

**केन्द्रीय मुहर विभाग-2**

संदर्भ -: केमूवी-2/16: 16890

06 02 2025

**विषय: संशोधित IS 16890: 2024 के अनुपालन के दिशानिर्देश।**

यह उपरोक्त विषय के संदर्भ में है।

सक्षम अधिकारी द्वारा अनुमोदित दिशानिर्देश अनुपालन हेतु संलग्न है।

सभी क्षेत्रीय/शाखा कार्यालयों से अनुरोध है की दिशानिर्देशों का तत्काल प्रभाव से अनुपालन सुनिश्चित करें।

**हरीश मीना  
वैज्ञानिक-सी**

**प्रमुख (केमूवी 2)**

**सभी क्षेत्रीय/शाखा कार्यालयों/प्रयोगशालाएँ/ CHD/LRMD**

**CENTRAL MARKS DEPARTMENT-2**

Our Ref: CMD-2/16:16890

06 02 2025

**Subject: Guidelines for implementation of Revised IS 16890: 2024.**

This has reference to the subject mentioned above.

The Competent Authority has approved the enclosed Guidelines for implementation.

All ROs/BOs are requested to ensure the implementation of the above Guidelines with immediate effect.

**Harish Meena  
Scientist-C**

**Head (CMD-2)**

**All ROs/BOs/Labs/CHD/LRMD**

## CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16: 16890

06 02 2025

### **Subject: Guidelines for implementation of Revised IS 16890: 2024 (TEXTILES — PROTECTIVE CLOTHING FOR FIREFIGHTERS — SPECIFICATION)**

1. IS 16890:2018 has been revised as IS 16890: 2024 and has been published. The last date for implementation of the revised Standard is **12<sup>th</sup> May 2025** after which the old Standard shall stand withdrawn.
2. All BOs shall inform the Applicants and Licensees under their jurisdiction about implementation of the revised Standard within a week of issuance of these guidelines.
3. The significant changes in the revised Standard as listed in the Table are given for the purpose of general guidance. BOs shall ensure that the product conforms to all the requirements, as applicable, as per the revised Standard.

| Clause   | Change   |
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| 1  | Category 1 and Category 2 of protective clothing for firefighters have been incorporated in the scope of IS 16890 wherein Category 2 addresses protection requirements for increased risk of convective and radiant heat and/or flame exposures as compared to Category 1 protection requirements, along with higher mechanical performance. |
| 4  | Clause 4 'Classifications' has been incorporated wherein the selection criteria amongst the 2 Categories of protective clothing has been mentioned.  |
| 5.1,5.2.1 & 5.2.2  | 'Under garment' has been substituted by 'Inner garment' & Clarity has been provided that the design requirements specified under clause 5.1,5.2.1 & 5.2.2 are applicable for both Category 1 and Category 2 of protective clothing.  |
| 5.2.3  | Separate requirements for grammage of Outer layer, Moisture barrier and Thermal layer vis-a-vis Multilayer clothing assemblies of Category 1 and Category 2 have been defined.   |
| 5.2.4  | Minimum seam breaking force has been revised from '250 N' to '300 N' and its applicability to both Category 1 and Category 2 of protective clothing has been mentioned.  |
| 5.2.5, 5.2.6, 5.2.7, 5.2.8, 5.2.9, 5.2.10, 5.2.11 & 5.2.12 | 'ISO 17493' has been substituted by 'IS 17468' in the respective clauses, and Clarity has been provided that the design requirements specified under clause 5.2.5, 5.2.6, 5.2.7, 5.2.8, 5.2.9, 5.2.10, 5.2.11 & 5.2.12 are applicable for both Category 1 and Category 2 of protective clothing.   |
| 6.1  | The following has been added at the end:<br>The sampling procedure is applicable for both Category 1 and Category 2 of protective clothing.  |
| 6.2  | The following has been deleted from the clause:<br><br>All tests shall be carried out on materials as received unless otherwise specified (see 5.4).   |
| 6.3  | The following has been substituted for the existing:   |

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|                      | <p><b>6.3 Exposure Surface</b><br/>In all surface tests, the outermost surface shall be exposed, except for flame spread testing of the innermost lining (see 7.2.2) and testing of water vapour resistance (see 7.13) when the innermost surface is exposed. This requirement is applicable for both Category 1 and Category 2 of protective clothing.</p>  |
| 6.4                  | <p>'Before testing to the basic safety requirements (6.1 to 6.3)' has been deleted from the clause and the following has been added at the end of the clause:<br/>The pretreatment is applicable for both categories (Category 1 and Category 2) of protective clothing. All the requirements specified in 7.2, 7.3, 7.4, 7.5, 7.10, 7.12, and 7.13 shall be tested in as received condition and after pretreatment.</p> |
| 7.1                  | <p>This new clause has been incorporated wherein it has been stated that all the performance requirements specified under clause 7 are applicable for both Category 1 and Category 2 of protective clothing.</p>   |
| 7.2.1, 7.2.2 & 7.2.3 | <p>The requirement of pretreatment has been deleted, the word 'undergarment' has been replaced by 'inner garment' and the applicability of these clauses to both Category 1 and Category 2 of protective clothing has been confirmed.</p>  |
| 7.2.4                | <p>The following new requirement for sewing thread has been added:<br/><br/>7.2.4 Sewing thread when tested as per IS 13360 (Part 6/sec 10) at a temperature of 260 °C (± 5 °C) shall not melt. This requirement is applicable for both Category 1 and Category 2 of protective clothing.</p>  |
| 7.3                  | <p>The requirement of 'Heat Transfer (Flame Exposure)' has been modified and defined separately for Category 1 and Category 2 protective clothing.</p>   |
| 7.4                  | <p>The requirement of 'Heat Transfer (Radiant Exposure)' has been modified and defined separately for Category 1 and Category 2 protective clothing.</p>   |
| 7.5                  | <p>The following new requirement has been added:<br/><br/><b>7.5 Contact Heat</b><br/>The component assembly or multilayer clothing assembly when tested in accordance with method specified in IS 17462 (Part 1) at a temperature of 250 °C shall have a maximum threshold of 10 seconds. This requirement is applicable for both Category 1 and Category 2 of protective clothing.</p>                                 |
| 7.6                  | <p>The requirement of 'Residual Strength of Material when Exposed to Radiant Heat' has been modified and defined separately for Category 1 and Category 2 protective clothing.</p>   |
| 7.7                  | <p>'ISO 17493' has been replaced by 'IS 17468' and the applicability of these clauses to both Category 1 and Category 2 of protective clothing has been confirmed.</p>   |
| 7.8 & 7.9            | <p>The requirements of 'Tensile Strength and Tear Strength' have been modified and defined separately for Category 1 and Category 2 protective clothing.</p>   |
| --                   | <p>The requirement of 'Surface Wetting' has been deleted</p>   |

