AS 1544.1—2003
Reconfirmed 2017

Australian Standard™

Methods for impact tests on metals

Part 1: Izod

Standards Australia

This Australian Standard was prepared by Committee MT-006, Mechanical Testing of Metals. It was approved on behalf of the Council of Standards Australia on 15 August 2003 and published on 19 September 2003.

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This Standard was issued in draft form for comment as DR 03161.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1544.1—2003
Methods for impact tests on metals
Part 1: Izod

RECONFIRMATION NOTICE

Technical Committee MT-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

Australian Standard™

Methods for impact tests on metals

Part 1: Izod

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PREFACE

This Standard was prepared by the Standards Australia Committee MT-006, Mechanical Testing of Metals, to supersede AS 1544.1—1977, *Methods for impact tests on metals,* Part 1: *Izod.*

The objective of this Standard is to specify a method for testing toughness in metals by impact testing.

This Standard is Part 1 of a series of Standards on the methods for impact testing of metals. The series comprises the following methods:

AS		
1544	Method for impact tests on metals	
1544.1	Part 1:	Izod
1544.2	Part 2:	Charpy V-notch
1544.3	Part 3:	Charpy U-notch and keyhole notch
1544.4	Part 4:	Calibration of the testing machine
1544.5	Part 5:	Assessment of fracture surface appearance of steel

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

CONTENTS

FOREWORD

This Standard includes details of the method of test together with essential dimensional requirements for the testing machine and dimensional requirements for the test pieces.

The satisfactory operation of a pendulum impact testing machine is dependent on factors which include the design, the foundation, the accuracy of construction of machine components, the degree of wear, and the friction-free movement of the pendulum.

During a test, all the absorbed energy indicated by the machine is attributed to the fracturing of the test piece. However, it is known that there are other mechanisms by which small amounts of energy may be absorbed. It is suspected that items such as test piece supports, the machine foundation and frame work, the pendulum and striker, ejection and drag of the broken test piece cause some degree of energy absorption. This energy is not determined, as suitable methods and apparatus have not yet been developed for measuring energy absorption by these individual items.

STANDARDS AUSTRALIA

Australian Standard
Methods for impact tests on metals

Part 1: Izod

1 SCOPE

This Standard specifies requirements for performing the Izod impact test on metals. It also includes requirements for the installation of the testing machine, its initial and periodic calibration, and recommendations for its maintenance by the user.

NOTE: The test piece may have a square, a rectangular or a circular section. Where a requirement involves reference to a face of a test piece, it applies directly to square or rectangular test pieces and by implication, to the corresponding portion of the surface of a circular test piece.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1544 Methods for impact tests on metals
1544.2 Part 2: Charpy V-notch
1544.3 Part 3: Charpy U-notch and keyhole notch
1544.4 Part 4: Calibration of the testing machine
1544.5 Part 5: Assessment of fracture surface appearance of steel

3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

3.1 Centre of percussion

That point in a pendulum at which a blow, delivered in a tangential direction, will cause no reaction at the centre of rotation.

3.2 Initial potential energy

The energy theoretically available in a pendulum-type impact testing machine when the pendulum is returned from its striking position to its initial release position.

3.3 Length of pendulum

The distance from the axis of rotation of the pendulum to the impact point of the pendulum, on a standard test piece.

3.4 Point of impact

The midpoint of the line of contact between the striking edge and the test piece.

3.5 Sample

A portion of material or a group of items selected from a batch or consignment by a sampling procedure.

3.6 Secondary standard test pieces

Charpy test pieces having an assigned impact value obtained from tests performed upon a verified testing machine.

3.7 Standardized test pieces

Charpy test pieces from a nationally recognized source which have certified impact values for testing machine verification purposes.

3.8 Striking energy

The kinetic energy of the pendulum of the testing machine at the instant of impact.

3.9 Striking velocity

The linear velocity of the striking edge at the instant of impact.

3.10 Test piece

A prepared piece for testing, made from a test specimen by some mechanical operation.

3.11 Test specimen

A portion of material, or a single item taken from the sample, for the purpose of applying a particular test.

3.12 Verification

Proving of calibration procedures by testing of standardized test pieces.

4 PRINCIPLE

The test piece is clamped vertically in supports with the notch in the same plane as the upper face of the support. The blow is struck on the face containing the notch and at a fixed distance above it. Using a single blow from a pendulum to break a clamped notched test piece using the energy absorbed by the material to determine the measurement.

5 TESTING MACHINE

5.1 General

The testing machine shall be of the pendulum type, and shall be so constructed that the loss of energy (such as from translation, rotation or vibration) in the machine framework and pendulum during a test, is negligible.

5.2 Installation, calibration and maintenance

The machine shall be installed and calibrated in accordance with Paragraphs A1 and A2 of Appendix A. It shall be recalibrated periodically, and when otherwise necessary, in accordance with Paragraph A2 of Appendix A.

The machine should be maintained in satisfactory working order and condition in the intervals between successive recalibrations, in accordance with Paragraph A3 of Appendix A.

5.3 Test piece supports

The test piece supports shall be of hardened steel and shall consist of a support block and a clamp block, see Figures 1(a) and 1(b).

