# **CLEARSTRENGTH**®

## Clearstrength® E950

MBS Impact Modifier for Engineering Resins

## **PRODUCT DESCRIPTION**

Clearstrength<sup>®</sup> E950 is a new methylmethacrylatebutadiene-styrene (MBS) core-shell impact modifier designed to impart excellent ambient and cold temperature toughness to engineering polymers.

Clearstrength<sup>®</sup> E950 impact modifier is produced using a proprietary technology resulting in improved impact performance consistency and stability under severe processing conditions.

Clearstrength<sup>®</sup> E950 impact modifier is aimed to formulate polycarbonate, polyesters and a variety of polycarbonate blends, particularly PC/PBT.

## **TYPICAL PHYSICAL PROPERTIES**

| Specific Gravity1.02Bulk Density0.39 g/ccParticle Size2% Max on 850 µmPercent Volatiles1.0% Max |
|---|
| Particle Size 2% Max on 850 μm  |
|   |
| Percent Volatiles 1.0% Max  |
|   |

## **PRODUCT BENEFITS**

#### Superior Low Temperature Impact

Clearstrength® E950 impact modifier allows to create products that can withstand impact at <-40°C and still remain ductile. Through optimized rubber particle size distribution brought by Arkema proprietary technology, Clearstrength® E950 impact performance is remarkably consistent.

#### **Improved Thermal Stability**

Clearstrength® E950 impact modifier provides improved impact retention compared to other high impact MBS when used under hot processing conditions.

#### Good Dispersion and Mechanical Properties Retention

Easily dispersed using conventional compounding techniques, Clearstrength® E950 impact modifier imparts exceptional toughening while keeping good melt flow and modulus.

## **PRODUCT BENEFITS**

| Property                     |       | PC/PBT<br>(50/50) | PC/PBT + 12 %<br>Clearstrength® E950 IM |
|------------------------------|-------|-------------------|---|
| MVR, 280°C, 1.2 kg           |       |                   | 13                                      |
| Modulus (MPa)                |       | 2200              | 2100                                    |
| lmpact<br>Energy*<br>(kJ/m²) | 23°C  | 6                 | 55                                      |
|                              | -30°C | ND**              | 42                                      |
|                              | -40°C | ND**              | 32                                      |

| Property                     |       | Neat<br>PC | PC + 5 %<br>Clearstrength® E950 IM |
|------------------------------|-------|------------|------------------------------------|
| MVR, 280°C, 1.2 kg           |       | 25         | 19                                 |
| Modulus (MPa)                |       | 2200       | 2100                               |
| Impact<br>Energy*<br>(kJ/m²) | 23°C  | 15         | 45                                 |
|                              | -10°C | ND**       | 39                                 |
|                              | -20°C | ND**       | 36                                 |

ISO 1133:2011 for MVR, Melt Volume-flow Rate

\*ISO 180:2000 type 1eA specifications for notched Izod impact tests. \*\*Not Determined

## **SUGGESTIONS FOR USE**

Clearstrength® E950 impact modifier is recommended for use in automotive applications, such as bumpers, front radiator grills and battery housing for electrical vehicles. Clearstrength® E950 impact modifier is also designed for electrical and electronic applications including TV, monitor and mobile phone housing, home appliances and all polycarbonate and polyester blends applications where excellent impact strength and colorability are required.

The loading concentration depending on impact requirement is generally from 3 to 15%. Prospective clients should evaluate Clearstrength® E950 impact modifier in their own laboratories to establish optimum conditions for use in their process and applications. Arkema's Technical Service Team is available to discuss your application requirements, provide formulations guidance and laboratory testing as needed.

## PACKAGING

Clearstrength® E950 impact modifier is packaged in 20 kg bags (500 kg per pallet) and 700 kg bulk bags (700 kg per pallet).



## **ENVIRONMENTAL AND SAFETY INFORMATION**

Before handling this material, read and understand the Safety Data Sheet (SDS) for additional information. The SDS is available on our website www.arkema.com or upon request at our Customer Service Department. Arkema believes strongly in Responsible Care<sup>®</sup> as a public commitment.

## **MORE TECHNICAL INFORMATION AVAILABLE**

Ask your Arkema account manager for further information on high quality Arkema additives for use in PVC, PC, PBT, ABS, PLA, epoxies, (meth)-acrylics, and other thermoplastic or thermosetting systems. Arkema produces a full line of impact modifiers and processing aids. In addition, Arkema's Technical Service staff is also available to assist compounders and processors with formulation and processing recommendations.

#### **Durastrength® Impact Modifiers**

Durastrength<sup>®</sup> acrylic impact modifiers deliver outstanding impact characteristics for outdoor durable applications in PVC, engineering resins and thermosets.

## Plastistrength<sup>®</sup> Process Aids

Plastistrength<sup>®</sup> process aids offer producers a complete line of melt strengtheners and metal release agents for PVC and engineering resins. Plastistrength<sup>®</sup> process aids can improve fusion, surging, and aesthetics.

#### **Clearstrength® Impact Modifiers**

Clearstrength<sup>®</sup> impact modifiers are designed for extreme impact or impact/clarity combination in PVC and engineering resins. Clearstrength<sup>®</sup> impact modifiers provide superior toughening effect in thermosetting resins.

#### **Biostrength® Additives**

Biostrength<sup>®</sup> impact modifiers are designed to improve properties and enhance processability of polylactic acid (PLA) and other biopolymer compounds.

## FOR MORE INFORMATION CONTACT

Please contact your local account manager or our headquarters:

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