PRODUCT DATA SHEET

HDPE HDPE HDPE HDPE HDPE HDPE HDPE HDPE HDPE HDPE HDPE

High Density Polyethylene

HD4985

Technical support:
Sasol Chemicals
North America LLC
12120 Wickchester Lane
Houston, TX 77079

Email:
PolymersTechnical@us.sasol.com

Sales office:
Sasol Chemicals
North America LLC
12120 Wickchester Lane
Houston, TX 77079
Telephone: (281) 588 3000
Email:
PolymersSales@us.sasol.com

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www.sasol.com

High Load Melt Index: 8.5 g/10min

Density: 0.949 g/cm³

Features

- Natural bimodal HDPE copolymer designed for extrusion of potable water, natural gas, industrial and mining pipe
- Good melt strength for a range of pipe wall thicknesses
- When blended with an approved black master batch, product is listed in PPI TR-4 as a PE4710 and a PE100 material and is Certified to NSF/ANSI Standard 14 - Plastics Piping Components and Related Materials and Certified to NSF/ANSI Standard 61 – Drinking Water System Components – Health Effects

Potential Applications

- Pressure pipe for potable water, natural gas, industrial and mining

Additives

- Designed for the pipe extrusion process and the requirements of pressure pipe system standards

Typical properties (not to be construed as specifications)		Value (English)	Value (SI)	Method
Resin Properties	High Load Melt Index (190°C/21.6kg)	8.5 g/10min	8.5 g/10min	ASTM D1238
	Density	0.949 g/cm³	0.949 g/cm³	ASTM D4883
Physical Properties	Tensile Strength at Yield (2 in/min; 50 mm/min)	3500 psi	24.1 MPa	ASTM D638
	Elongation at Yield (2 in/min; 50 mm/min)	10.4%	10.4%	ASTM D638
	Tensile Strength at Break (2 in/min; 50 mm/min)	4400 psi	30.3 MPa	ASTM D638
	Elongation at Break (2 in/min; 50 mm/min)	>600%	>600%	ASTM D638
	Flexural Modulus (2% Secant)	130,000 psi	900 MPa	ASTM D790A
	Izod Notched Impact Strength (73°F / 23°C)	12 ft-lbf/in	63 kJ/m²	ASTM D256
	Shore D Hardness	64	64	ASTM D2240
Thermal Properties	Vicat Softening Temperature	259°F	126°C	ASTM D1525
	Brittleness Temperature	<-180°F	<-118°C	ASTM D746
	Oxidative Induction Time @ 210°C	>20 min	>20 min	ASTM D3895
	Thermal Stability	>464°F	>240°C	ASTM D3350
Other Properties	ESCR (Condition C: 100% Igepal® F50)	>5000 hrs.	>5000 hrs.	ASTM D1693
	Hydrostatic Design Basis @ 23°C	1600 psi	11.0 MPa	ASTM D2837
	Hydrostatic Design Basis @ 60°C	1000 psi	6.9 MPa	ASTM D2837
	Minimum Required Strength (MRS)	1450 psi	10.0 MPa	ISO 9080 / 12162
	PENT (Notched Tensile)	>10,000 hrs.	>10,000 hrs.	ASTM F1473
	Cell Classification (when blended with approved black masterbatch)	445574C CC3	445576C CC3	ASTM D3350

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Typical Processing Conditions

Specific recommendations for processing of HD4985 can only be made when the actual processing equipment and end use application is known. For further information, please contact your Sasol Sales Representative or Technical Specialist. Recommended melt temperature range: 380-440°F (190-230°C)

Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal protection to prevent possible mechanical or thermal injury to the eyes. Fabrication areas should be ventilated to carry away fumes or vapours.

Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight during storage.

Combustibility

Polyethylene resins will burn when supplied adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources. In burning, polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water and water mist preferred. In enclosed areas, fire fighters should be provided with self contained breathing apparatus.

Conveying

Conveying equipment should be designed to prevent accumulation of fines and dust particles that are contained in all polyethylene resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used:

1. be equipped with adequate filters
2. is operated and maintained in such a manner to ensure no leaks develop
3. that adequate grounding exists at all times

We further recommend that good housekeeping be practiced throughout the facility.

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