# **EMPILON® 610**

## Styrene Ethylene Butylene Styrene Block Copolymer

#### **EMPILON**

#### Message:

Flow

EMPILON® 600 series compound having high transparency, good resilience, excellent mechanical properties and lower specific weight are specially designed for medical, food and anti-vibration related applications. Hydrogenated Styrenic Block Copolymer is the main content of this 600 series compound. They have low specific gravity and the hardness range is provided from Shore OO 33~Shore A 81. They can be processed by way of ordinary plastic machine for Injection, extrusion or calendaring etc.

EMPILON® 600-series compound are non-toxic and free of Pb, Cd, Hg, Cr6+, Sb, As, Ba, Se, halogen and DOP plasticizer, they comply with the Restriction of the use of certain Hazardous Substance directive in electrical and electronic equipment (RoHS 2002/95/EC) and SONY SS-00259 4th that prohibit products that contain Pb, Cd,Hg, Cr6+, PBB and PBDE etc. They are 100% recyclable and comply with the Waste Electrical and Electronic Equipment directive (WEEE 2002/95/EC).

EMPILON® 600-series compound retain good mechanical properties both before and after heat resistance, weathering and solvent tests and won't hydrolyze in water. It is not necessary to dehumidify the material before use. For coloring, please select color master batch based on material PE or EVA directive with the exception of PVC. Higher screw speed and backpressure are required for better colorant dispersion.

| Block Copolymer  |   |  |  |                                |  |  |  |
|--|---|--|--|--------------------------------|--|--|--|
| Low (to no) lead content   |   |  |  |                                |  |  |  |
| Low density  |   |  |  |                                |  |  |  |
| Calcium content, low (to none)  Recyclable materials  Hydrolysis resistance  Non-toxic  Halogen-free |   |  |  |                                |  |  |  |
|  |   |  |  | No antimony                    |  |  |  |
|  |   |  |  | Elastic                        |  |  |  |
|  |   |  |  |                                |  |  |  |
|  |   |  |  | Non-specific food applications |  |  |  |
| Medical/nursing supplies   |   |  |  |                                |  |  |  |
|  |   |  |  |                                |  |  |  |
| RoHS compliance  |   |  |  |                                |  |  |  |
| Clear/transparent  |   |  |  |                                |  |  |  |
| Particle   |   |  |  |                                |  |  |  |
| Extrusion  |   |  |  |                                |  |  |  |
| Calendering  |   |  |  |                                |  |  |  |
| Injection molding  |   |  |  |                                |  |  |  |
|  |   |  |  |                                |  |  |  |
| Nominal Value  | Unit  | Test Method  |  |                                |  |  |  |
| 0.880  | g/cm³   | ASTM D792  |  |                                |  |  |  |
|  |   |  |  |                                |  |  |  |
| 25   | g/10 min  | ASTM D1238   |  |                                |  |  |  |
|  |   |  |  |                                |  |  |  |
|  | Low (to no) lead content Low density Calcium content, low (to none) Recyclable materials Hydrolysis resistance Non-toxic Halogen-free No antimony Elastic  Non-specific food applications Medical/nursing supplies  RoHS compliance Clear/transparent Particle Extrusion Calendering Injection molding  Nominal Value | Low (to no) lead content Low density  Calcium content, low (to none)  Recyclable materials  Hydrolysis resistance  Non-toxic  Halogen-free  No antimony  Elastic  Non-specific food applications  Medical/nursing supplies  RoHS compliance  Clear/transparent  Particle  Extrusion  Calendering  Injection molding  Nominal Value  Unit  0.880  g/cm³ |  |                                |  |  |  |

%

3.1

| Transverse flow                         | 2.1           | %    |             |
|---|---------------|------|-------------|
| Hardness                                | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore A, 10 sec)    | 15            |      | ASTM D2240  |
| Elastomers                              | Nominal Value | Unit | Test Method |
| Tensile Stress (300% Strain)            | 0.392         | MPa  | ASTM D412   |
| Tensile Strength                        | 4.90          | MPa  | ASTM D412   |
| Tensile Elongation (Break)              | 920           | %    | ASTM D412   |
| Compression Set (23°C, 70 hr)           | 29            | %    | ASTM D395   |
| Thermal                                 | Nominal Value | Unit |             |
| Brittleness Temperature                 | -50.0         | °C   |             |
| Optical                                 | Nominal Value | Unit |             |
| Transmittance                           | 55.0          | %    |             |
| Injection                               | Nominal Value | Unit |             |
| Rear Temperature                        | 165 - 175     | °C   |             |
| Middle Temperature                      | 175 - 190     | °C   |             |
| Front Temperature                       | 185 - 195     | °C   |             |
| Nozzle Temperature                      | 185 - 200     | °C   |             |
| Processing (Melt) Temp                  | 180 - 200     | °C   |             |
| Mold Temperature                        | 40.0 - 50.0   | °C   |             |
| Injection Pressure                      | 3.43 - 4.90   | MPa  |             |
| Injection Rate                          | Fast          |      |             |
| Back Pressure                           | 0.490 - 0.785 | MPa  |             |
| Screw Speed                             | Medium        |      |             |
| Injection instructions                  |               |      |             |
| Hold Time: 5 sec.Cycle Time: 15~30 sec. |               |      |             |
| NOTE                                    |               |      |             |
|   |               |      |             |

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Reference Only

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1.

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