

**केन्द्रीय मुहर विभाग-2**

संदर्भ -: केमूवी-2/16:12492

10 11 2023

**विषय: संशोधित IS 12492:2023 के अनुपालन के दिशा निर्देश**

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।

आदित्य दास  
वैज्ञानिक D

**प्रमुख (केमूवी 2)**

सभी क्षेत्रीय/शाखाकार्यालय/प्रयोगशालाएँ/PCD/LRMD

**CENTRAL MARKS DEPARTMENT-2**

Our Ref: CMD-2/16:12492

10 11 2023

**Subject: Guidelines for implementation of Revised IS 12492:2023**

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.

(Aditya Das)  
Scientist D

**Head (CMD-2)**

All ROs/BOs/Labs/PCD/LRMD

## CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16: 12492

10 11 2023

### **Subject: Guidelines for implementation of Revised IS 12492:2023 (Specification for Thermoplastics Hoses (Textile Reinforced) for Compressed Air)**

1. IS 12492:1988 has been revised as IS 12492:2023 and has been published. The last date for implementation of the revised Standard is **10 May 2024** after which the old Standard shall stand withdrawn.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 No. of IS 12492:2023/ISO 5774 : 2016	Changes
	The revised version of IS 12492:2023 has been aligned with latest published ISO 5774 : 2016 Plastics hoses — Textile-reinforced types for compressed-air applications
1	Scope has been made more specific with introduction of “ <i>for compressed-air applications</i> ”. Temperature range has been increased from (–10 °C to +55 °C) to (–10 °C to +60 °C). The maximum pressure has been given as 16 bar (1.6 Mpa) at 23 °C in comparison of 1.4 Mpa in the previous version
4 (Classification)	<p>In IS 12492:1988 version, the product was classified into following 3 types, based on working pressure:</p> <p>a) Type 1 —industrial air hoses with maximum working pressure of 0.7 MPa,</p> <p>b) Type 2—industrial air hoses with maximum working pressure of 1.0 MPa,</p> <p>c) Type 3—air hose for heavy duty mining and construction work with a maximum pressure of 1.4 MPa.</p> <p>Now, as per revised IS 12492:2023/ISO 5774 : 2016 , hoses are designated as:</p> <p>a) Type A: General industrial use — light service — for a maximum working pressure of 0.7 MPa (7 bar) at 23 °C and 0.45 MPa (4.5 bar) at 60 °C</p> <p>b) Type B: General industrial use — medium service — for a maximum</p>

	<p>working pressure of 1 MPa (10 bar) at 23 °C and 0.65 MPa (6.5 bar) at 60 °C.</p> <p>c) Type C: Heavy service — for a maximum working pressure of 1.6 MPa (16 bar) at 23 °C and 1.1 MPa (11 bar) at 60 °C.</p> <p>d) Type D: Heavy service — for use in mining and outdoor work — for a maximum working pressure of 2.5 MPa (25 bar) bar at 23 °C and 1,3 MPa (13 bar) at 60 °C.</p> <p>It has been specified that “<i>The hoses are not intended for the transport of oil. However, compressed air coming from a compressor may contain some oil in suspension</i>”</p>
5 Couplings and end fittings	New Clause has been introduced for hose assemblies
6 Materials and construction	<p>Under Construction the requirement of “<i>uniform in colour (transparency), opacity and other physical properties</i>” has been deleted.</p> <p>For cover the requirement for finish and colour has been deleted.</p> <p>Note under Cl 4.1.3 has been replaced with the para  <i>The lining and the cover shall be of uniform thickness, concentric, fully gelled and free from visible cracks, porosity, foreign inclusions and any other defects which could cause the hose to be unserviceable.</i></p>
7.1 Dimensions and tolerances	<p>Dimensional requirements have been modified. The minimum bore size has been made as 4 instead on 5, and 14 nominal bore sizes have been given in place of 11 sizes. The test method has been referred to ISO 4671</p> <p>The statement “<i>Other sizes within this range may be supplied by agreement between the purchaser and the supplier.</i>” has been deleted</p>
7.2 Concentricity	Requirement for determination of Concentricity has been introduced
7.3 Tolerances on length	Compliance to tolerances on cut lengths of hose has been referred to be in accordance with ISO 1307
Cl. 8.1, Table 3, 4, 5 and 6	<ol style="list-style-type: none"> <li>1. Test requirement for Physical properties of Thermoplastic materials have been referred to ISO methods and following requirements have been introduced: <ol style="list-style-type: none"> <li>a) tensile strength and elongation at break of lining and cover</li> <li>b) Resistance to ageing</li> <li>c) Hydrolysis test</li> <li>d) Exposure to a xenon arc lamp</li> <li>e) Low-temperature flexibility</li> </ol> </li> <li>2. Test method for test of Resistance to liquids has been referred to ISO 1817 and Test temperature has been increased from 50 ± 1 °C to 60 ± 1 °C</li> </ol>

	<p>3. For the requirement of Loss in mass on heating test method has been referred to ISO 176:2005, and the requirement has been made maximum 2 % instead of 4 %</p> <p>4. Test method for test of Adhesion has been referred to ISO 8033 and the requirement has been changed from “not be less than 1.5 kN/m” to “not be less than 2.0 kN/m”</p> <p>5. Bending test has been referred to ISO 10619-1</p> <p>Test for hydrostatic requirements has been referred to Annex A of the IS and ISO 1402</p>
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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 **10 May 2024**. 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 **10 May 2024**. **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 declaration of additional test equipment required as per the revised standard. 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. Revision in the scope of licence for existing licensees shall be conducted as follows:
  - a) If scope covers Type 1 as per old standard for a given range of sizes, licensee can cover Type A as per revised standard for which they shall submit In-house/Independent Test Report of sample of Type A hose (of any of the sizes already covered) as per revised standard along with the declaration of additional test equipment. Based on the same, Type A as per revised standard can be covered in the scope for the same range of sizes already covered.
  - b) If scope covers Type 2 as per old standard for a given range of sizes, licensee can cover Type B as per revised standard for which they shall submit In-house/Independent Test Report of sample of Type B hose (of any of the sizes already covered) as per revised standard along with the declaration of additional test equipment. Based on the same, Type B as per revised standard can be covered in the scope for the same range of sizes already covered.
  - c) If scope covers Type 3 as per old standard, this variety shall be removed from the scope of licence as per the revised standard after changeover.

d) If licensee intends to cover Type C and/or Type D in the scope as per revised standard, the same shall be processed according to the Guidelines for Change in Scope of Licence.

- iv. If the Licensee fails to complete all actions by **10 May 2023** 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 **9 May 2024** and for such cases Applicant shall give a declaration that they will implement the revised Standard by **10 May 2024**.
- iii. Beyond **10 May 2024** 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 up to the date of implementation of the revised Standard or up to **10 May 2024** whichever is earlier.

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

**Aditya Das**  
**Sc. D**

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