



Standard Test Method for Determining Arc Ratings of Hand Protective Products Developed and Used for Electrical Arc Flash Protection¹

This standard is issued under the fixed designation F2675/F2675M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method is used to determine the arc rating of hand protective products in the form of gloves, glove materials, glove material systems, or other protective products designed to fit on the hand and specifically intended for electric arc flash protection use as protective accessories for workers exposed to electric arc heat flux values from 84 to 25,120 kW/m² [2 to 600 cal/cm²s].

1.2 This test method will determine the arc rating of hand protective products made of materials which meet the following requirements for flame resistance: less than 150 mm [6 in.] char length, less than 2 s afterflame and no melt and drip when tested in accordance with Test Method D6413 or receive a reported 50 % probability of ignition of a material or flammable underlayer (see definition of ignition₅₀) by this method.

1.2.1 It is the intent of this test method to be used for hand protective products which are flame resistant or which have an adequate flame resistance for the required hazard (see 1.2). Non flame resistant hand protective products may be used as under layers in multiple-layer systems or tested for ignition probability.

1.2.2 It is not the intent of this test method to be used for glove materials, which have been tested by Test Method F1959/F1959M as flat panels of material then sewn into hand protective products. Materials for hand protective products, which are not normally produced in flat panels or which display shrinkage making the material unacceptable to test on panels, shall be tested using this standard.

1.2.3 Rubber insulating gloves meeting Specification D120 and leather protectors meeting Specification F696 are not covered by this test method and are specifically excluded from its Scope.

1.2.4 Hand protective products tested by this method are new and ratings received by this method may be reduced or eliminated by hydrocarbon loading (gasoline, diesel fuel, transformer oil, etc.), sweat, dirt, grease, or other contaminants. The end user takes responsibility for use of hand protective products tested by this method when contaminated in such a manner which could reduce or eliminate the arc rating of the hand protective products.

1.2.5 Gloves tested by this method provide no protection from electric shock. Insulated gloves for protection from electric shock are addressed under other standards including ASTM D120. This test method is designed to provide information for gloves used for electric arc protection only. This test method is not suitable for determining electrical protective properties of hand protective products.

1.3 This test method is used to measure and describe the properties of hand protective products in response to convective and radiant energy generated by an electric arc under controlled laboratory conditions.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 This test method does not apply to electrical contact or electrical shock hazards.

1.6 *This standard shall not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire assessment that takes into account*

¹ This test method is under the jurisdiction of ASTM Committee F18 on Electrical Protective Equipment for Workers and is the direct responsibility of Subcommittee F18.65 on Wearing Apparel.

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