

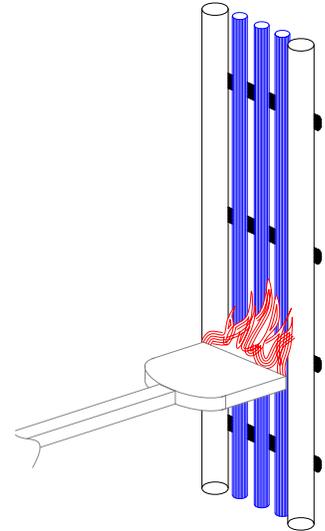
Fire / Flame Tests and Ratings

Customers of wire and cable should be aware of the latest regulations and the products that meet these standards. Many tests have been developed to measure the flame resistance of wire and cable products. Flame resistance of a cable is frequently defined as the ability to stop burning once the source of heat is removed. Here is a brief summary of the most widely used North American fire tests and ratings.

Vertical Tray Flame Test

UL 1581 / IEEE 383

This test is performed on cables attached to a 1ft wide and 8 ft tall vertical metal ladder tray. The source of combustion is a 10 inch ribbon burner with an air/propane mixture which will supply approximately 70,000 BTU's per hour. The flame is applied for 20 minutes, 24 inches from the bottom of the cable. This rating requires the cable to self-extinguish prior to reaching the top of the tray.



CSA FT-4

This test is a later generation of the IEEE 383 test and is generally considered more stringent. To pass this test the resulting char distance must not be greater than 1.5 meters.

IEEE 1202

The IEEE 1202 flame test is the newest version of the original IEEE 383 Flame Test. It is practically identical to the CSA FT-4 test

UL 1685

The UL 1685 is fundamentally the UL 1581 test with smoke emission requirements. A cable passing this test can be given a 'Limited Smoke listing'.

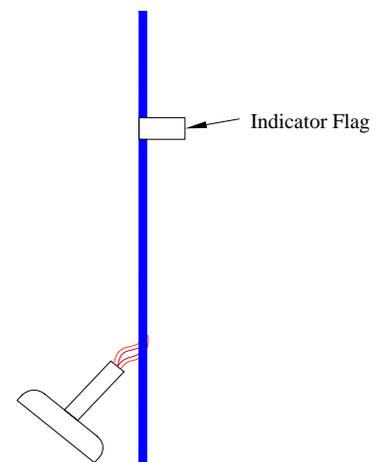
ICEA T-29-520

This is another variation of the UL 1581 / IEEE 383 except the BTU value is 210,000 instead of 70,000 and cable spacing increases.

Vertical-Wire Flame Test

UL 1581 VW-1

This was the first flame test developed for studying flame spread on wire and cable. The test is performed with a 24 inch wire or cable and a Tirrill burner. Two clamps hold the single sample vertically. The burner is mounted at a 20° angle and the inner flame can touch the samples surface. Flame is applied for 15 seconds and is then reapplied 4 more times each time the wire ceases to burn. If the sample does not burn longer than 60 seconds after any application, or if less than 25% of the indicator flag burns, or the cotton batting is ignited during the test, the cable passes. A "tray rated" cable must meet this test as well.



CSA FT-1

This is the Canadian version of the VW-1 test.