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Southwire

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Damaged Nylon on THHN cable

The wrinkling and small tears in the nylon jacket should have no effect on the insulation values of the cable. The nylon serves three functions in the role of the cable, none having an effect on the electrical integrity of the cable:

The first function of the nylon jacket is to provide mechanical protection to the PVC insulation during installation. The nylon jacket protects the PVC insulation from the hazards and rigors associated with pulling cables in conduits and cable trays. Because it is such a thin layer, it is common for the nylon jacket to tear during pulling. Many consider it to be a sacrificial layer. Most importantly, however, since the nylon does not serve a purpose in the electrical performance of the cable, one should not expect to experience any electrical problems with the cable as long as the PVC insulation is not damaged during installation. If the PVC insulation is damaged and the cable is installed in a wet environment, then the chances of failure for the cable increase. Adherence of proper cable installation techniques and sufficient lubrication should minimize the potential for damage to the cable.

The second function of the nylon jacket is to provide gasoline and oil resistance for the PVC insulation. Operating the cable where it may be subject to these conditions could present problems. If these conditions are not present, again, there should not be any anticipated problems.

The third and final function of the nylon jacket is to provide protection to the cable from Ultraviolet Light Exposure. Special inhibitors are added to the nylon to permit the cable to be used in applications where exposed to sunlight. This feature, however, only applies to those Southwire constructions marked “Sunlight Resistant”. Small tears in the nylon should not jeopardize the integrity of the cable in such applications.

An Insulation Resistance Test can be preformed on the cables for a check of their electrical integrity. Contact me if you have additional questions

Thanks,
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