Product Data sheet

20 Feb 2020 Rev 2

SEJI CHEMICAL CO,. LTD.

SJ-509ES

Crosslinkable Semiconductive Shielding Compound

Overview

SJ-509ES is a specially formulated crosslinkable semiconductive polyethylene copolymer compound for strippable insulation shielding of medium voltage EPR insulated power cable. (up to 46 kV).

SJ-509ES is specifically developed to provide a super-smooth surface yielding virtually perfect interface between the extruded shield and insulation.

SJ-509ES has stable volume resistivity characteristics at elevated temperatures.

Specifications

ICEA S-93-639, ICEA S-94-649
IEC 60502-2
AEIC CS8
UL 1072

Properties

This TDS is typical data only and are not to be construed as specifications. Users should results their own test. Tests are conducted on compression molded slabs cured 15 minutes at 180℃.

Physical	**Value (English)**	**Value (SI)**	**Test Method**
Density	1.16 g/㎤	1.16 g/㎤	ASTM D 1505
Moisture Content	500 ppm	500 ppm	ASTM D 6869
Melt Flow Rate[125°C(257°F)/10.0 kg]	0.90 g/10min	0.90 g/10min	ASTM D 1238
Stripping Force[with EPR, 250mm/min, width 10mm, 23°C, 180angle]	11.43 lbs/in	2.00 kN/m	ASTM D 903
Brittleness temperature	<-40 °C	<-40 °C	ASTM D 746
Metal ion content	<500 ppm	<500 ppm	

Mechanical	**Value (English)**	**Value (SI)**	**Test Method**
Ultimate Tensile Strength	1740 psi	12.0 Mpa	ASTM D 638
Elongation at Break	250 %	250 %	ASTM D 638
Retention of Tensile Strength After Ageing - 135°C[275°F], 168hrs	90 %	90 %	ASTM D 638
Retention of Elongation After Ageing - 135°C[275°F], 168hrs	90 %	90 %	ASTM D 638

Electrical	**Value (English)**	**Value (SI)**	**Test Method**
Volume Resistivity			ASTM D 991
at 23℃[73.4℉]	300 Ωcm	300 Ωcm	
at 90℃[194°F]	1,000 Ωcm	1,000 Ωcm	
at 135℃[275°F]	3,000 Ωcm	3,000 Ωcm	

Processing

SJ-509ES provides excellent surface finish and outstanding output rates over a broad range of extrusion a broad range of extrusion conditions.
SJ-509ES requires melt stock temperatures in the range of 110℃ to 120℃ for best results.

Head office, Plant1 : 72 Daedeok-ro, Eumseong-gun, Chungcheongbuk-do,Korea[27649]
Plant2 : 349-24 Geumyul-ro, Eumseong-gun, Chungcheongbuk-do, Korea[27648]
Telephone. +82-43-881-1999 Fax. +82-43-882-0183 W. www.sjccom.com

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Lower melt temperatures may result in a unmelt extrudate and higher melt temperatures may result in extrudate scorch and It can even trigger die-drools.
The curing configuration the maximum cable surface temperature in the curing zone should be maintained below 200ºC (392 ºF). If the surface temperature of the cable in the curing zone is over 200ºC, it may cause cracks in the cable, so careful temperature control required. Dehumidified hopper drying at 25~40℃ for up to 4 hours prior to extrusion might be employed to remove moisture.
Specific processing conditions depend on equipment and cable dimensions.
Optimum conditions by conventional practices should be established.

Packing & Storage

Packed in 600kg polybag lined carton box.
Recommended maximum storage period is 12months unopened and in original packaging after the manufacture.

Stored at room temperatures 73 ℉ 23 ℃
The shelf life of this product is 1 year from the date of manufacture.

Safety

Please contact Seji Chemical for Material Safety Data Sheet.

Disclaimer

Information contained in this data sheet is up-to-date and correct as at the date of issue.
Seji chemical Co., Ltd. cannot control or anticipate the conditions under which this product may be used, each user should review the information in specific context of the planned use.
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