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| 7.10             | The requirements of 'Cleaning-Shrinkage Resistance' have been modified and separate requirement has been defined for 'Woven fabric' and 'Knitted and Non-woven fabric' of Category 1 and Category 2 protective clothing.   |
| 7.11             | The following has been added at the end of para 1 of clause 7.11:<br><br>This requirement is applicable for both Category 1 and Category 2 of protective clothing.   |
| 7.12             | The following has been substituted for the existing:<br><br><b>7.12 Water-penetration Resistance</b><br>Specimens of clothing assembly and its seams, when tested in accordance with IS 391 at 20 kPa for a period of 5 min, shall not show appearance of water drops. This requirement is applicable for both Category 1 and Category 2 of protective clothing. |
| 7.13             | The following has been substituted for the existing:<br><br><b>7.13 Water-vapour Resistance</b><br>Specimens of clothing assembly and its seams, when tested in accordance with IS 17376 shall have maximum water vapour resistance of 30 m <sup>2</sup> Pa/W. This requirement is applicable for both Category 1 and Category 2 of protective clothing.         |
| 8.1 and Figure 1 | The following additional requirements in the label has been incorporated:<br>Article number, Model no. (along with information about outer layer), Moisture layer, Thermal layer with inner liner, Category of protective clothing   |
| 8.4              | The following has been substituted for the existing:<br><br>The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed there under, and the products may be marked with the Standard Mark.   |
| C-3.1            | 'ISO 17493' has been substituted by 'IS 17468'.  |

4. Consequent upon the issuance of the revised Standard, the existing product manual has been revised which is being circulated separately.
5. The guidelines for implementation of the revised Standard is given below:

#### **A. LICENSEES:**

- i. The licensee shall implement the revised Standard by **12<sup>th</sup> May 2025**. Any difficulty in implementation shall be brought to the notice of CMD 2 at the earliest. BOs shall ensure that no Licences are under operation as per the old Standard after **12<sup>th</sup> May 2025**. **The status of implementation of the revised Standard shall be confirmed by Head (BO) to CMD-2 within two weeks of the last date of concurrent running.**

- ii. The licensee shall submit evidence of conformity to the additional/modified requirements through In-house/Independent Test Reports as well as revised list of test equipment (as per Form 2). Verification of implementation of the revised Standard, wherever required, shall be verified through a surveillance visit within 30 days of confirmation of implementation of the revised standard by licensee.
- iii. **The scope of the licences shall be updated in accordance with the Revised Product Manual (PM/ 16890/ 2 January 2025) based on the conformity to the revised standard submitted by the licensee.**
- iv. If the Licensee fails to complete all actions by **12<sup>th</sup> May 2025** it shall be dealt with as per the prevailing guidelines.

#### **B. APPLICATIONS FOR GRANT OF LICENCE:**

- i. Existing Applications where Sample has been submitted in the Laboratory/Test Report has been issued by the Laboratory may be processed as per the old Standard. However, if the Applicant is desirous of considering the Application as per the revised Standard, a declaration may be obtained from the Applicant to that effect and the Application may be processed accordingly. An undertaking shall from such Applicants also be obtained that if the sample fails while considering the provisions of the revised Standard, Licence will not be granted by BIS as per the old version.
- ii. Applications which are recorded henceforth may be processed as per the old Standard or the revised Standard. Processing of Applications as per the old Standard shall be permitted only up to **11<sup>th</sup> May 2025** and for such cases Applicant shall give a declaration that they will implement the revised Standard by **12<sup>th</sup> May 2025**.
- iii. Beyond **12<sup>th</sup> May 2025** no Licence shall be granted as per the old Standard.

#### **C. CHANGE IN SCOPE OF LICENCE:**

- i. For change in scope of licence, the relevant provisions as given above for Applicants shall apply.
- ii. However, processing of such applications for change in scope of licence as per the old Standard shall be permitted only upto the date of implementation of the revised Standard or up to **12<sup>th</sup> May 2025** whichever is earlier.

6. The above guidelines come into force with immediate effect.

**Harish Meena**  
**Scientist-C**

**Head (CMD-2)**  
**DDG (Certification)**