केन्द्रीय मुहर विभाग-2

हमारा संदर्भ : सीएमडी-2/16: 446 23 02 2018

विषय : पुनरीक्षित आई एस 446: 2017 " संपीडित वायु हेतु रबड़ हौज़ वस्त्रादि प्रबलित" – विशिष्टि की एसटीआई (डॉक:एसटीआई/446/3 फरवरी 2018) और दिशा निर्देशों का कार्यान्वयन ।

यह उपर्युक्त विषय के संदर्भ में है ।

सक्षम प्राधिकारी ने आई एस 446: 2017 के अनुसार प्रमाणन हेतु पुनरीक्षित एसटीआई (डॉक: एसटीआई/ 446/3, फरवरी 2018) और दिशा निर्देशों को अनुमोदित कर दिया है।

सभी क्षेत्रीय और शाखा कार्यालयों से अनुरोध है कि वे उपरोक्त एसटीआई और दिशानिर्देशों का तत्काल प्रभाव से सुनिश्चित करें ।

अदाने ख्रासी
वैज्ञानिक (सी एम डी-2)

प्रमुख (सी एम डी-2) (हस्ता/-)

सभी क्षेत्रीय/शाखा कार्यालय/पीसीडी/एमएसडी

आई टी एस विभाग – बीआईएस इंट्रानेट पर डालने हेतु

Central Marks Department-2

Ref: CMD-2/16: 446 **23 02 2018**

Subject: Guidelines for implementation of IS 446:2017 "Rubber Hoses, Textile-Reinforced, for Compressed Air" - Specification and revised STI Doc: STI/446/3, February 2018.

This has reference to the subject mentioned above.

The Competent Authority has approved the STI, Doc: STI/446/3, February 2018 and implementation guidelines for certification of the product as per IS 446:2017.

All ROs/BOs are requested to ensure compliance of above STI and implementation guidelines with immediate effect.

Adane Khrasi
Scientist, C (CMD-2)

Head (CMD-2)(sd/-)

Circulated to: All ROs/BOs/PCD/MSD

Copy to: ITS-for hosting on Intranet please

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16:446 **19 02 2018**

Subject: Guidelines for implementation of Revised IS 446 : 2017/ISO 2398 : 2006 'Rubber Hoses, Textile-Reinforced, for Compressed Air- Specification (Fifth Revision).

1. IS 446 : 1987 has been revised as IS 446 : 2017/ISO 2398 : 2006. The revised Standard has been published and notified vide Corrigendum S.O. 3949(E) dated 21 12 2017 to Gazette Notification S.O. 549(E) dated 21 02 2017. The last date for implementation of the revised Standard is **01 06 2018** after which the old Standard shall stand withdrawn.

2. All BOs shall inform the Applicants and Licensees under their jurisdiction about the revised Standard.

3. The significant changes/modifications in the revised Standard as listed in the Table below 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	Requirement
Scope	Three Types, Three Classes and Two Categories of textile-reinforced rubber hose for compressed air, up to a maximum working pressure of 25 bar[1]) with an operating-temperature range of -40^0C to $+70^0$C are given.
Clause 4, Classification	Hoses are designated as one of the three types depending on their pressure rating. The three types have been subdivided into three classes depending on their oil resistance and the types and classes have been further subdivided into two categories depending on their operating temperature range.
Clause 6.1, Table 1- Minimum and maximum internal diameters	Hose size ranging from 4mm to 102mm is covered in the revised standard.
Clause 6.2	Additional requirement of Concentricity has been included.
Clause 7.2, Table 3- Physical properties of finished hose	Additional requirements of Ozone resistance, Flexibility at 23^0C and Low-temperature flexibility have been included.

4. Consequent upon the issuance of the revised Standard, existing STI has been revised as Doc: STI/446/3 February 2018.

5. The guidelines for implementation of the revised Standard is given below:

A. For Licensees:

(i) All Licensees shall switchover to the revised Standard by 01 06 2018. BOs shall ensure that no Licences are under operation as per the old Standard after 01 06 2018.

(ii) Licensees shall confirm conformance to the additional/modified requirements through In-house/ Independent Test Reports or Test Certificates, as applicable. Verification of additional requirements and facilities, if any, may be done during the next visit.

(iii) BO may issue endorsement for the revised STI and Standard after receipt of STI Acceptance and the confirmation from the Licensee on implementation of the revised

Standard. If the Licensee fails to complete all actions by 01 06 2018 it shall be dealt with as per OMPC.