The support block shall be provided with a vertical groove for locating the test piece in the plane of the swing of the pendulum. The location groove shall conform to the requirements of Table 1 and the following requirements:

(a) For square-section and rectangular test pieces the groove shall have a clearance space at the top and relieving recesses at the corners.

(b) For circular-section test pieces the groove shall be of semi-circular section.

(c) For all locating grooves the top edge of the support, about which bending takes place, shall be rounded to a radius not exceeding 0.4 mm.

NOTE: The clamp block for circular-section test piece is usually provided with a horizontal guide groove for the notch setting gauge.

TABLE 1

REQUIREMENTS FOR LOCATING GROOVES

millimetres

Test piece (nominal)		Width or diameter of groove	Clearance space (approx)
Square-section	10 × 10	10.15–10.25	18.5 × 9
Rectangular-section	10 × 7.5	7.65–7.75	18.5 × 9
	10 × 5	5.15–5.25	18.5 × 9
Circular section	11.43 dia	11.48–11.56	—

5.4 Striker

The striker and its components shall comply with the following requirements:

(a) The striker shall be of hardened steel.

(b) The striker shall be attached rigidly to the pendulum and shall satisfy the following conditions, see Figure 1(a) and 1(b):

(i) Included angle of striker..... 75 ±1 degrees.

(ii) Radius of curvature of striking edge .....0.5 mm to 1.0 mm.

(c) The striking edge shall be rounded with a smooth profile blending tangentially with the faces of the striker. The length of the striking edge shall be in accordance with Clause 4.5(g)

5.5 Location of test piece and striker

When the test piece is mounted in the supports, the following conditions shall apply, see Figures 1(a) and 1(b):

(a) The test piece shall be clamped so that it is attached rigidly to the machine frame.

(b) The top surface of the clamped support block shall be parallel to the reference surface of the machine, within 2:1000.

(c) The longitudinal axis of the test piece shall be perpendicular to the top surface of the support block, within 0.5 degrees.

(d) The notch, which shall face the striker, shall be perpendicular to the plane of swing of the pendulum, and the plane of symmetry of the notch shall coincide with the top surface of the support block, within ±0.1 mm.

NOTE: Some commonly used setting gauges require the surface of the clamp on which they slide to be coplanar with the top surface of the support block.

(e) The point of impact shall be 22 ±0.5 mm above the top surface of the support block.

(f) When the striker edge is contacting the test piece, the angle between the underside of the striker and the adjacent face of the test piece shall be 100 ±1 degrees.

(g) When contacting the test piece, the striking edge, which shall extend beyond both side faces of the test piece, shall be—

(i) perpendicular to the longitudinal axis of the test piece within 2 degrees;

(ii) for square-section and rectangular-section test piece, parallel to the bearing surface of the location groove in the support block, within 3:1000; and

(iii) for circular-section test pieces, parallel to the vertical plane containing the root of the notch, within 0.5 degrees.

5.6 Centre of percussion

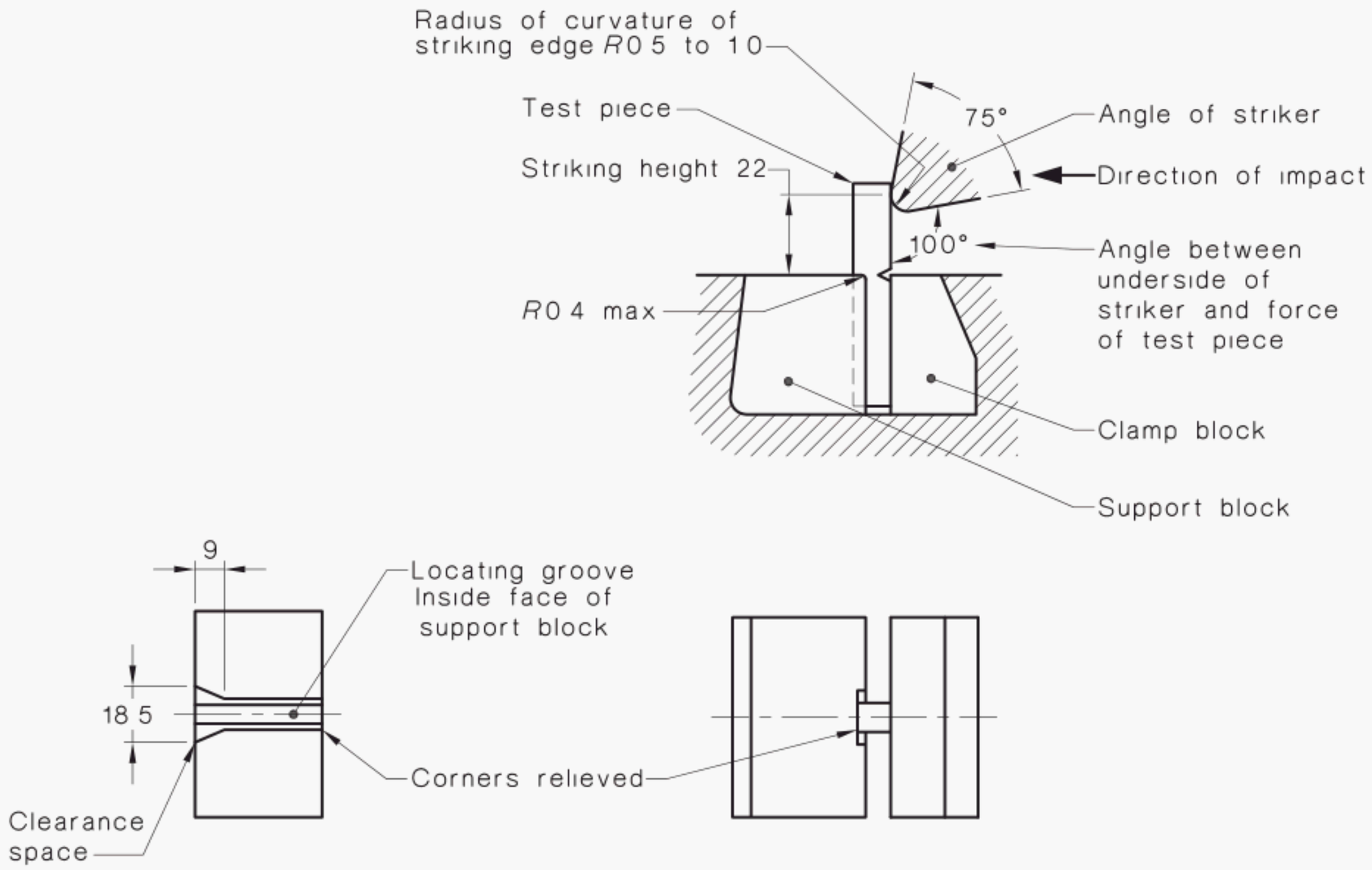
The distance of the centre of percussion from the axis of rotation shall be equal to the length of the pendulum, ±1 percent.

