

Extra High Voltage Cable Insulation Grade

DENSITY

0.921

Description

Hanwha Wire & Cable Compound CLNA-8141EHV is a low density, crosslinkable polyethylene compound developed especially for the insulation of triple extruded XLPE power cables which employ high electrical stresses. It has an extremely low level of contamination and proper balance of non-staining antioxidant and peroxide to ensure thermal stability and optimum cure levels.

Applications

CLNA-8141EHV is to be used as a crosslinked extra high voltage power cable insulation, i.e. above 161kV or for corresponding stresses (average working stress (based on U_0) < 12 kV/mm).

Specifications

CLNA-8141EHV meets the prequalification requirements as below when processed using sound extrusion practice and testing procedure:

- IEC 60840
- IEC 62067

Electrical Properties

	Unit	Test Method	Typical Values
Dielectric Constant @ 1 MHz	-	IEC 60250	2.3
Dissipation Factor @ 1 MHz	-	IEC 60250	0.0004
Dielectric Strength (E_0)	kV/mm	IEC 60093	40
DC Volume Resistivity	ohm cm	IEC 60243	$>10^{16}$

Physical Properties

	Unit	Test Method	Typical Values
Density, Base Resin	g/cm ³	ISO 1872-2	0.921
Melt Index, Base Resin	g/10 min	ISO 1133	2.0
Tensile Strength	MPa	ISO 527	18
Elongation	%	ISO 527	550
Oven Aging, 7 days @ 136 °C			
Retention of Tensile Strength	%		>95
Retention of Elongation	%		>95
Hot Set Test @ 200 °C, 0.2 MPa		IEC 60811-2-1	
Elongation under Load	%		<100
Elongation after Unload	%		<5
Cure Behavior @ 180 °C (MDR)		HCY-I-24196	
Ts1	minute		>1
Tc90	minute		<5
Mh-MI	lb·in		>4.5
Methanol Wash	ppm	HCY-I-24202	<1000
Moisture	ppm	HCY-I-24205	<200

* These are typical properties: not to be construed at specification.

** Compression molded sample cured at 175 °C for 15 min

***The value for this property is dependent on part geometry and fabrication conditions.

Cleanliness

Cleanliness levels are ensured through inspection of extruded tapes using different camera and illumination constellations. Specifications are set to exclude contaminants 70 ~100 µm and control those 50 ~ 70 µm

Processing Guidelines

Hanwha power cable insulation grades provide excellent surface and high output rates over a broad range of conditions. A range of extrusion temperature in processing condition is 115 ~ 130 °C. Optimum results are normally achieved at an extrusion temperature of approximately 130 °C.



Packaging

The packagings (0.55 MT octabins with bottom emptying) are equipped with polyethylene inner-liners and are especially designed for clean handling of the product. The packagings are containerzable and suitable for overseas transport. The type of designed package shall be indicated on the order

The packages are marked as following:

Hanwha name
Product name
Batch number
Net weight
Production date

Storage

The material should be stored indoors (15 ~ 25 °C) in closed original packages in clean and dry environment. Recommended storage time at customer should not exceed 6 months.

Quality Systems

Hanwha maintains a quality management system according to ISO 9001. This system provides traceability of individual batches and their production. If process is changed in a way that suspected to change the properties of the product, Hanwha will provide adequate information to the customer.

Certificate

Based on quality inspection data at production, Hanwha supplies an inspection certificate for each batch. The certificate contains:

Product name
Batch number
Production date
Number of contaminants
Methanol wash

Data Sheet and Safety

Most data sheet and safety data sheets are available on Hanwha web site, <http://hcc.hanwha.co.kr>. Please contact your Hanwha representative for more details on various aspects of safety, recovery and disposal of the product.

