

Jacket Thickness and Test Voltage

The standard jacket on Nexans ENERGEX[®] concentric neutral cables is an extruded-to-fill (encapsulating) jacket composed of black insulating linear low density polyethylene (LLDPE), which meets, or exceeds the CSA, AEIC, and ICEA requirements shown below.

The following alternate jackets are available on request:

- a) Encapsulating jackets:
 - Medium density polyethylene (MDPE).
 - Semi-conducting polyethylene.
- b) Overlaying:
 - Linear low density polyethylene (LLDPE).
 - Medium density polyethylene (MDPE).
 - Polyvinyl chloride (PVC).

For identification of power cables in shared underground systems, three extruded red stripes can be provided on cable jackets.

- Note : ICEA advises that jacket materials colored other than black may be subject to fading as a result of chemical change due to ultra-violet light and/or reaction with chemical components of various soils.

Sequential length markings can be provided on all types of ENERGEX[®] concentric neutral cables.

Requirements for LLDPE Jackets	
Unaged tensile strength	11.7 MPa min.
Elongation at rupture	350% min.
Aged 48 hr. at 100°C	
Tensile strength	75% of unaged value min.
Elongation	75% of unaged value min.
Heat distortion at 100°C	30% max.
Environmental stress cracking	
48 hrs. at 50° C in 100% Igepal CO-630	no cracks

Requirements for 75° C PVC Jackets	
Unaged tensile strength	10.3 Mpa min.
Elongation at rupture	100% min.
Aged 168 hr. at 121°C	
Tensile strength	85% of unaged value min.
Elongation	60% of unaged value min.
Immersed in oil for 4 hr. at 70°C	
Tensile strength	75% of unaged value min.
Heat distortion at 121°C	50% max.
Heat shock at 121°C	no cracks
Cold bend at -40°C	no cracks
Cold impact at -40°C	no cracks on 8 of 10 specimens

Extruded-to-fill Jacket Thickness and Test Voltage			
Calculated minimum for diameter over the concentric neutral mm	Thickness		AC spark test non-conducting jackets kV
	Min. Avg. mm	Min pt. mm	
0 - 38.0	1.3	1.0	7.5
Over 38.0	2.0	1.6	12

Overlaying Jacket Thickness and Test Voltage			
Calculated minimum for diameter over the for metallic shield / concentric neutral mm	Thickness		AC spark test non-conducting jackets kV
	Min. Avg. mm	Min. pt mm	
Up to 10.80	1.1	0.9	10
10.81 - 17.8	1.5	1.2	12
17.9 - 38.0	2.0	1.6	12
38.1 - 64.0	2.8	2.2	14
64.1 and larger	3.6	2.9	14