

(PREVIEW)

Indian Standard

LIVE WORKING — FLAME-RESISTANT MATERIALS FOR CLOTHING FOR THERMAL PROTECTION OF WORKERS — THERMAL HAZARDS OF AN ELECTRIC ARC

PART 1 TEST METHODS

1 Scope

This part of IEC 61482 specifies test methods to measure the arc thermal performance value of materials intended for use in heat- and flame-resistant clothing for workers exposed to electric arcs.

These test methods measure the arc thermal performance value of materials which meet the following requirements: less than 100 mm char length and less than 2 s after flame after removal from flame, when tested in accordance with ISO 15025, procedure B (bottom-edge ignition) on the outer material, and the char length measured using a modified ISO method as described in annex A.

These methods are used to measure and describe the properties of materials, products, assemblies or garments in response to convective and radiant energy generated by an electric arc in open air under controlled laboratory conditions.

The materials used in these methods are in the form of flat specimens for method A and shirts for method B. Method A is used to measure fabric response to arc exposure when tested in a flat configuration. Method B is used to measure clothing response to an arc exposure including all the garment findings, sewing thread, fastenings, fabrics and other accessories when tested on a mannequin torso.

It is the responsibility of the user of this part of IEC 61482 to establish appropriate safety and health practices prior to use. For specific precautions, see clause 7.

NOTE An alternative test method is under development to measure the same properties using a constrained and directed arc. This method will be added to this part of IEC 61482 when the equivalence to method A has been demonstrated.

1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3175-2:1998, Textiles – Dry cleaning and finishing – Part 2: Procedures for tetra chloroethene

ISO 6330:2000, Textiles – Domestic washing and drying procedures for textile testing

ISO 15025:2000, Protective clothing – Protection against heat and flame – Method of test for limited flame spread