt Temperature      | 191 - 221     | °C   |
| Die Temperature       | 179 - 210     | °C   |

| Extrusion instructions |
|------------------------|
|------------------------|

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

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