



CLNB-8141S

Wire & Cable Compound

Medium Voltage Cable Insulation

Density 0.921

Description

CLNB-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 of non-staining antioxidant and peroxide to ensure thermal stability and optimum cure levels.

Applications

CLNB-8141S can be used for the insulation of medium voltage power cables with rated voltages up to 69kV (Um 72.5kV).

Specifications

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

IEC 60840
IEC 60502-2
ANSI/ICEA S-108-720
ANSI/ICEA S-93-639

ANSI/ICEA S-94-649
ANSI/ICEA S-97-682
Celelec HD 632 S1, HD 620 S2
AEIC CS8, CS9

| Physical Properties | Unit | Test Method | Typical Value |
|--|--------------------|---------------|---------------|
| Density | g/cm ³ | ASTM D1505 | 0.921 |
| 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, 20 N/cm ² | | IEC 60811-2-1 | |
| Hot Elongation | % | | <100 |
| Permanent Set | % | | <5 |
| Cure Behavior @ 180 °C (MDR) | | HCY-I-24196 | |
| Ts1 | minute | | >1 |
| Mh-MI | lb·in | | >4.5 |
| Moisture | ppm | HCY-I-24205 | <200 |



| 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 | >25 |
| 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

CLNB-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.

Storage

The material should be stored indoors (10~30°C) in closed original packages in clean and dry environment. It is recommended that the using of the product on a first-in, first-out basis be established. Then recommended storage time at customer should not exceed 18 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
etc.

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.