5.7 Striking velocity

The striking velocity shall be 3.0 to 4.0 m/s. In the case of a dispute 5 to 5.5 m/s shall be used.

5.8 Indicating equipment

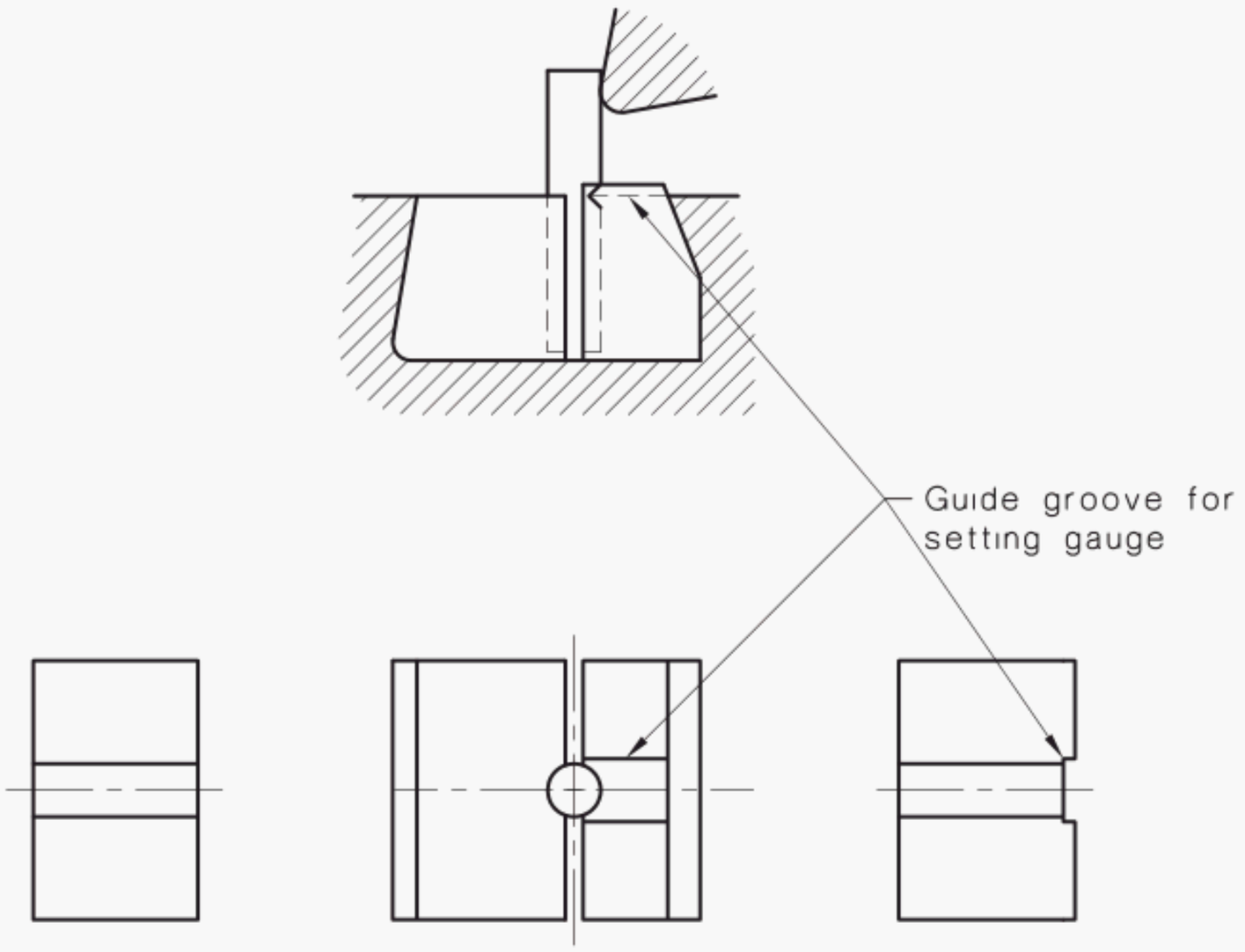
For scales graduated in joules, the scale intervals shall not exceed 1 J for machines having a striking energy of 80 J or less, or 2 J for machines having a striking energy greater than 80 J.



