



भारतीय मानक ब्यूरो

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## Review Document

### Basic Details

1.	Sectional Committee No. & Title:	MTD 3 - Mechanical Testing of Metals Sectional Committee
2.	IS No :	IS 1598 : 1977
3.	Title :	Method for izod impact test of metals (First Revision)
4.	Date of Previous Review:	February, 2020

### 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	Nil	NA	NA	NA	NA

#### 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 3766:1977	Method for Calibration of Pendulum Impact Testing Machines for Testing Metals	Latest - IS 3766:1977	NA	NA	NIL

#### 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	BS 131: Part 1: 1961 (With 2 Amendments)	Notched Bar Tests – Izod Impact Test on Metals	The Test pieces clause of BS 131: Part 1:1961 is relevant in case of IS 1598	Test Pieces as per Fig 1, 2, 3, 5, 6 7, CI 3.2.1 and 3.3.1 of IS 1598 may be modified in IS 1598 (Pls see (5.5) below)
2	EN 23 -18	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials	The Sample preparation of Heat-treated Metals clause CI 8.2.1 of EN 23-18 is relevant	CI 3.1 of IS 1589 may be modified (Pls see (5.5) below)

**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	General	In view of Amendment issued to BS 131: Part 1: 1961	CI – 3.2.1 of IS 1589 :1977	The Minimum length of the Test sample (Square) may be Changed as 70 mm for Single notch, 98 mm for Two Notch and 126 mm for Three Notch and Machining Tolerance for Depth of Notch for Ferrous Test Piece may be changed to 0.1 mm (Pls see Annex – 1 in attachment for revised Figure 1, 2 3)
2	General	Sampling for Heat treated Condition of metals is not clear in the standard.Clause CI 8.2.1 of EN 23-18 is relevant.	CI – 3.1 of IS 1589 :1977	The following may be inserted at the end of line “When heat-treated materials are being evaluated, the specimen shall be finish machined, including notching, after the final heat treatment, unless it can be demonstrated that the impact properties of specimens machined before heat treatment are identical to those machined after heat treatment.”
3	General	In view of Amendment issued to BS 131: Part 1: 1961	CI – 3.3.1 of IS 1589 :1977	The Minimum length of the Test sample (Round) may be Changed as 71 mm for Single notch, 99 mm for Two Notch and 127 mm for Three Notch and Machining Tolerance for Depth of Notch may be changed to 0.1 mm for Ferrous Test Piece 0.05 mm for Nonferrous Test piece. Machining Tolerance for Distance of notch from end of test piece and from adjacent notch for Non-ferrous Test piece may be changed to 0.5 mm (Pls see Annex – 2 in attachment for revised Figure 4, 5 6)

**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
No entry made in this table					

**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
No entry made in this table			

**Other Details**

6.	Any other observation:	Nil
7.	Upload Supporting Document(s)	

<b>7.1 ARP Report</b>	<a href="#">70_8044_220426032047_ARP_Report.pdf</a>	
<b>7.2 Draft Document</b>	<a href="#">70_8044_220426100202_Draft_Document.docx</a>	
8.	<p>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:</p>	<p>The Izod and Charpy Impact tests are well established methods for studying the toughness of a Material since long time and Major changes in the test method is not recommended. Several Interactions with the end user of this test method i.e., Valve Manufacturers as per IS 8737, IS 3224 were made and no Concerns were raised in the test methods except for some constraints in maintaining the machining tolerance. Necessary assistance has been derived from the International Standards “BS 131:Part 1:1961 (With 2 amendments) - Notched Bar Tests – Izod Impact Test on Metals and EN 23 – 18 - Standard Test Methods for Notched Bar Impact Testing of Metallic Materials” for reviewing this Indian Standard. The recommendations as mentioned in S no (5.5) above may be considered.</p>