

TASNEE 100 Black

POLYETHYLENE

DESCRIPTION

TASNEE 100 Black is a High Density Polyethylene, black colored resin. The product is classified as PE 100 and provides excellent environmental stress crack resistance properties (ESCR) combined with very good long term hydrostatic strength. It has very high impact and stiffness properties.

TYPICAL APPLICATIONS

Leading PE for pressure pipe, for gas and water distribution, sewage and drainage.

Typical Properties

Physical	Method	Unit	Value
Density	ISO 1183	g/cm ³	0.959
Melt Flow Rate (190°C /5kg)	ISO 1133	g/10 min	0.23
Melt Flow Rate (190°C /21.6kg)	ISO 1133	g/10 min	6.4
Staudinger Index Jg	ISO 1628	MI/g	380
Vicat Softening Temperature(VST/B/50 K/h (50N))	ISO 306	°C	74

Mechanical	Method	Unit	Value
Tensile Modulus (23°C, v = 1mm/min, Secant)	ISO 527-1, -2	MPa	900
Tensile Stress @ Yield (23°C, v = 50 mm/min)	ISO 527-1, -2	MPa	23
Tensile Strain @ Yield (23°C, v = 50 mm/min)	ISO 527-1, -2	%	9
Tensile Creep Modulus 1h [Test stress in MPa]	ISO 899-1	MPa	850 [2.0]
Tensile Creep Modulus 1000h [Test stress in MPa]	ISO 899-1	MPa	360 [2.0]
Maximum Elongation TD	EN 638	%	>350
MRS Classification	ISO/TR 9080	MPa	10
Flexural Stress at 3,5% deflection	ISO 178	MPa	21
FNCT (4.0 MPa, 2% Arkopal N 100, 80°C)	ISO 16770	h	>1000
Flexural Creep Modulus	DIN 19537-2		
(4 Point loading method, 1 min-value)		MPa	1100
(4 Point loading method, 24 h-value)		MPa	560
(4 Point loading method, 2000 h-value)		MPa	330
Charpy Notched Impact Strength	ISO 179		
(23°C)		kJ/m ²	26
(-30°C)		kJ/m ²	13
Shore Hardness (Shore D (3 sec))	ISO 868		63
Oxidation Induction Time (OIT) (210°C)	EN 728	min	30
Carbon Black Content	ISO 6964	%	2.25
Odour Treshold	EN1622/EN1240		<2

Recommended Temperature:

Melt temperature : 190–220 °C, Injection moulding temperatures : 200–280 °C.

Note:

The above properties are not to be construed as specifications.

Safety

The material is manufactured to the highest standards but, special requirements apply to certain applications such as food end-use contact and direct medical use. For specific information on regulatory compliance contact your local representative. Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as minimal precaution to prevent mechanical or thermal injury to the eyes. Molten polymer may be degraded if it is exposed to air during any of the processing and off-line operations. The product of degradation have an unpleasant odour. In higher concentrations they may cause irritation of the mucus membranes. Fabrication areas should be ventilated to carry away fumes or vapors. Legislation on the control of emission and pollution prevention must be observed. If the principles of sound manufacturing practice are adhered to and the place of work is well ventilated, no health hazards are involved in processing the material. The material will burn when supplied with excess heat and oxygen. It should be handled and stored away from contact with direct flames and/or ignition sources. In burning the material generates considerable heat and may release a dense black smoke. Minor fires can be extinguished by water, developed fires should be extinguished by heavy foams forming an aqueous or polymeric film. For further information about safety in handling and processing please refer to the Material Safety Data Sheet (MSDS).

Storage

The material is packed in 25 kg bags or in bulk containers protecting it from contamination. Storage times of natural materials longer than 6 months may have a negative influence on the quality of the final product. It is generally recommended to convert all materials latest within 6 months of production. The material is subjected to degradation by ultra-violet radiation or by high storage temperatures. Therefore the material must be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. Further unfavorable storage conditions are large fluctuations in ambient temperature and high atmospheric humidity. These conditions may lead to moisture condensing inside the packaging. Under these circumstances, it is recommended to dry the material before use. Unfavorable storage conditions may also intensify the material's slight characteristic odour. Due the hygroscopic character of the carbon black pigments, black colored materials may pick up moisture even under appropriate storage conditions. If this is the case it is recommended to dry the material before processing. After a storage period of more than 3 months drying of such material is recommended as standard practice.

Disclaimer

“The information in this publication is submitted without prejudice, and is based on our current knowledge and experience and on a limited number of tests”.

“In view of the many factors that may affect processing and application, these data do not relieve the receiver of this information from the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose of the products made with or on the basis of the information in this publication”.