

**Technical Specification of Impact Test Samples for Indirect Calibration of Impact Testing Machine as Per ISO-148 Part3:2016**

**INTRODUCTION:** Reference test samples shall meet the requirement of standards ISO -148(Part-3). Dimensions of test samples and reference machine shall be as per parameters given in below table.

Table — Geometrical characteristics

Reference number <sup>a</sup>	Designation	Value	Tolerance	Units
1	Length of test piece	55,00	+0,00 * -0,30	mm
2	Half length of test piece	27,5	±0,2 *	mm
3	Width of test piece	10,00	±0,06	mm
4	Thickness of test piece	10,00	±0,07 *	mm
5	Ligament length	8,00	±0,06	mm
6	Angle of notch	45,0	±1,0 *	°
7	Radius at base of notch	0,250	±0,025	mm
8	Angle between adjacent faces	90,00	±0,15 *	°
9	Angle between plane of symmetry of notch and longitudinal axis	90	±2	°
10	Radius of anvils	1,00	+0,10 * -0,00	mm
11	Angle of taper of anvils	11	±1,0	°
12	Distance between anvils	40,00	+0,10 * -0,00	mm
13	Distance of striking edge from plane of symmetry of anvils	—	±0,25 *	mm
14	Angle of striker	30	±1	°
15A	Radius of striking edge of 2 mm striker	2,00	+0,20 * -0,00	mm
15B	Radius of striking edge of 8 mm striker	8,00	±0,05	mm
15C	Radius of shoulder of 8 mm striker	0,25	+0,50 -0,05	mm
15D	Width of striking edge of 8 mm striker	4,00	±0,20	mm

NOTE 1 Tolerances followed by an asterisk \* are tighter than those in ISO 148-1 or ISO 148-2.

**Geometric Characteristics of reference testing machine**

The following geometrical characteristics apply:

- the radius of the anvils shall be  $\left(1^{+0,10}_{0,00}\right)$  mm ;
- the distance between the anvils shall be  $\left(40^{+0,10}_{0,00}\right)$  mm ;
- the striking edge shall be within  $\pm 0,25$  mm of the plane of symmetry of the anvils.

## Certificates for reference test pieces

Each set of reference test pieces, shall be accompanied by a certificate which provides the following information:

- a) reference to this part of ISO 148, i.e. ISO 148-3;
- b) name, trademark or reference number of the producer;
- c) reference absorbed energy value of the set and its uncertainty at the stated level of confidence;
- d) striker geometry;
- e) temperature at which the reference specimen should be tested;
- f) necessary information for appropriate use of the reference test pieces;
- g) name and general description of the material;
- h) producer's code for the batch;
- i) intended use (making reference to ISO 148-2);
- j) description of the (metrologically valid) procedure used to determine the certified value;
- k) statement on the metrological traceability of the certified value;
- l) storage conditions and shelf-life (period of validity).

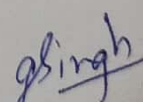
Standards deviation shall be as per the below table.

Table — Maximum allowable standard deviations permitted for Charpy reference test pieces

Energy $K_R$	Standard deviation
<40 J	$\leq 2,0$ J
$\geq 40$ J	$\leq 5\%$ of $K_R$

### NOTE

- a) Vendor supplier must be registered on NABL website as a reference material supplier.
- b) BHEL reserves the right to verify the information submitted by the vendor. In case the information is found to be false or incorrect, the offer shall be rejected.
- c) All the documents should be furnished in English language only. If the document provided by vendor is in any language other than English, it must be supported with its certified English translation.
- d) If vendor is manufacturer, then vendor must submit self-declaration for the same.

  
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