

केन्द्रीय मुहर विभाग -2

संदर्भ -: केमूवी-2/16:3748

13 12 2022

विषय: संशोधित IS 3748:2022/ISO 4957:2018 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।

**शिवम आहूजा
वैज्ञानिक सी**

प्रमुख (केमूवी 2)

सभी क्षेत्रीय/शाखा कार्यालय/प्रयोगशालाएँ/MTD/LRMD

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16:3748

13 12 2022

Subject: Guidelines for implementation of Revised IS 3748:2022/ISO 4957:2018

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.

**(Shivam Ahuja)
Scientist C**

Head (CMD-2)

All ROs/BOs/Labs/MTD/LRMD

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16: 3748

13 12 2022

Subject: Guidelines for implementation of Revised IS 3748:2022/ISO 4957:2018 (Tool Steels-Specification)

1. This has reference to the above.
2. 2 Indian Standards i.e. Tool and Die Steels as per IS 3748:1990 and High Speed Tool Steels as per IS 7291:1991 existed. 09 licences for IS 3748 and 01 licence for IS 7291 exist domestically as on date.
3. Alloys Steels and Forgings Sectional Committee ,MTD 16, felt the need to align these existing standards with International developments in the field. Accordingly, it has been decided to harmonize IS 3748 with the latest version of ISO 4957:2018 ‘ Tool Steels, which specifies requirements for tool steels comprising of non-alloy cold-work tool steels, alloy cold-work tool steels, alloy hot-work tool steels and high speed tool steels’.
4. This revision of IS 3748 replaces IS 3748:1990 ‘Tool and Die Steels’ and IS 7291:1991 ‘High Speed Tool Steels’ has been withdrawn.
5. The date of implementation of IS 3748:2022/ISO 4957:2018 and date of withdrawal of IS 7291:1991 is **18th May 2023**.

6. 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.

7. 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(s) as per IS 3748:1990	Specified Requirement	Equivalent Clause(s) as per revised 3748:2022/ISO 4957:2018	Change
1 Scope	This standard covered plain carbon and alloy tool and die steel in the form of bars, blanks, rings and other shapes for cold work and hot working application capable of being hardened and tempered	1 Scope	This standard now covers four categories of wrought tool steels :- i) Non-alloy cold work tool steels ii) Alloy cold work tool steels iii) Alloy hot-work tool steels iv) High-Speed tool steels Further, this standard applies to all types of hot-rolled, forged, cold-drawn or cold-rolled products or products by powder metallurgy.

7 Chemical Composition, Table 1, 9 Hardness	Chemical Composition for designations for cold work and hot work tool and die steels had been specified Hardness in Annealed Condition is specified at clause 9	cl.7.2. Chemical Composition and Mechanical Properties	Tables 2 to 9 specify Chemical Composition, permissible deviations between specified cast analysis and product analysis, annealed hardness, austenizing temperature, hardness in hardened and tempered condition for each of the 4 category of wrought tool steels
8 Heat Treatment	It was specified that unless otherwise specified, steel shall be supplied in the Annealed Condition	6.2.2 Heat Treatment Condition, Table 1	Combinations of heat-treatment conditions at delivery and applicable requirements for each category of wrought tools steels in each condition have been specified
15 Supply Condition	The material may be supplied in any one of the following conditions: a) Hot rolled or forged and annealed if required b) Pickled or Blast Cleaned c) Cold Drawn d) Turned or Machined e) Rough Ground f) Centreless Ground g) Polished for rounds	6.2.3 Surface Condition	Standard defines usual surface conditions such as a) The hot-rolled or forged condition (= as hot worked) b) The machined (ground, polished, turned, peeled or milled) condition, c) The cold-reduced condition Further, it has been stated that unless otherwise stated at the time of enquiry or order, the products shall be delivered in the surface condition hot worked
6 Freedom from Defects	It had been specified that Decarburization (total and partial) shall not exceed 80% of the machining allowance. All materials supplied in machined and ground conditions shall be entirely free from surface decarburization	7.3 Surface Quality	It has been stated Ground, polished or finished -machined products shall be free from surface decarburization. Further, it has been stated that for Hot-rolled, forged, cold-drawn or rough-machined products shall be ordered with sufficient material to be removed from all surfaces by machining or grinding to allow