(a) Square-section test pieces

DIMENSIONS IN MILLIMETRES

FIGURE 1 (in part) ARRANGEMENT OF SUPPORTS, TEST PIECE AND STRIKER



(b) Circular-section test piece

DIMENSIONS IN MILLIMETRES

FIGURE 1 (in part) ARRANGEMENT OF SUPPORTS, TEST PIECE AND STRIKER

For scales graduated in other units, the scale intervals shall not exceed one percent of the maximum scale value.

The thickness of the sale marks and the width of the tip of the pointer shall not exceed one fifth of the minimum scale spacing. The pointer should permit a reading free from parallax error.

The length of the smallest scale mark should not be less than 2.5 mm.

5.9 Zero reading

When the machine is operated normally but without a test piece in position, the reading indicated by the pointer is the zero reading. This reading shall not exceed ±0.5 percent of the nominal initial potential energy, see Paragraph A3.4 of Appendix A.

5.10 Friction losses

Energy is absorbed by friction, including air resistance, bearing friction and friction of the pointer. The total losses by friction for one swing shall not exceed 0.5 percent of the initial potential energy, see Paragraph A3.5 of Appendix A.

5.11 Initial potential energy

The initial potential energy shall not differ from the nominal value by more than ±1 percent. See AS 1544.4 for the method of determining initial potential energy.

5.12 Indicated absorbed energy

The error in indicated absorbed energy shall not exceed 3 percent of the energy corresponding to the indicated value, or 1 percent of the energy corresponding to the full scale, whichever is the greater. See AS 1544.4 for the method for calibration of scales.

6 TEST PIECE

6.1 Sampling and preparation

Samples for testing shall be selected in accordance with the requirements of the relevant product specification or code of practice, as applicable. Any significant metallurgical damage shall be removed by machining.

All samples, specimens and test pieces shall be adequately identified as to their origin and location.

6.2 Form of test piece

6.2.1 *General*

The test piece, which shall be machined all over, shall be of length and form as shown in Figures 2, 4, 6 and 8. The notch shall be a V-notch of 45 degrees included angle with a 0.25 mm root radius. The depth of the notch shall be 2 mm for square-section or rectangular-section test pieces and 3.3 mm for circular-section test pieces.

The plane of symmetry of the notch shall be perpendicular to the longitudinal axis of the test piece, see Figures 4, 5, 8 and 9.

6.2.2 *Standard test piece*

The standard test piece shall be of square cross-section, nominally 10 mm × 10 mm or of circular cross-section, normally 11.43 mm diameter.

6.2.3 *Subsidiary test pieces*

Where a standard test piece cannot be obtained from the material, one of the subsidiary test pieces of rectangular cross-section and having the notch cut in one of the narrower faces, shall be used.

NOTE: No general correlation has been established between results obtained from test pieces of different sizes, and results should be compared only on test pieces of identical dimensions.

6.2.4 *Dimension and tolerances of test pieces*

The standard test piece and subsidiary test pieces shall have dimensions and tolerances in accordance with Table 2 or Table 3 and to the appropriate figures, as follows:

(a) Standard test pieces (square-section nominally 10 mm × 10 mm).

  (i) Figure 2 with single notch.

  (ii) Figure 3 with two notches.

  (iii) Figure 4 with three notches.

(b) Standard test pieces (circular-section nominally 11.43 mm diameter).

  (i) Figure 6 with single notch.

  (ii) Figure 7 with two notches.