B. For Applicants:

(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 from the Applicant may be obtained to that effect and the Application may be processed accordingly. An undertaking from such Applicants shall also be obtained that if the sample fails in new test requirements, 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 old Standard shall be permitted only upto 01 06 2018 and for such cases Applicant shall give a declaration that they will switchover to revised Standard by 01 06 2018.

(iii) Beyond 01 06 2018 no Licence shall be granted as per the old Standard.

C. For Inclusions:

(i) For Inclusion of New Varieties, the relevant provisions as given above for Applicants shall apply.

(ii) However, processing of Inclusions as per the old Standard shall be permitted only upto the date of switchover to the revised Standard or upto 01 06 2018 whichever is earlier.

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

(Adane Khrasi)
Sc. C (CMD-2)

Head (CMD-2)(sd/-)

DDG (Certification)

SCHEME OF TESTING AND INSPECTION FOR RUBBER HOSES, TEXTILE-REINFORCED, FOR COMPRESSED AIR ACCORDING TO IS 446 : 2017/ISO 2398 : 2006 (Fifth Revision)

1. LABORATORY

1.1 A laboratory shall be maintained, which shall be suitably equipped and staffed, where different tests given in the specification shall be carried out in accordance with the method given in the Indian Standard.

1.2 All test apparatus/measuring instruments shall be periodically checked and calibrated and records of such checks/verification/calibration shall be maintained.

2. TEST RECORDS

2.1 All records of the tests as per this Scheme of Testing and Inspection shall be kept in suitable forms approved by Bureau.

2.2 Copies of any such records that may be required by BIS shall be made available at any time on request.

3. QUALITY CONTROL

3.1 It is recommended that, as far as possible, Statistical Quality Control (SQC) methods may be used for controlling the quality of the product during production as envisaged in this Scheme [See IS 397 (Various parts)].

3.2 In addition, efforts should be made to gradually introduce a Quality Management System in accordance with IS/ISO 9001.

4. MARKING

4.1 **Standard Mark**- The standard mark as given in column (1) of the First Schedule of the licence shall be printed using suitable inks by flexography or gravure printing or stenciling on each Rubber Air hose provided always that the Rubber Hose to which this mark is thus applied conforms to every requirement of the specification.

4.2 **Other Marking-**The hose shall be continuously and durably marked with the following minimum information:

a) Manufacture's name or identification;
b) Number and year of publication of this Indian Standard (IS 446 : 2017);
c) Hose type and class;
d) Category, if low-temperature (L-T);
e) Internal diameter, in mm;;
f) Maximum working pressure, in bars;
g) Date of manufacture, by giving the quarter and year of manufacture or using another suitable date code;
h) Batch No.;
i) Any other information as required by the law in force including recycling logo.

j) BIS Licence No. CM/L……
k) BIS website details : www.bis.gov.in

4.3 For long length, moulded type of hose, the above markings shall be made at intervals of, approximately 10m.

5. PACKING

5.1 The Rubber hoses may be packed as agreed to between the purchaser and the supplier (National Annex A, A-1 of IS 446 : 2017/ISO 2398 : 2006).

6. LEVELS OF CONTROL

6.1 The test as indicated in Table 1 attached and at the levels of control specified therein shall the carried out on the whole production of the factory covered by this Scheme and appropriate records and charts maintained in accordance with paragraph 2 above. All the production which conforms to the Indian Standard and covered by this licence shall be marked with Certification Mark of the Bureau.

6.2 On the basis of test results, decisions shall be taken regarding conformity of the control unit as a whole to the requirements of the specification.

7. CONTROL UNIT

7.1 For the purpose of this Scheme, the control unit shall be as follows:

7.2 **Rubber Air Hose –** All rubber Air Hose of one type manufactured from the same type of rubber compound and produced in a day.

7.3 **Rubber Compound-** Rubber compound from mixing made in one cycle of mixing.

8. REJECTION

A separate record providing the detailed information regarding the rejected control unit and mode of their disposal shall be maintained. Such material shall in no case be stored together with that conforming to the specification.

9. SAMPLES

9.1 The licensee shall supply, free of charge, the sample(s) required in accordance with the Bureau of Indian Standards (Certification) Regulations from the factory or godown. The BIS shall pay for the samples taken by it form the open market.

10. REPLACEMENT

10.1 Whenever a complaint is received soon after the goods with Standard Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods or their components are replaced or repaired free of cost by the licensee in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge the conformity of the product to the Indian Standard shall be with the Bureau.

