Wire Stripping Fundamentals

Overview

The secret to success is matching the correct stripping tool to the application. This can be broken down into two basic levels of stripping: commercial and precision wire stripping.

Commercial wire stripping

Commercial stripping is used in manufacturing, lighting, electrical appliances, automotive harnesses and other related applications. In commercial stripping the main performance criteria is product reliability at low cost.

Precision wire stripping

Precision stripping applications include, electrical systems, computers, aircraft, aerospace, missiles, radar, guidance systems, and many other applications with very tight tolerance. Precision stripping, applications require extreme reliability whilst maintaining critical tolerances. For example, satisfying MIL-Specification standards requires the highest quality of repeatable, precision stripping.

Factors to consider when stripping

- The type of stripping required (commercial or precision).
- The type of wire being stripped.
- Stranded conductors are slightly larger in diameter than solid conductors of the same gauge size. This is important when considering the stripper, blade selection and the stripping method.
- Other factors include: insulation type, concentricity of insulation and conductor O/d's and adherence of insulation.

Common stripping problems

- Conductor damage caused from stripping wire with an incorrect blade, resulting in nicks, scrapes, burnishes, cut & exposed strands and torn & ragged insulation.
- Faulty stripping can cause improper or inconsistent signals in a circuit and even complete failure due to fatigue breakage.
- Several factors aggravate the effects of improper stripping, including: heat, rapid temperature change, mechanical vibration and oscillatory motion.
- Damaged insulation can weaken the wires dielectric strength and resistance, which could lead to electrical short circuits and a reduction of protection to moisture and abrasion.
- In high specification, tight tolerance applications, it is recognised that removing as little as 40 micro inches of conductor plating can cause failure in some wires.