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(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)
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Review Document

Basic Details

1.	Sectional Committee No. & Title:	MTD 8 - Ores and Feed Stock for Copper Industry, its Metals/ Alloys and Products Sectional Committee
2.	IS No :	IS 14340 : 1996
3.	Title :	Brass for current carrying parts in electrical wiring accessories - Specification
4.	Date of Previous Review:	March, 2021

Review Analysis

5.1 Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

S.No.	Standard (No.)	Standard (Title)	Whether the standard has since been revised	Major changes	Action proposed
1	IS 1387:1993	General requirments for the supply of metallurgical materials	No	No changes are done in the mentioned standard. This standard is still in use.	Standard need to be revised
2	IS 3685:1966	Methods of chemical analysis of brasses	No	This standard was reviewed in 2018 and no changes were incorporated.	NO changes are done in the mentioned standard. This standard is still in use.
3	IS 3635:1966	Methods of test for resistance of metallic electrical resistance material	No	This standard was reviewed in 2020 and no changes were incorporated.	NO changes are done in the mentioned standard. This standard is still in use.
4	IS 1608:1995	Mechanical Testing of metals	Yes	This standard is identical with ISO 6892-1 : 2016 â Metallic materials â Tensile testing â Part 1: Method of test at room temperatureâ issued by the International Organization for Standardization (ISO). The committee has now decided to adopt this standard under dual numbering system and make it align with ISO 6892-1 : 2016. The major changes in this revision are as follows: i) The corresponding ISO standard revised in 2009 had split the standard into 3 parts based on the temperature at which the tensile test is carried out. In formulation of the standard strain rate control was also considered; ii) ii) Method of a closed loop and A open loop were introduced in ISO 6892-1 : 2009 revision. New denomination for aforesaid methods was given in 2016 revision of ISO standard which was as follows: 1) Method A closed loop â A1 2) Method A open loop â A2; iii) iii) In addition following were also added in the ISO 6892-1 : 2016 revision: 1) Clause A.5 pertaining to Computer Compatible Representation of Standards; 2) Addition in Annex F for determination of the stiffness of the testing equipment; 3) New normative Annex G: Determination of the modulus of elasticity of metallic materials using a uniaxial tensile test. Other parts in this series are: Part 2 Method of test at elevated temperature Part 3 Method of test at low temperature	In IS 14340 referred Indian Standard IS 1608:1995 need to be change to IS 1608:2018 (Part 1) because referred standard has been revised and major changes are done. Also it is made equivalent to ISO standard

5.2 Status of standard referred in the IS.

S.No.	Referred standards (No.)	Referred standards (Title)	Since revised IS no. of the corresponding IS	Changes in the referred Standards since last review of IS	Changes in the referred standard which are affecting the standard under review	Action proposed
1	IS 1387:1993	General requirments for the supply of metallurgical materials	No change in the standard	No change in the standard	NO changes are done in the mentioned standard. This standard is still in use.	Some conditions for supply of material need to be included eg condition for avoiding damaging t
2	IS 1608:1995	Mechanical Testing of metals	IS 1608:2018 (Part 1)	This standard is identical with ISO 6892-1 : 2016 â Metallic materials â Tensile testing â Part 1: Method of test at room temperatureâ issued by the International Organization for Standardization (ISO). The committee has now decided to adopt this standard under dual numbering system and make it align with ISO 6892-1 : 2016. The major changes in this revision are as follows: i) The corresponding ISO standard revised in 2009 had split the standard into 3 parts based on the temperature at which the tensile test is carried out. In formulation of the standard strain rate control was also considered; ii) Method of a closed loop and A open loop were introduced in ISO 6892-1 : 2009 revision. New denomination for aforesaid methods was given in 2016 revision of ISO standard which was as follows: 1) Method A closed loop â A1 2) Method A open loop â A2; In addition following were also added in the ISO 6892-1 : 2016 revision: 1) Clause A.5 pertaining to Computer Compatible Representation of Standards; 2) Addition in Annex F for determination of the stiffness of the testing equipment; 3) New normative Annex G: Determination of the modulus of elasticity of metallic materials using a uniaxial tensile test. Other parts in this series are: Part 2 Method of test at elevated temperature Part 3 Method of test at low temperature	Several changes are done in revised standard regarding testing parameter and new testing conditions are also included	In IS 14340 referred Indian Standard IS 1608:1995 need to be change to IS 1608:2018 (Part 1) because referred standard has been revised and major changes are done. Also it is made equivalent to ISO standard.
3	IS 3635:1966	Methods of test for resistance of metallic electrical resistance material	This standard was reviewed in 2020 and no changes were incorporated	This standard was reviewed in 2020 and no changes were incorporated	NO changes are done in the mentioned standard. This standard is still in use.	This standard need to be revised as testing method has been changed.
4	IS 3685:1966	Methods of chemical analysis of brasses	This standard was reviewed in 2018 and no changes were incorporated.	No change in the standard	NO changes are done in the mentioned standard. This standard is still in use.	Standard need to be revised and method of spectrometry need to be included in the IS.

