

AmerCable Extruded Insulation Shielding (EIS) on Type SHD-GC 25kV



Product Description and Manufacture

AmerCable 25kV Type SHD-GC cables have an extruded layer of semi-conductive rubber immediately over and in intimate contact with the ethylene propylene rubber (EPR) insulation. This extruded layer adheres to the underlying EPR insulation, but can be stripped cleanly and easily.

Extrusion of un-cured materials, prior to any vulcanization cycle, precludes contamination and voids occurring between the layers. Heat and pressure of the vulcanization cycle, plus compatibility of materials creates the amount adhesion known to be necessary for long, trouble-free life in the field. The procedure for EIS removal is simple and is described in the next section.

After vulcanization, the single conductors are wrapped with a helically applied semi-conductive bedding tape. Next, the braid shield is applied over the single conductors. These completed single conductors are then cabled and jacketed. To finish the product, the cable is encapsulated in a mold for jacket cure. After cure, the mold is stripped off and re-cycled.

Extruded Insulation Shield Removal

Remove jacket, braid shield, and semi-conductive bedding tape using measurements published by termination and splice kit manufacturers. The single conductors are now ready for EIS stripping.

The following steps detail this process:

1. Mark the end of the EIS cut-off with either a semi-conductive rubber tape by itself or 0.010 inch thick brass shim stock held in place with a hose clamp. Make sure this wrap is perpendicular to the single conductor.
2. Make two to four longitudinal cuts from this wrap down to the end of the single conductor without cutting into the insulation. The cut should extend 60% to 75% through the EIS until the very end is reached. Then, cut 100% through the EIS.
3. Grip only the very end of the EIS with pliers. Do not grip the EPR. Pull the width of this strip loose and then pull it back to the wrap. Repeat for all strips.
4. Pull "out" gently on one strip. Hold the knife blade at a 70 to 80 degree angle[1] to the longitudinal axis of the single conductor and cut off the strip. Do not pull "upwards" on the strip. This might loosen or break the bond between the EIS and the EPR at this most critical point. Repeat for all strips.
5. Remove the wrap and continue with the termination or splice. Be sure to clean the insulation after EIS removal.[2] Rebuild all of the original cable components in a splice and be sure to build up the stress relief in terminations using kit manufacturer directions.

[1] Holding the blade perpendicular to the cable increases risk of cutting the EPR.

[2] If there is any semi-conductive residue on the insulation surface, it may be washed off with cable cleaner or buffed off using aluminum oxide cloth. Ordinary sandpaper should not be used. It may leave semi-conductive particles on the insulation surface that cable cleaner will not wash off.

