



Dow AXELERON™ GP K-6862 NT

Colorable High Density Polyethylene Compound for Cable Jacketing

Overview

Dow AXELERON™ GP K-6862 NT Polyethylene Resin for Self coloring Jackets is a high density Polyethylene resin that can be used as a cable jacketing material when properly colored and stabilized. The material exhibits properties such as high hardness, toughness, tensile strength and heat resistance in combination with good flexibility, excellent environmental stress crack resistance and good processing properties.

Due to the unique combination of HDPE and MDPE properties, Dow AXELERON™ GP K-6862 NT is an excellent material for power cable and telecommunications cable jackets.

Applications.

Dow AXELERON™ GP K-6862 NT is a natural resin that needs to be blended with a carbon black or color masterbatch with a suitable U.V.-stabilizer to ensure sufficient weathering resistance. A suitable antioxidant level is required for ageing resistance.

A further olefinic polymer is preferably added for optimized processability. This can be done together with the colorant and stabilizer. The jacket can be used for power cables and telecommunication cables including fiber optic cables.

Storage.

The environment or conditions of storage greatly influences the recommended storage time. Storage under extreme conditions may affect the quality, processing or performance of the product. Storage should be in accordance with good manufacturing practices such as a dry environment and storage temperatures between 10 and 30°C.

Main Characteristics:

- High Vicat softening point
- Good flexibility
- Excellent ESCR
- Low shrinkage

The polymeric material, using industry standard commercial extrusion practice, is compliant for use in Wire and Cable components that meet cable specifications such as:

- ASTM D 1248 Type III, Class A, Category 4, Grade J4
- EN 50290-2-24
- IEC 60502-2 ST7

Consult the regulations for complete details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.941 g/cm ³	0.941 g/cm ³	ISO 1183
Melt Mass-Flow Rate (190°C/2.16 kg)	0.80 g/10 min	0.80 g/10 min	ISO 1133
Environmental Stress-Cracking Resistance 122°F (50°C), 10% Igepal, F0	> 1000 hr	> 1000 hr	IEC 60811-4-1
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength	4060 psi	28.0 MPa	IEC 60811-1-1
Tensile Elongation			
Break	730 %	730 %	IEC 60811-1-1
Break	720 %	720 %	IEC 60811-1-2 ¹
Flexural Modulus	109000 psi	750 MPa	ISO 178
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Shore Hardness (Shore D, 15 sec)	60	60	ISO 868
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	< -94.0 °F	< -70.0 °C	ASTM D3895 ²
Vicat Softening Temperature	252 °F	122 °C	ISO 306/A50
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity (73°F (23°C))	> 2.0E+16 ohm·cm	> 2.0E+16 ohm·cm	IEC 60093
Dielectric Constant (1 MHz)	2.30	2.30	IEC 60250

Additional Information

Measured on compression moulded plaques.

Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	< 482 °F	< 250 °C

Extrusion Notes

Dow AXELERON™ GP K-6862 NT can be extruded using a range of conventional jacketing extruders. Typical extruder barrel temperatures depend on many factors such as extruder size and die dimensions. A good starting point is: 140/190/200/200/200/210/210°C with melt temperatures below 250°C.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ After ageing 10 days @100°C (212°F)

² Notched, F0

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