

# EMPILON® 765

Styrene Ethylene Butylene Styrene Block Copolymer

EMPILON

## Message:

EMPILON® 700 series compound has a higher Tensile Strength property, good resilience, excellent mechanical properties than that of the 500 series. EMPILON® 700 series can be applied in many fields of use, such as: hand grips, automotive parts, household goods, sporting goods, stationary, toys etc. Hydrogenated Styrenic Block Copolymer is the main content of this 700 series compound, its hardness ranges from Shore OO 33 to A 95. They can be processed by ordinary plastic machinery for Injection, extrusion or calendaring etc.

EMPILON® 700 series compound are non-toxic and free of Pb, Cd, Hg, Cr6+, Sb, As, Ba, Se, halogen and DOP plasticizer, they also compliant 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.PBDE etc. They are 100% recyclable and comply with the Waste Electrical and Electronic Equipment directive (WEEE 2002/95/EC).

EMPILON® 700 series compound retain good mechanical properties after solvent resistance testing and won't hydrolyze in water. It is not necessary to dehumidify before any molding process. For coloring, please select color master batch based on PE or EVA material with the exception of PVC. Higher screw speed and backpressure are needed for better colorant dispersion.

| General Information                      |                                 |                   |             |
|--|---------------------------------|-------------------|-------------|
| Features                                 | Block Copolymer                 |                   |             |
|  | Low (to no) lead content        |                   |             |
|  | Calcium content, low (to none)  |                   |             |
|  | Recyclable materials            |                   |             |
|  | Hydrolysis resistance           |                   |             |
|  | Non-toxic                       |                   |             |
|  | Halogen-free                    |                   |             |
|  | No antimony                     |                   |             |
|  | Elastic                         |                   |             |
| Uses                                     | Household goods                 |                   |             |
|  | Application in Automobile Field |                   |             |
|  | Sporting goods                  |                   |             |
|  | Toys                            |                   |             |
|  | Stationery                      |                   |             |
| RoHS Compliance                          | RoHS compliance                 |                   |             |
| Forms                                    | Particle                        |                   |             |
| Processing Method                        | Extrusion                       |                   |             |
|  | Calendering                     |                   |             |
|  | Injection molding               |                   |             |
| Physical                                 | Nominal Value                   | Unit              | Test Method |
| Specific Gravity                         | 1.03                            | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/5.0 kg) | 30                              | g/10 min          | ASTM D1238  |
| Molding Shrinkage <sup>1</sup>           |                                 |                   |             |

|  |                      |             |                    |
|--|----------------------|-------------|--------------------|
| Flow   | 0.60                 | %           |                    |
| Transverse flow  | 0.80                 | %           |                    |
| <b>Hardness</b>  | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Durometer Hardness (Shore A, 10 sec)                         | 68                   |             | ASTM D2240         |
| <b>Elastomers</b>  | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Tensile Stress (300% Strain)                                 | 3.04                 | MPa         | ASTM D412          |
| Tensile Strength   | 4.12                 | MPa         | ASTM D412          |
| Tensile Elongation (Break)                                   | 580                  | %           | ASTM D412          |
| Compression Set (23°C, 70 hr)                                | 24                   | %           | ASTM D395          |
| <b>Aging</b>   | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Change in Tensile Strength in Air (125°C, 168 hr)            | 6.0                  | %           | ASTM D573          |
| Change in Ultimate Elongation in Air (125°C, 168 hr)         | 2.0                  | %           | ASTM D573          |
| Change in Durometer Hardness in Air (Shore A, 125°C, 168 hr) | -1.0                 |             | ASTM D573          |
| <b>Thermal</b>   | <b>Nominal Value</b> | <b>Unit</b> |                    |
| Brittleness Temperature                                      | -50.0                | °C          |                    |
| <b>Injection</b>   | <b>Nominal Value</b> | <b>Unit</b> |                    |
| Rear Temperature   | 175 - 190            | °C          |                    |
| Middle Temperature   | 185 - 195            | °C          |                    |
| Front Temperature  | 190 - 205            | °C          |                    |
| Nozzle Temperature   | 190 - 210            | °C          |                    |
| Processing (Melt) Temp                                       | 180 - 220            | °C          |                    |
| Mold Temperature   | 40.0 - 50.0          | °C          |                    |
| Injection Pressure   | 3.43 - 4.90          | MPa         |                    |
| Injection Rate   | Fast                 |             |                    |
| Back Pressure  | 0.490 - 0.981        | MPa         |                    |
| Screw Speed  | Medium to high       |             |                    |
| <b>Injection instructions</b>                                |                      |             |                    |
| Hold Time: 5 sec.Cycle Time: 15~25 sec.                      |                      |             |                    |
| <b>NOTE</b>  |                      |             |                    |
| 1.   | Reference Only       |             |                    |

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#### Recommended distributors for this material

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