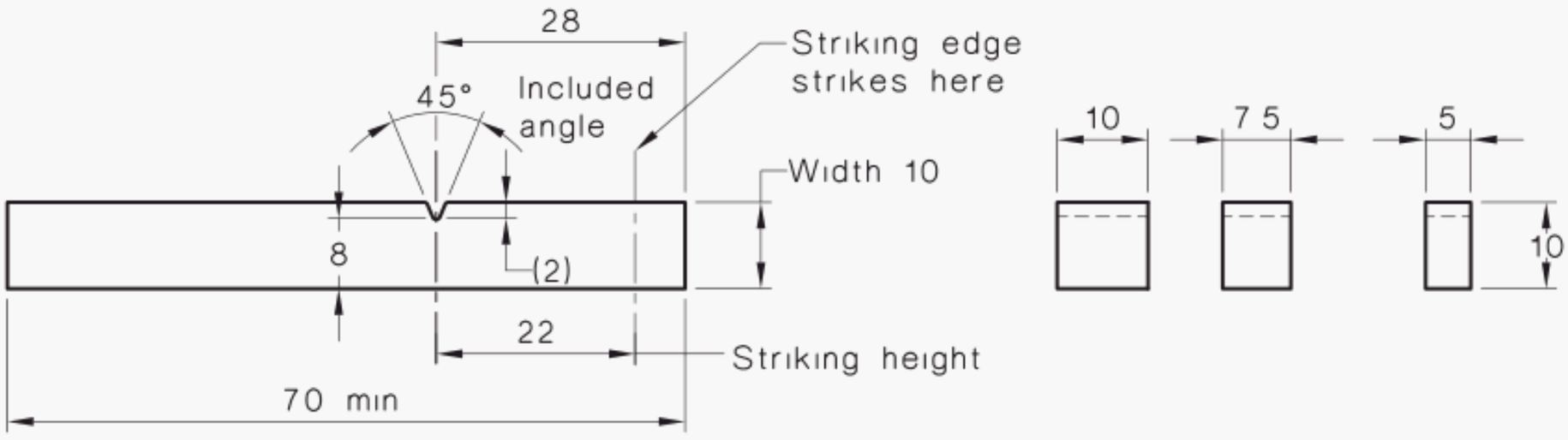
  (iii) Figure 8 with three notches.

(c) Subsidiary test pieces (rectangular-section nominally 10 × 7.5 mm; 10 × 5 mm):

  (i) Figure 2 with single notch.

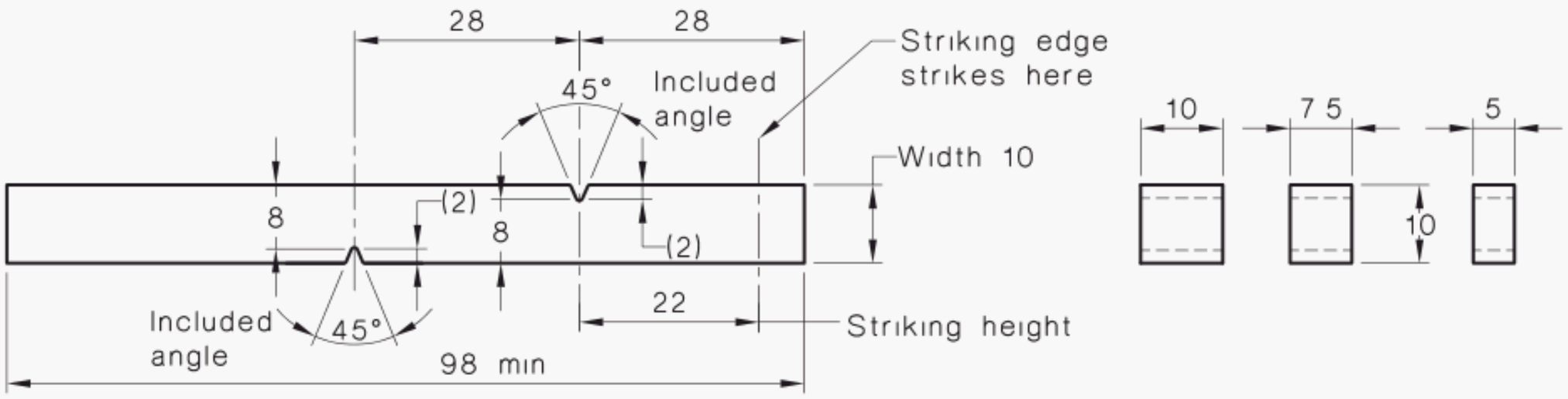
  (ii) Figure 3 with two notches.

Where more than one notch is cut in a test piece the notches shall be spaced as shown in Table 2 or Table 3. The notches shall be cut around the test piece as shown in Figures 3, 4, and 8 unless otherwise required by the product specification or code of practice.



