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#### BUREAU OF INDIAN STANDARDS

## AGENDA

#### First Meeting of working group (TXD 32/WG01) under TXD 32 for preparing the draft revision of IS 16890

|  |  |  |
| --- | --- | --- |
| **Date/Day** | **Time** | **Venue** |
| 18 March 2024  (Monday) | 1500 h | Through Video Conferencing |

**CONVENER**: Dr M S Parmar

(Northern India Textile Research Association, Ghaziabad)

**MEMBER SECRETARY**: Shri Mayur Katiyar

**Item 0 WELCOME AND INTRODUCTORY REMARKS BY THE CONVENER**

**Item 1 COMPOSITION OF WORKING GROUP**

|  |  |  |
| --- | --- | --- |
| i) | Dr. M S Parmar  NITRA, Ghaziabad | (*Convener*) |
| ii) | Shri Sudhir Takkar  System 5s, Chennai | Member |
| iii) | Shri Mahipal Meena  CFEES, Delhi | Member |
|  | Shri Mayur Katiyar  BIS, New Delhi | Member Secretary |

**1.1.1** The working group may **DECIDE.**

**Item 2** **DRAFT REVISION OF IS 16890 FOR FIRE FIGHTERS’ SUIT**

**2.1** In the 18th meeting of TXD 32 held on 19 December 2023,the committee scrutinized the comments received from M/s System 5S Pvt. Ltd., Chennai on IS 16890 : 2018 for Firefighters’ clothing and after detailed deliberations, the committee decided to constitute this working group for preparing the draft revision of the above standard after incorporating the inputs received from M/s System 5S Pvt. Ltd., Chennai and/or any other inputs on IS 16890 : 2018 within 4 months. The comments received from M/s System 5S Pvt. Ltd., Chennai are given in **Annex A**. The draft so prepared shall be issued under wide circulation for a period of 2 months for eliciting technical comments.

**2.1.1** The working group may **DECIDE.**

**Annex A**

**(Item 2.2)**

**COMMENTS RECEIVED ON IS 16890 : 2018 FROM M/S SYSTEM 5S**

Proposed changes in IS 16890:2018

**A . In the existing IS 16890: 2018**

1. Multi layer assembly shall consist of
   * + 1. *Outer layer' —* Mass shall not be more than 220 g/m'

Change to not more than 270 g/m2

* + - 1. *Moisture barrier —* Mass shall not be more than 140 g/m'-

Change to not more than 150 g/m2

* + - 1. *Thermal layer —* Thermal layer may be a single layer or two layers quilted together and the mass shall not be more than 350 g/m

Change to not more than 380 g/m2

1. Kindly include contact Heat as per ISO 12127-1 at 250 degree C with a minimum threshold of 10 seconds for level 2 Garment
2. Heat transfer flame IS 15758 Part 1 change to an equivalent test to EN ISO 9151:2016 to obtain a X2 i.e level 2 result of HTI 24 ≥ 13 seconds and HTI 24-12 ≥ 4 seconds
3. Heat Transfer radiant exposure as per IS15758 Part 2 change to an equivalent test EN ISO 6942 at 40kw/m2 to obtain a Level 2 result RHTI ≥ 18 seconds and RHTI 24-12 ≥ 4 seconds
4. Spray rating test can be removed
5. Dimensional change to be changed to woven fabric ≤ 3% and for Knit fabric ≤ 5%
6. Water penetration to change current IS test standard to ≥ 20 kpa as per EN ISO 811
7. Kindly include that all test are to be performed in as received condition and after 5 washes
8. Practical Performance Test as per ANNEXURE B for checking Ergonomics to be included in the scope of the NABL accredited Lab and offer relevant test report regarding this to be issued by them

**B . IMPORTANT SUGGESTION for INCLUDING TYPE A and TYPE B Protective clothing** :

In order for the END USERS to choose a better performing Protective clothing for Fire Fighters Kindly Demarcate the Basic Protective clothing as TYPE A and Superior Protective clothing as Type B

The changes in the Type B Protective clothing to be

1. Multi layer assembly shall consist of
   * + 1. *Outer layer' —* Mass shall not be more than 250 g/m'
       2. *Moisture barrier —* Mass shall not be more than 140 g/m'-
       3. *Thermal layer —* Thermal layer may be a single layer or two layers quilted together and the mass shall not be more than 250 g/m
2. Tensile strength of Outer material when tested as per IS 1969 (Part 1) will give a breaking load in both machine and cross direction of ≥ 2000 Newtons
3. Tear strength of Outer material when tested as per IS 6489 (Part 2) will give a tear strength

in both machine and cross direction of ≥ 150 Newtons

1. Residual Strength of Outer material after exposure to radiant heat as per IS 1578 (part 2) Method A for 10kw/m2 and when tested as per IS 1969 (Part 1) will give a breaking load in both machine and cross direction of ≥ 1500 Newtons
2. Heat transfer flame IS 15758 Part 1 change to an equivalent test to EN ISO 9151:2016 to obtain a X2 i.e level 2 result of HTI 24 ≥ 15 seconds and HTI 24-12 ≥ 5 seconds
3. Heat Transfer radiant exposure as per IS15758 Part 2 change to an equivalent test EN ISO 6942 at 40kw/m2 to obtain a Level 2 result RHTI ≥ 20 seconds and RHTI 24-12 ≥ 6 seconds
4. Water Vapour resistance when tested in accordance with ISO 11092 shall have a maximum reading of 20 m2 Pa/w

**C. Changes proposed for inclusion of specific Fire Fighting suits in BIS licence as being safety item**

1. There are different types of Fabrics that are available in the Market that can be used in the manufacture of the Outershell and Moisture barrier and thermal liner.

The specific type of Fabric layer assembly i.e Outershell + Moisture barrier + Thermal Liner used in the manufacture of protective Clothing , which has been tested and for which license is sought must be captured in the License .

1. The Design of the Protective clothing for Fire Fighters can vary and can be different from one design to another.The Article number is associated with the Design of Protective clothing and hence in order to ensure that the Design which has been tested and for which license is sought it is essential to mention the Article number in the License.
2. The fabric layer assembly used in the manufacture as well the design of the protective clothing is represented by the Model name. Hence, it is essential to capture the Model name in the License.

Inclusion of the above vital information will enable the END USERS to get a clear picture of the Item being offered by that particular manufacturer .Most importantly , the License holder will have to use the same fabric layer assembly + Design + Model as declared in the License thereby preventing any kind of substitution and misuse.

A similar approach is followed in the European standard EN 469:2020- Protective clothing for Fire Fighters. Please find attached a copy of our EU type examination certificate issued by the Notified Body capturing the above mentioned parameters of Fabric Layer assembly + Article Number (design related) + Model.

We look forward to your kind guidance on the above request