

## RUS PE-39 vs. PE-89

The difference between Rural Utilities Service (RUS) Specifications REA Bulletin 1753F-205 (PE-39) and REA Bulletin 1753F-208 (PE-89) is a frequent topic when discussing outside plant cable.

Products manufactured to PE-39 and those manufactured to PE-89 are considered functional equivalents. The scope of each specification is identical. Paragraph 1.1 of each specification states: This specification covers the requirements for filled telephone cables intended for direct burial installation either by trenching or by direct plowing, for underground application by placement in a duct, or for aerial installation by attachment to a support strand.

The difference is the method used to insulate the copper conductors.

- PE-39 cables are manufactured with "solid" insulated conductors, i.e., the polyolefin insulation is applied as a solid layer over the copper conductor.
- PE-89 cables are manufactured with "foam-skin" insulated conductors. Foam-skin insulation is applied as a dual layer over the copper conductor. The inner layer is "foamed" (expanded) polyolefin and the outer layer is solid polyolefin.

All other materials in the two cable types are typically the same.

While the intended use is the same for both cables, there are some differences that may influence a choice between the two. PE-39 cables typically have lower attenuation and higher dielectric strength than a comparable foam-skin counterpart. On the other hand, PE-89 cables are smaller and lighter than a comparable PE-39 cable. The choice is generally made on a case-by-case basis considering these and other factors, including user preference.

Superior Essex products containing "-F" are manufactured in compliance with PE-39. Those containing "-FSF" are manufactured in compliance with PE-89.