			for surface decarburization. Machining Allowances have been specified to be agreed at the time of enquiry and order.
7.4 Dimensions	Dimensions Tolerances have been specified as per IS 3739 for Hot Rolled products, for forged products as per IS 10604 (Part 1) and 10604 Part 2, For other products as per Table 3 to 9 . Straightness tolerance for cold-finished bars has also been specified.	7.4 Shapes, and Dimensions Tolerances	It has been specified that the shapes, dimensions and tolerances shall be agreed at the time of enquiry and order. and as far as possible these agreements shall be based on International/National Standards. For rolled flat and round bars, reference to ISO 1035-1, ISO 1035-3 and ISO 135-4 has been specified. For Hot rolled plates reference to ISO 7452 has been specified.
13 Ultrasonic Test, 14 Additional Tests	It was specified at cl.13. that all bars/blanks of size 100 mm and above shall be ultrasonically tested for internal soundness . For sizes less the 100 mm the same shall be a matter of agreement. Further, additional tests such as Shepherd`s P.F Test, Fracture Disc Test, Macro Etch Test etc. were specified to be carried out as per purchaser`s requirements	Annex B Supplementary or Special Requirements	The requirement of Ultrasonic Test for blanks for sizes greater or less than 100 mm has been done away with. Annexure B to the standard specifies a few supplementary requirements such as Product Analysis, Verification of Minimum hardness, Structure, NDT, Tolerance on Mass etc. which shall be applied when specified in enquiry or order.

1. Consequent upon the issuance of the revised Standard, the existing product manual of IS 3748 has been revised which is being circulated separately.
2. The guidelines for implementation of the revised Standard is given below:

A. LICENSEES:

i) Switchover of licences as per IS 3748:1990 to IS 3748:2022/ISO 4957:2018

i) Licensees operating licences as per IS 3748:1990 shall be required to submit declaration with regards to their revised scope of licence as per IS 3748:2022/ISO 4957:2018 , equivalent to their existing scope of licence as per IS 3748:1990. The declaration of the scope shall be as per the scope defined in the Product Manual of IS 3748:2022/ISO 4957:2018.

2) In addition to the above, licensees shall also be required to submit in-house or independent test reports of the grades covered under their existing scope of licence ,as per Grouping Guidelines of IS 3748:2022/ISO 4957:2018.

3) BOs shall issue endorsement for revision of Indian Standard and scope of licence as per IS 3748:2022/ISO 4957:2018.

ii) Switchover of Licences as per IS 7291:1991 to IS 3748:2022/ISO 4957:2018

a) Licensees operating licences as per IS 7291:1991 shall be required to submit declaration with regards to their revised scope of licence as per IS 3748:2022/ISO 4957:2018 , equivalent to their existing scope of licence as per IS 7291:1991. The declaration of the scope shall be as per the scope defined in the Product Manual of IS 3748:2022/ISO 4957:2018.

b) In addition to the above, licensees shall also be required to submit in-house or independent test reports of the grades covered under their existing scope of licence ,as per Grouping Guidelines of IS 3748:2022/ISO 4957:2018.

c) BOs shall be required to issue endorsement for revision of Indian Standard and scope of licence as per IS 3748:2022/ISO 4957:2018.

iii) All Licensees shall implement the revised Standard by **18th May 2023**. Any difficulty in implementation shall be brought to the notice of CMD 2 at the earliest but in any case at least 30 days before the last date of implementation. BOs shall ensure that no Licences are under operation as per old Standard after **18th May 2023**. **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.**

iv) BOs shall plan an early surveillance visit for verification of the implementation of the revised standard preferably within 30 days of switchover by the licensee.

B. APPLICATIONS FOR GRANT OF LICENCE:

1. 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 also be obtained from such Applicants that if the sample fails in new test requirements, Licence will not be granted by BIS as per the old version.

2. 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 upto **17th May 2023** and for such cases Applicant shall give a declaration that they will implement the revised Standard by **18th May 2023**.
3. Beyond **18th May 2023** no Licence shall be granted as per the old Standard.

C. CHANGE IN SCOPE OF LICENCE:

1. For change in scope of licence, the relevant provisions as given above for Applicants shall apply.
2. 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 **18th May 2023** whichever is earlier.
3. The above guidelines come into force with immediate effect.

Shivam Ahuja
Sc. C

Head (CMD-2)
DDG (Certification)
ROs/BOs