

Crosslinkable Insulation Compound for Medium Voltage Power Cable

Description

CLNS-8141S is a crosslinkable, low density polyethylene compound designed for medium voltage power cable insulation requiring a high degree of cleanliness. It has an extremely low level of contamination and proper balance between antioxidant and peroxide to ensure thermal stability and optimum cure levels.

Applications

CLNS-8141S can be used for the insulation of medium voltage power cables, i.e. up to 69kV or for corresponding stresses.

Specifications

CLNS-8141S meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ICEA S-66-524, S-94-649
IEC 60502

HD 620 S2
AEIC CS5

Physical Properties	Unit	Test Method	Typical Value
Density	g/cm ³	ASTM D1505	0.923
Tensile Strength	kg/cm ²	ASTM D638	200
Elongation	%	ASTM D638	550
Oven Aging @ 135°C, 7 days			
Retention of Tensile Strength	%	ASTM D638	>90
Retention of Elongation	%	ASTM D638	>90
Hot/Set @ 200°C, 20N/cm ²		IEC 60811-2-1	
Hot Elongation	%		<100
Permanent Set	%		<5
Cure Behavior @ 180°C (MDR)		Internal Spec.	
Ts1	minute		>1
Tc90	minute		<5
Mh-MI	lb-in		>4.5
Moisture	ppm	Internal Spec.	<200



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Electrical Properties	Unit	Test Method	Typical Value
Dielectric Constant @ 1 MHz	-	ASTM D150	<2.3
Dissipation Factor @ 1 MHz	-	ASTM D150	<0.0005
Dielectric Strength (E ₀)	kV/mm	ASTM D149	>20
DC Volume Resistivity	ohm cm	ASTM D257	>10 ¹⁶

1) These are typical properties and are not to be regarded as specifications.

2) Compression molded sample cured at 175 °C for 15 min.

Cleanliness

Cleanliness levels are ensured through inspection of extruded tapes using different camera and illumination constellations.

Processing Guidelines

CLNS-8141S provides excellent surface finish and higher 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 a melt resin temperature of approximately 130 °C.

Packaging

The packaging(octabins with bottom and top unloading) is equipped with polyethylene inner-liners and is especially designed for clean handling of the product. The packaging is containerable and suitable for overseas transport.

Storage

The material should be stored indoors (15~30°C) in closed original packages in clean and dry environment. It is recommended to use the product on a first-in, first-out basis. Then recommended storage time at customer should not exceed 1 year.

Data Sheet and Safety

Please see our "Safety data sheet" for details of safety of the product.



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