

EMPILON® HA272

Styrene Ethylene Butylene Styrene Block Copolymer

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Message:

EMPILON® HA series compound are specially designed for over-molding with engineering plastic such as ABS, PC, Nylon, PETG, PBT etc. which are commonly use in the 3C industry (Computer, Communication and Consumer electronics) as well as hand held device products for soft touch, anti-slip & vibration functional purposes. Hydrogenated Styrenic Block Copolymer is the main content of this HA series compound, its hardness range is from Shore A 52 to 77. They can be processed by Double injection and co-extrusion machines or ordinary plastic injection machines with an insert molding process. EMPILON® HA-series compound are non-toxic and free of Pb, Cd, Hg, Cr6+, Sb, As, Ba, Se, halogen and DOP plasticizer, they also 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® HA-series compound retain good mechanical properties after heating, weathering and solvent resistance testing and won't hydrolyze in water. They need 80°C ~ 90°C dehumidified hot air at least 2 hours before any molding process and need to be continually dried during operation. The HA series are Opaque or Transparent type in nature. For coloring, please select color master batch based on PE or EVA material with the exception of PVC. Higher screw speed and backpressure are necessary 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 |
| Uses | overmolding |
| | Soft touch application |
| RoHS Compliance | RoHS compliance |
| Forms | Particle |
| Processing Method | Co-extrusion molding |
| | Injection molding |

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-------------|
| Specific Gravity | 1.05 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 1.0 | g/10 min | ASTM D1238 |
| Molding Shrinkage ¹ | | | |
| Flow | 0.40 | % | |
| Transverse flow | 0.50 | % | |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore A, 10 sec) | 74 | | ASTM D2240 |
| Elastomers | Nominal Value | Unit | Test Method |

| | | | |
|--|----------------|------|-------------|
| Tensile Stress (300% Strain) | 3.43 | MPa | ASTM D412 |
| Tensile Strength | 6.86 | MPa | ASTM D412 |
| Tensile Elongation (Break) | 500 | % | ASTM D412 |
| Compression Set (23°C, 70 hr) | 19 | % | ASTM D395 |
| Aging | Nominal Value | Unit | Test Method |
| Change in Tensile Strength in Air (125°C, 168 hr) | 47 | % | ASTM D573 |
| Change in Ultimate Elongation in Air (125°C, 168 hr) | 15 | % | ASTM D573 |
| Change in Durometer Hardness in Air (Shore A, 125°C, 168 hr) | 3.0 | | ASTM D573 |
| Thermal | Nominal Value | Unit | |
| Brittleness Temperature | -40.0 | °C | |
| Additional Information | Nominal Value | Unit | |
| Adhesion to ABS | 3.9 | kN/m | |
| Adhesion to PC | 3.5 | kN/m | |
| Screw Speed | Medium | | |
| Injection | Nominal Value | Unit | |
| Drying Temperature | 80.0 - 90.0 | °C | |
| Drying Time | 2.0 | hr | |
| Rear Temperature | 180 - 190 | °C | |
| Middle Temperature | 185 - 200 | °C | |
| Front Temperature | 195 - 205 | °C | |
| Nozzle Temperature | 200 - 220 | °C | |
| Processing (Melt) Temp | 190 - 210 | °C | |
| Mold Temperature | 40.0 - 50.0 | °C | |
| Injection Pressure | 3.43 - 4.90 | MPa | |
| Injection Rate | Moderate | | |
| Back Pressure | 0.490 - 0.981 | MPa | |
| Injection instructions | | | |
| Hold Time: 5 sec.Cycle Time: 15~30 sec. | | | |
| NOTE | | | |
| 1. | Reference Only | | |

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