

Basic Electrical Tests for Cable, Part 2 - Testing

Eric Bourgeault
Supervisor, Quality

Testing the physical properties of a cable's insulating and jacketing materials is required to ensure they meet safety and performance requirements established by regulatory bodies such as CSA and UL.

Tensile strength and elongation are the most fundamental physical properties to check for in a cable.

The tensile strength and elongation of insulating and jacketing materials are checked to ensure that the materials have the necessary strength and toughness to withstand the forces exerted on them during the installation and use of a cable.

The tensile strength is the force required to rupture a material.

The elongation is a measure of the toughness of a material (i.e. how much can it be stretched before it breaks).

Another important test is accelerated aging which is done to ensure a material retains much of the above noted mechanical properties over time.

Heat deformation and heat shock tests are performed on insulating or jacketing materials to ensure they can perform well even at higher temperatures than normally experienced.

Cold impact or bend tests are performed on finished cables to ensure they can perform well even at lower temperatures than normally experienced.