Manufacturer website: https://www.ineos.com/businesses/ineos-olefins-polymers/

ELTEX® TUB121NRG

Product Technical Information

ELTEX® TUB121NRG is a high-density polyethylene black copolymer, produced by INEOS Innovene-S process, with increased resistance to temperature and designed for the extrusion of pressure and non-pressure pipes for a broad range of dimensions, including large diameter and/or high wall thickness.
It is characterized as PE100 black pipe compound in accordance with ISO 12162 based on ISO 9080 analysis.

Benefits & Features

ELTEX TUB121NRG fulfils the PE 100-RC requirements according to the latest versions of the EN and ISO standards for the transport of gas (EN 1555 and ISO 4437) under pressure, and for industrial applications (EN ISO 15494).

This Black compound exhibits an improved thermo-oxidative ageing resistance in comparison with standard PE100 materials, providing excellent long term stability in service at elevated temperatures.

This PE 100-RC compound provides a step-out performance of increased stress cracking resistance and is designed to allow maximum safety under all installation conditions and reduction of installation costs using, for examples, no dig trenchless techniques, sandless laying or other non-conventional installation techniques that may increase the risk of scratches along the pipes.

Applications

- Industrial pressure and non-pressure pipes
- Oil & Gas pipes
- Ducting of High Voltage cables

Properties	Conditions	Test Methods	Values	Units
Rheological				
Melt Flow Rate	190°C/5kg	ISO 1133-1	0.24	g/10min
Physical				
Density	23°C	ISO 1183-1	959	kg/m³
Thermal				
Oxidation Induction Time (OIT)	210°C	ISO 11357-6	≥20	Min
Pigmentation				
Carbon Black Dispersion		ISO 18553	≤3	Grade
Carbon Black Content		ISO 6964	2 to 2.5	%
Mechanical				
Tensile Strength at Yield	23°C	ISO 527-2	25	MPa
Tensile Strain at Break	23°C, 50 mm/min	ISO 527-2	≥ 350	%
Tensile Modulus	23°C, 1 mm/min	ISO 527-2	1100	MPa
Rapid Crack Propagation	0°C, 250 SDR11 pipes	ISO 13477	≥ 10	bar

Data should not be used for specification work

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Properties	Conditions	Test Methods	Values	Units
Resistance to Slow Crack Growth				
Notch Pipe Test	80°C, 9.2 bar	ISO 13479	≥ 1	year
Accelerated Notch Pipe Test	80°C, 9.2 bar, 2% Arkopal N100	ISO 13479	≥ 300	hours
FNCT	80°C, 2% Arkopal N100, 4 MPa	ISO 16770	≥ 1	year
Accelerated FNCT	90°C, 2% lauramine oxide, 4 MPa	ISO 16770	≥ 550	hours
Strain Hardening Test	80°C, 300 µm compression molded specimens	ISO 18488	≥ 70	MPa
Crack Round Bar Test	23°C, 12.5 MPa	ISO 18489	≥ 1.5 10^6	cycles
Point Loading Test	80°C, 2% Arkopal N100, 4 N/mm²	Hessel test method	≥1	year

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Storage

The product should be stored in a dry and dust free environment at temperature below 50°C. Exposure to direct sunlight should be avoided as this may lead to product deterioration.
It is advised to process the product within maximum one year after delivery.

Regulatory Information
The product and uses described herein may be subject to specific requirements or limitations for use in certain applications like food contact, drinking water or medical devices. Further information may be obtained from the website www.ineos.com where a specific Regulatory Certificate is available for each grade under the heading "SDS & Regulatory Certificate".

Unless specifically indicated, the product mentioned herein is not suitable for applications in the medical or pharmaceutical sectors.

Health and Safety Information
The product described herein may require precautions in handling. The available product health and safety information for this material is contained in the Safety Data Sheet (SDS) that may be obtained from the website www.ineos.com. Before using any material, a customer is advised to consult the SDS for the product under consideration for use.

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