5.3 Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard).

S.No.	Standard (No.)	Standard (Title)	Provisions that could be relevant while reviewing the IS	Action proposed
1	-	Copper Development Association Inc	This family of alloys, which consists of copper and zinc, demonstrates that the conductivity of pure copper is often not required for connectors. More contacts, terminals, switches, etc. are stamped and formed from copper-30 zinc than from any other copper alloy. Yet its conductivity is only 28 that of pure copper. Of the various brasses, the most important for connectors are those containing 15 and 30 zinc, although a 5 zinc version is occasionally considered. It is obvious that the conductivity of these alloys is a function of the amount of zinc they contain. If the conductivity of copper-30 zinc is not sufficient, there are lower zinc brasses with higher conductivity, ranging up to 56 IACS for copper-5 zinc. There is not much to be gained in increasing the zinc content, from a mechanical property perspective. However, note that the conductivity of brass is little affected by adding zinc in excess of 28. Because zinc has a lower metal value than copper, the higher zinc-containing brasses are usually more economical. Copper-30 zinc is a good starting place when selecting copper alloys for strength and formability. This is also a good	Referred article shall be utilized to develop maximum electrical conductivity and mechanical strength of brass.

5.4 Technical comments on the standard received, if any.

S.No.	Source	Clause of IS	Comment	Action proposed
No entry made in this table				

5.5 Information available on relevant technical developments

S.No.	Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
1	Academic/ Research Organization	New grades are available for various requirements	Cl. 5	As details mentioned in reports those changes need to be adopt

5.6 Issues arising out of changes in any related IS or due to formulation of new Indian Standard.

S.No.	Related IS (revised or new)	Related IS Title	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed
1	IS 1608 : Part 1-2022	Metallic materials - Tensile testing - Part 1 : Method of test at room temperature	testing method of the material need to be changed as mentioned in the revised standard	This standard is identical with ISO 6892-1 : 2016 â Metallic materials â Tensile testing â Part 1: Method of test at room temperatureâ issued by the International Organization for Standardization (ISO). The committee has now decided to adopt this standard under dual numbering system and make it align with ISO 6892-1 : 2016. The major changes in this revision are as follows: i) The corresponding ISO standard revised in 2009 had split the standard into 3 parts based on the temperature at which the tensile test is carried out. In formulation of the standard strain rate control was also considered; ii) Method of a closed loop and A open loop were introduced in ISO 6892-1 : 2009 revision. New denomination for aforesaid methods was given in 2016 revision of ISO standard which was as follows: 1) Method A closed loop â A1 2) Method A open loop â A2; iii) In addition following were also added in the ISO 6892-1 : 2016 revision: 1) Clause A.5 pertaining to Computer Compatible Representation of Standards; 2) Addition in Annex F for determination of the stiffness of the testing equipment; 3) New normative Annex G: Determination of the modulus of elasticity of metallic materials using a uniaxial tensile test. Other parts in this series are: Part 2 Method of test at elevated temperature Part 3 Method of test at low temperature	Changes need to be done in IS 14340 as per revised standard IS 1608:2018 (part 1) available

5.7 Any consequential changes to be considered in other IS.

S.No.	Related IS to get impacted	Related IS Title	Requirements to be impacted
1	IS 14450 : Part 1-1997	Conductors for electronics and telecommunication applications - Specificaiton: Part 1 bare copper wire (Round)	Electrical conductivity as mentioned in this IS would be impacted.

Other Details

6.	Any other observation:	Standard need to be revised and new testing Indian Standard and New grades need to be incorporated.As per information available about various grades, changes needs to be incorporated in given IS.
7.	Upload Supporting Document(s)	

7.1 ARP Report	70_6099_230309050911_ARP_Report.docx
7.2 Draft Document	70_6099_230309050924_Draft_Document.docx

8.	Recommendations - On the basis of the analysis of the info available as mentioned above consideration of sectional committee is solicited on the following aspects of the IS under review:	Standard need to be revised and new testing Indian Standard and New grades need to be incorporated.As per information available about various grades, changes needs to be incorporated in given IS.