Arena Petro Gas

Producer and Supplier in the fields of Chemical ,Oil ,Gas and Petrochemical industries

Technical Data Sheet

HEX4460 PE80+

High Density Polyethylene

HEX 4460 PE80+ is a high molecular weight, high-density polyethylene (HDPE) with high melt viscosity for extrusion. This grade, which is produced by 1-hexene co-monomer, is classified as PE 80+ and provides excellent stress crack resistance properties (ESCR) combined with very good long-term hydrostatic strength and good process-ability.

Application:

Drinking water pipe, drainage pipe, plumbing, heating & cooling

Forms:

Pallet

Attribute:

Outstanding ESCR
Good Resistance to SCG & RCP
Good Creep Strength
Good Processability
Good Chemical Resistance
Very Good Low Temp. Impact Resistance

Additives:

Processing Aid: No
Antioxidant: Yes
Antiblock: No
Slip Agent: No

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DATE: 2024-2025
Arena Code: AS10345/ASPC-HEX4460 PE80+

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Typical Properties	Typical Value[1]	Units	Test Method
High Load Melt Flow Index(190℃/21.6kg)	6	g/10 min	ISO 1133
Melt Flow Index(190℃/5kg	0.33	g/10 min	ISO 1133
Density[2]	0.944	gr/cm3	ISO 1183
Mechanical[3]			
Tensile Strength at Yield	25	MPa	ISO527-1;2
Elongation at Yield	11	%	ISO527-1;2
Elongation at Break	>1000	%	ISO527-1;2
Tensile Strength at Break	40	MPa	ISO527-1;2
Tensile Modulus at Elasticity	700	MPa	ISO527-1;2
Flexural Modulus-1% Secant	>1000	Mpa	ASTM D790
ESCR F10(10% Igepal,Method B)	>1000	hrs	ASTM D1693
FNCT(3.5 Mpa, 2% Arkopal n100,80℃)	>120	hr	ISO 16770
Conformance Testing[4]			
Minimum Required Strength(20℃)	> 8.0	MPa	ISO 12162
Hydrostatic Pressure Test (9.0 MPa @ 20℃)	>100	hrs	ISO 1167
Resistance to Slow Crack Growth (4.6 MPa @ 80℃)	>165	hrs	ISO 13479
Hydrostatic Pressure Test (4.0 MPa @ 80℃)	>1000	hrs	ISO 1167
Resistance to Slow Crack Growth (4 MPa @ 80℃)	>500	hrs	ISO 13479
Resistance to Rapid Crack Propagation (6 bar @ 0℃)	>10	bar	ISO 13477
Impact			
Tensile Impact Strength (Notched, Type 1, Method A, -30℃	167	KJ/m2	ISO 8256
Izod Impact Strength(Notched, Method A,23℃)	26	KJ/m2	ISO 180
Thermal Properties			
Melting Temperature	129	℃	ISO 3146
Oxidation induction Time(200℃)	>30	min	ISO 11357
Vicat Softening Temperature (Method A/ 10N)	126	℃	ISO 306
Deflection Temperature Under Load (0.45 MPa)	68	℃	ISO 75
Deflection Temperature Under Load (1.8 MPa)	50	℃	ISO 75
Recommended Process Conditions[5]			
Processing Method: Pipe Extrusion; sheet Extrusion			
Extruder Barrel Temperature: 200-230 °C	**Melt Temperature: 205-240 °C**		

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1. Typical values: these are not to be construed as specification.
2. The density parameter was determined on compression-molded specimens, which were prepared in accordance with procedure C of ASTM D4703, Annex A1.
3. Properties are based on compression-molded specimens, which were prepared in accordance with procedure B of ASTM D4703, Annex A1, using 100% HEX4460 PE80+ resin.
4. Values were obtained on 110 mm, SDR11 pipe made with HEX4460 PE80+ and an approved masterbatch.
5. Please note that, these processing conditions are recommended by manufacturer only for 100% HEX4460 PE80+ resin (not in the case of blending with any other compatible material), therefore because of the many particular factors which are outside our current knowledge and control and may affect the use of product, no warranty is given for the foregoing data. Moreover, the specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

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