10.2 In the event of any damages caused by the goods bearing the standard mark, or any claim being filed by the consumer against BIS Standard Mark and not "conforming to" the relevant Indian Standard, entire liability arising out of such non-conforming product shall be of the licensee and BIS shall not in any way be responsible in such cases.

11. STOP MARKING

11.1 The marking of the product shall be stopped under intimation to the Bureau if, at any time, there is some difficulty in maintaining the conformity of the product to the specification, or the testing equipment goes out of order or due to any other reason. The marking may be resumed as soon as the defects are removed under to intimation to BIS.

The marking of the product shall be stopped immediately if directed to do so by BIS for any reason. The marking may then be resumed only after permission by BIS. The information regarding resumption of markings shall also be sent to BIS.

12. PRODUCTION DATA

12.1 The licensee shall send to BIS a statement of quantity produced, marked and exported by him and the value thereof at the end of each operative year of the licence as per the enclosed proforma (Annex 1) which has to be authenticated by a Chartered Accountant.

IS: 446:2017
SPECIFICATION FOR
RUBBER HOSES, TEXTILES-REINFORCED, FOR COMPRESSED AIR
TABLE 1 LEVELS OF CONTROL
(Para 5 of the Scheme of Testing and Inspection)

Test Details				**Levels of Control**		
Clause	**Requirements**	**Test Method**		**No. of samples**	**Frequency**	**Remarks**
		Clause	**Reference**			
5	Material and Construction	5	IS 446	5	Each Control Unit	Visual
6	Dimensions					Appropriate record shall be maintained
6.1	Internal diameters and tolerances		IS 15913	5	-do-	
6.2	Concentricity		IS 15913	5	-do-	
6.3	Tolerance on length		IS 15933 & 15913	5	-do-	
6.4	Minimum thickness of lining and cover		IS 15913	5	-do-	
7	Physical Properties					
7.1 & Table 2	Rubber Compounds					In case any of the samples fail to meet the relevant requirements the entire material in the central it shall be considered unfit for the purpose of marking. In case of any failure each control unit shall be tested till 5 consecutive control units are found to be satisfactory and only then frequency suggested in this table may be followed.
i)	Minimum tensile strength		IS 3400 (Part 1)	2	-do-	
ii)	Minimum elongation at break		IS 3400 (Part 1)	2	-do-	

iii)	**Resistance to ageing**					
	Change in tensile strength from original value (max) Change in elongation at break from original value (max.)		IS 3400 (Part 4) IS 3400 (Part 1)	2 2	Every fifth control unit -do-	
iv)	**Resistance to liquids**					
	Increase in volume		-	3	Each control unit	
	Increase in volume (max.) (class B only)		IS 3400 (Part 6)	3	-do-	
	Increase in volume (max.) (class C Only)		IS 3400 (Part 6)	3	-do-	
7.2 & table 3	Finished hose					
i)	Proof pressure		IS 443 (Part 3)	1	-do-	
ii)	Change in length at maximum working pressure		IS 443 (Part 3)	1	-do-	
iii)	Change in diameter at maximum working pressure		IS 443 (Part 3)	1	-do-	
iv)	Minimum burs pressure		IS 443 (Part 3)	1	-do-	
v)	Adhesion between components		IS 3400(Part 24)	3	-do-	
vi)	Ozone resistance		ISO 7326	1	Once in six months	
vii)	Flexibility at 23^0 C		IS 12656	1	Each control unit	
viii)	Low temperature flexibility		IS 12657	1	Once in six months	

ANNEX 1
PROFORMA FOR OBTAINING PRODUCTION DETAILS

Period covered	
Name of Licensee CM/L No.	
Name of Articles (s)	IS No.
Grade/Type/Size/Variety/Class/Rating	
Brand/Trade/Name(s) of Product covered under BIS Certification Mark	
Total production of the articles(s) licensed for certification marking	
Total production of the article(s) conforming to Indian Standard	
Production covered with BIS Certification Mark and its Value : a) Quantity b) Value (Rs.)	
Brand Name used on production covered under BIS Certification Mark	
Calculation of marking fee on unit-rate basis; Marking Fee per unit a) Unit* b) Quantity covered with BIS Certification Mark c) Marking fee rounded off in whole rupees as obtained by applying unit rates given in (a) on quantity given in (b)	
Quantity not covered with BIS Certification Mark, if any.	
Reasons for such non-coverage	
Brand Name under which non-ISI goods were sold	
Quantity exported with BIS Standard Mark and its value	
Brand Name under which BIS Certified goods are exported	
Authentication by Chartered Accountant	