

## PRODUCT DATA SHEET

# POLYETHYLENE BORSTAR® HE1440

ENHANCED POLYETHYLENE FOR HIGH PERFORMANCE AGRICULTURE PIPE APPLICATIONS

### DESCRIPTION

**Borstar®HE1440** is a Black, bimodal HDPE product produced using the proprietary Borstar® bimodal technology which offers excellent melt strength and process ability for sprinkler pipe extrusion and drip lateral with superior mechanical properties. CAS-No. 25087-34-7

### APPLICATIONS

HE1440 is recommended for:

- Range of wall thickness for drip irrigation tubing for online drip lateral and flat as well as cylindrical emitting pipe/inline production
- Sprinkler Irrigation pipes
- Non pressure utility pipes
- Aqua liners / Geomembrane

### KEY FEATURES

HE1440 offers excellent balance of process-ability and mechanical properties

### PHYSICAL PROPERTIES

Property	Typical Value*	Test Method
Density	954 kg/m <sup>3</sup>	ASTM D 792
Melt Flow Rate (190°C/5.0kg)	0.50 g/10min	ASTM D1238
Tensile Modulus (1 mm/min)	>950 MPa	ISO 527-2
Tensile Strain at Break (50 mm/min)	>600%	ISO 527-2
Tensile Stress at Yield (50 mm/min)	20 MPa	ISO 527-2
Charpy Notched Impact (23 °C)	20 KJ/m <sup>2</sup>	ISO 179
Charpy Notched Impact (-20 °C)	7 KJ/ m <sup>2</sup>	ISO 179
Melting Temperature	128 °C	ISO 11357/03

\* Typical properties and data should not be used for specification work

## PROCESSING CONDITIONS

The actual extrusion conditions will depend on type of equipment used and the size and wall thickness of the pipe required. Following conditions should be used as a guide for the starting up the extruder

Barrel Zone	180 – 210 Deg C
Die Zone	190 – 210 Deg C

Please contact your local Borouge representative for specific recommendation for the processing conditions.

## STORAGE

This product should be stored in dry conditions at temperature below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and can have negative effects on physical properties of this product.

More information on storage can be found in Safety Information Sheet (SIS) for this product.

## SAFETY

The product is not classified as a hazardous mixture. Dust and fines from the product carry a risk of dust explosion. All equipment should be properly earthed. Inhalation of dust should be avoided as it may cause irritation of the respiratory system. Small amounts of fumes are generated during processing of the product. Proper ventilation is therefore required.

Please see our Safety Information Sheet (SIS) for details on various aspects of safety, recovery and disposal of the product, for more information contact your Borouge representative.

## RECYCLING

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

## RELATED DOCUMENTS

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product. Please see our Safety Information Sheet Statement on chemicals, regulations and standards

## STANDARDS

Borouge is certified to various ISO standards, please refer to [Borouge.com](http://Borouge.com) for more information.

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