New England Wire Technologies

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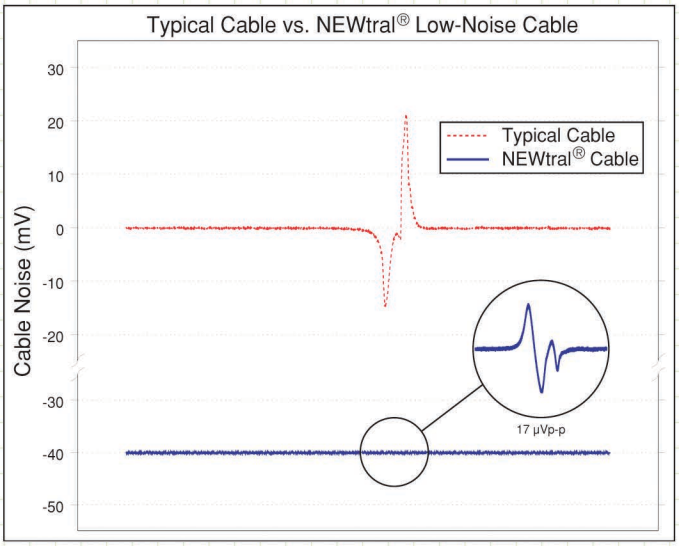
NEWtral® Low-Noise Cable

Technical Information:

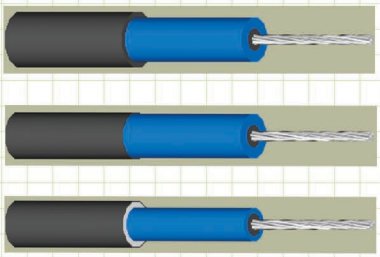
In small-signal applications, noise-free transmission lines are necessary to maintain signal integrity. Simply flexing or twisting a traditional cable can generate voltage spikes with magnitudes in the tens of millivolts. This noise is due to triboelectric charging of the insulator materials, which act as capacitors and store the charge. The addition of conductive low-noise layers reduces the noise to the microvolt range.

New England Wire Technologies dedicated resources to develop a range of advanced low-noise cables. Our engineers design custom cables to meet customer requirements for performance in their applications.



Stripping/Termination Information:

While preparing a low-noise cable for termination, it is important to consider the effect of the outer conductive low-noise suppression layer. Isolation of the low-noise layer from the conductors is necessary to prevent a short circuit situation. Depending on the type, the low-noise layer can either be stripped with conventional mechanical and laser methods, or require chemical and abrasive stripping methods.



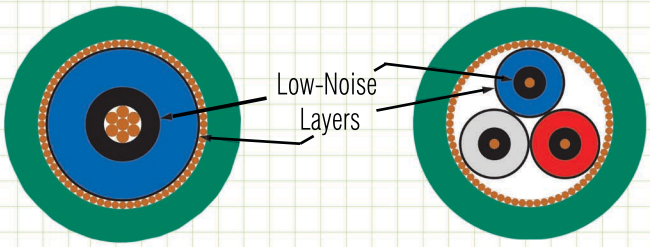
Removal of low-noise layer

Extruded: Mechanical Stripping
Laser Stripping

Coated: Chemical Stripping
Abrasive Stripping

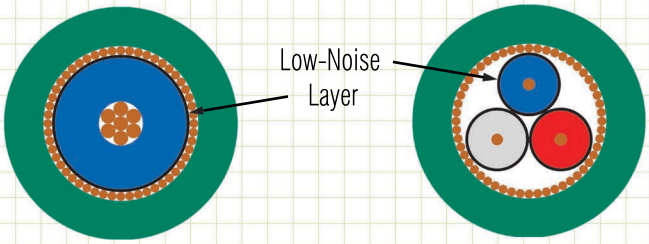
EZ-Strip: Mechanical Stripping
Laser Stripping

Cable Selection Guide



NEWtral® - Type 1

Advantage: Excellent Performance (10 µ V - 100 µ V)
Consideration: Increase in primary diameter (.005" - .025")



NEWtral® - Type 2

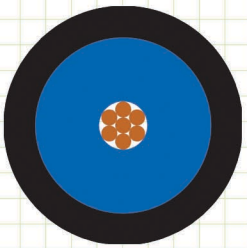
Advantages: Very Good Performance (25 µ V - 250 µ V)
Low cost

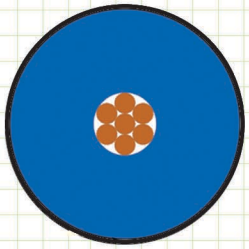
Outer Low-Noise Layer Options

Extruded

Advantage:
- Can be Mechanically Striped
- Low Cost

Consideration:
- Diameter increase (.004"-.020")





Coated

Advantage:
- Minimal diameter increase
- Low Cost

Consideration:
- Must be chemically stripped

EZ-Strip

Advantage:
- Can be mechanically stripped
- Minimal diameter increase

Consideration:
- Higher Cost