

FIRE TESTING

The survival of equipment in fire environments is a critical factor affecting the safety and survivability of the equipment as well as personnel. To measure equipment survivability, fire testing is performed in a controlled laboratory environment. The tests are designed to measure the flammability characteristics of components when subjected to a controlled external flame such as by gas jet nozzles.

Material flammability is defined as how easily equipment will burn or ignite.

An interesting example of fire testing is the flammability test of fire-resistant hydraulic hoses. In this test a hydraulic hose is subject to flame impingement by a series of gas jets. During the test, water is circulated under pressure through the hose. A loss of pressure denotes failure of the hose. Charring of the hose exterior is acceptable providing the hose maintains hydraulic pressure. A hydrostatic pressure check is performed after the flame test to verify the hose integrity.

Equipment can be assigned fire-resistant ratings dependent typically upon the time and temperature conditions of the test. However, other criteria such as evidence of fitness for its purpose may be applied.