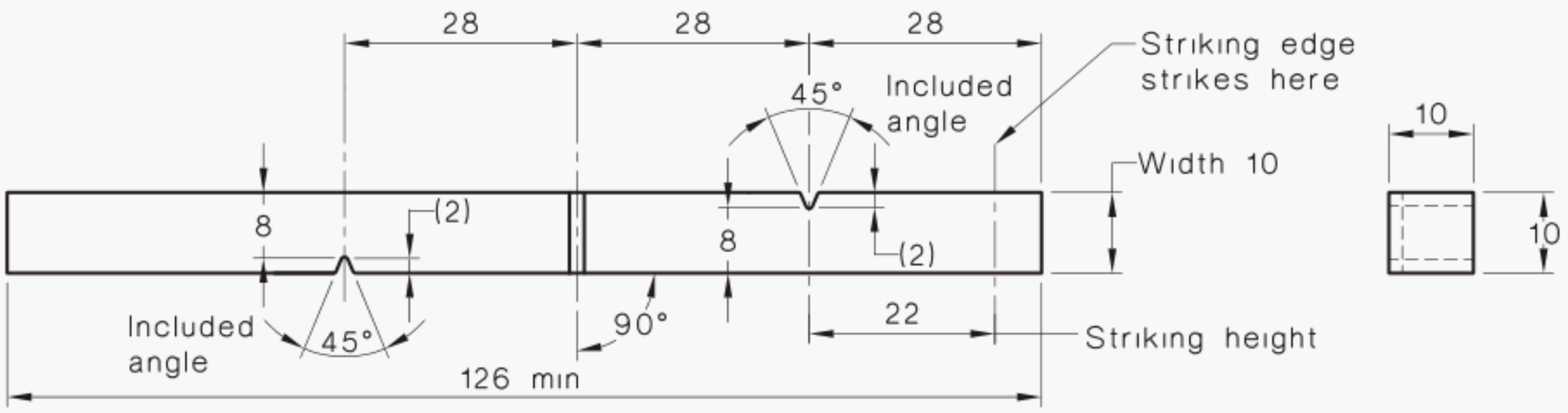
DIMENSIONS IN MILLIMETRES

FIGURE 2 SINGLE-NOTCH SQUARE-SECTION AND RECTANGULAR SECTION TEST PIECE



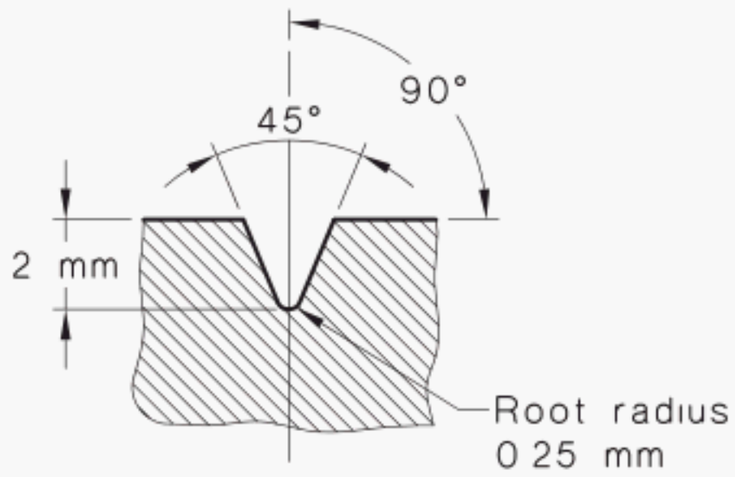
DIMENSIONS IN MILLIMETRES

FIGURE 3 TWO-NOTCH SQUARE-SECTION AND RECTANGULAR SECTION TEST PIECE



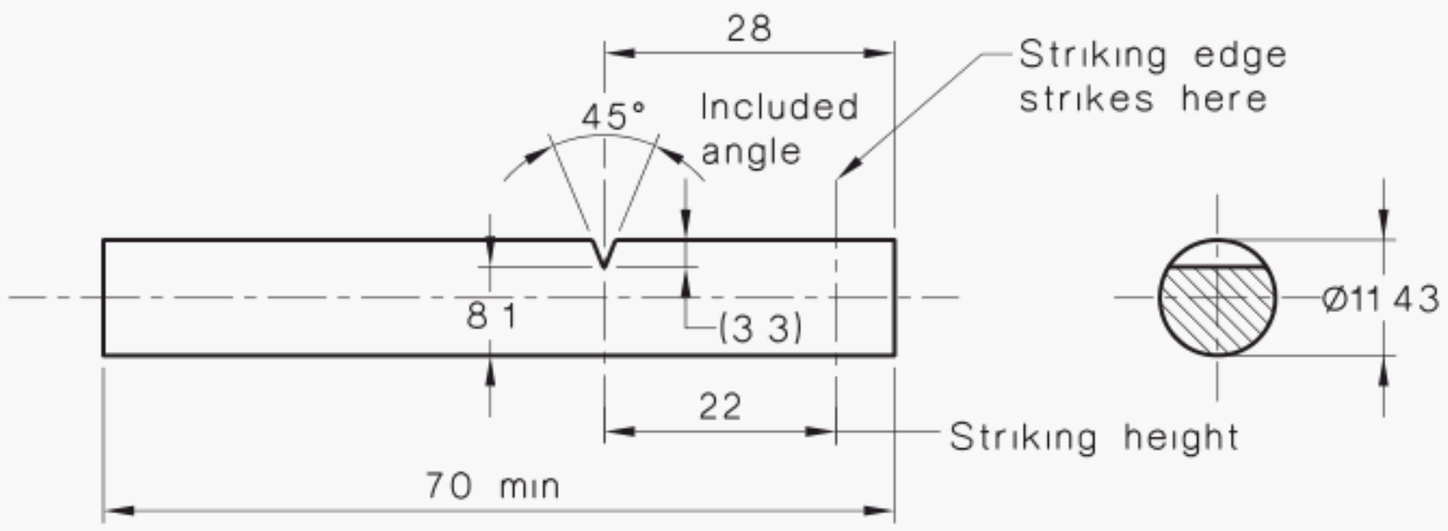
DIMENSIONS IN MILLIMETRES

FIGURE 4 THREE-NOTCH SQUARE-SECTION TEST PIECE



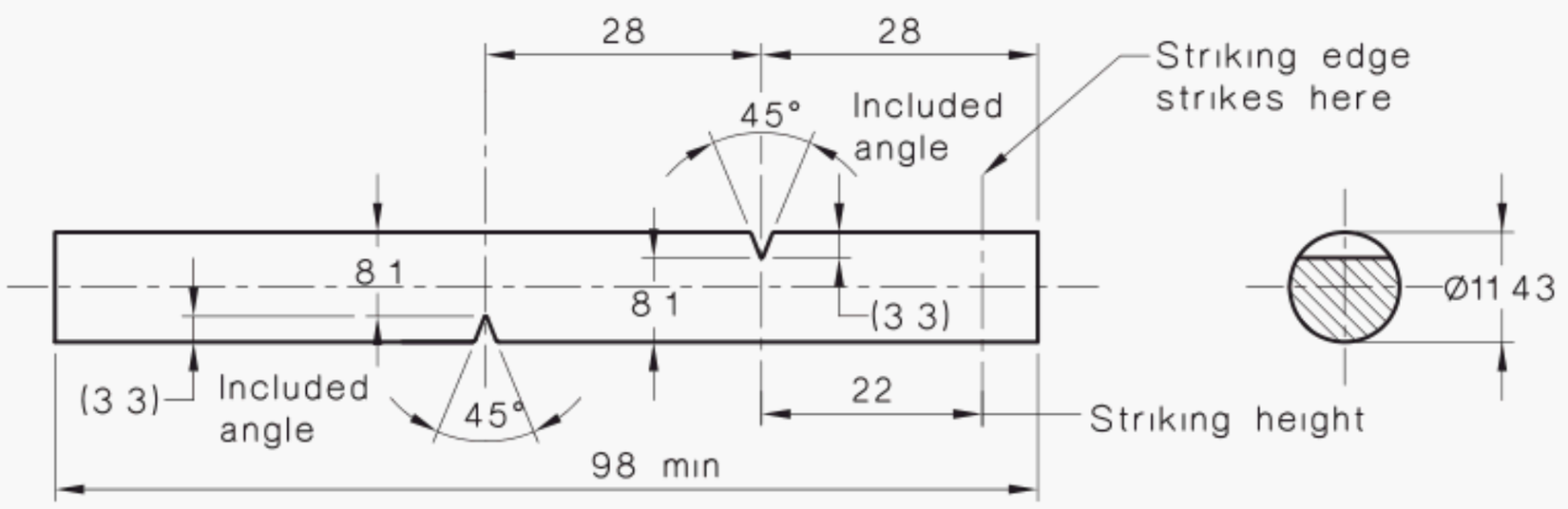
DIMENSIONS IN MILLIMETRES

FIGURE 5 ENLARGED VIEW OF NOTCH FOR SQUARE-SECTION AND RECTANGULAR-SECTION TEST PIECES



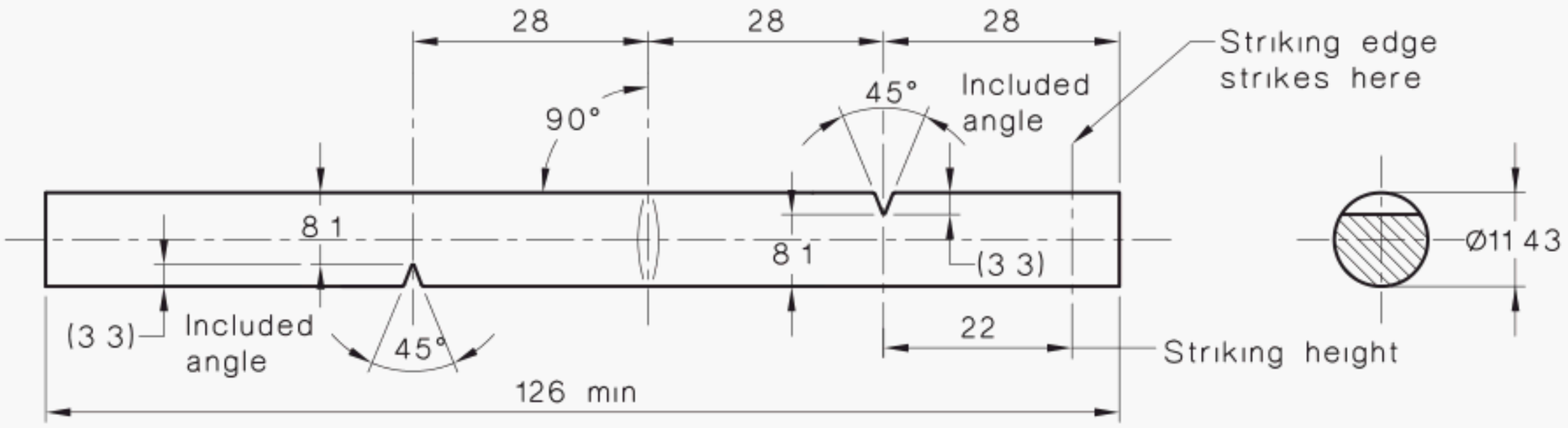
DIMENSIONS IN MILLIMETRES

FIGURE 6 SINGLE-NOTCH CIRCULAR-SECTION TEST PIECE



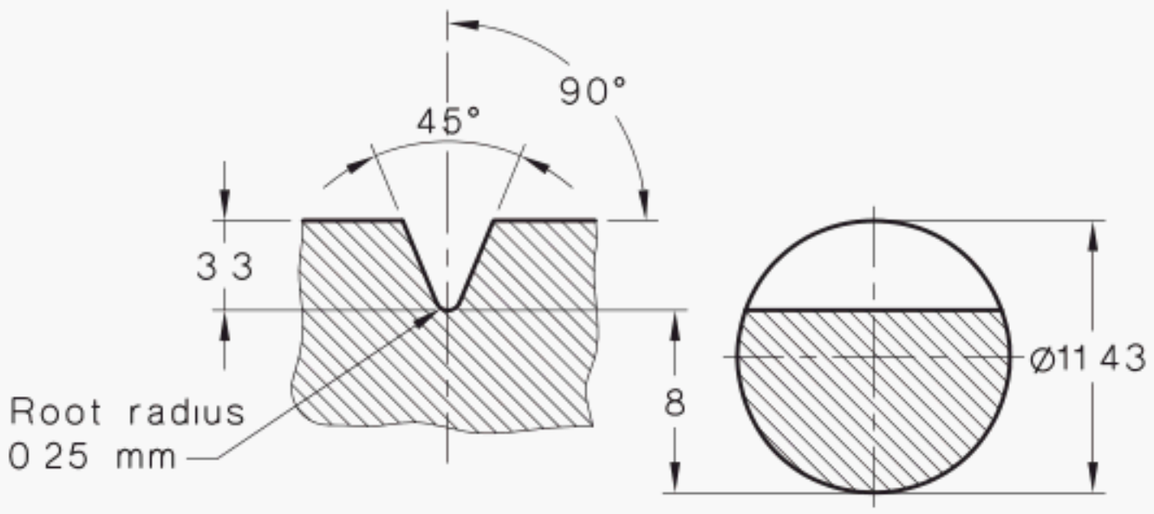
DIMENSIONS IN MILLIMETRES

FIGURE 7 TWO-NOTCH CIRCULAR-SECTION TEST PIECE



DIMENSIONS IN MILLIMETRES

FIGURE 8 THREE-NOTCH CIRCULAR-SECTION TEST PIECE



DIMENSIONS IN MILLIMETRES

FIGURE 9 ENLARGED VIEW OF NOTCH FOR CIRCULAR-SECTION TEST PIECE

6.3 Notch preparation

Unless a particular method is specified in the relevant product specification or code of practice, the notch may be cut by any machining method providing a smooth profile, as specified, is produced see Figure 5 and 9.

NOTE: The impact properties of some metals may be affected by the method employed; for example, to avoid the effect of strain aging in the notch region of low carbon steel it is advised to notch the test pieces the same day as they are tested, and the notch should be formed using light cuts with a finishing cut of 0.03 to 0.05 mm.

TABLE 2

DIMENSIONS AND TOLERANCES OF SQUARE-SECTION AND RECTANGULAR-SECTION TEST PIECES

Characteristic	Nominal dimension	Machine tolerance
Length		
Standard test pieces		
1 notch	70 mm	—
2 notch	98 mm	—
3 notch	126 mm	—
Subsidiary test piece		
1 notch	70 mm	—
2 notch	98 mm	—
Thickness		
Standard test piece	10 mm	±0.11 mm
Subsidiary test piece	7.5 mm	±0.11 mm
Subsidiary test piece	5 mm	±0.06 mm
Width	10 mm	±0.06 mm
Root radius of notch	0.25 mm	±0.25 mm
Depth below notch	8 mm	±0.06 mm
Distance of plane of symmetry of notch from free end of test piece or from an adjacent notch (see Figures 2, 3, and 4)	28 mm	±0.42 mm
Angle between plane of symmetry of notch and longitudinal axis of test piece	90°	±2°
Angle between adjacent longitudinal faces of test piece	90°	±20°
Angle of notch	45°	±2°

TABLE 3

DIMENSIONS AND TOLERANCES OF CIRCULAR-SECTION TEST PIECES

Characteristic of circular-section	Nominal dimension	Nominal dimensions	Machine tolerance
Overall length of test piece			
1 notch	70 mm		
2 notch	98 mm		
3 Notch	126 mm		
		11.43 mm	±0.025 mm
Root radius of notch		0.25 mm	±0.025 mm
Depth below notch (diametrical)		8.1 mm	±0.06 mm
Distance of plane of symmetry of notch from free end of test piece or from an adjacent notch (see Figures 6, 7 and 8).		28 mm	±0.42 mm
Angle between plane of symmetry of notch and longitudinal axis of test piece		90°	±2°
Angle of notch		45°	±2°

7 PROCEDURE

7.1 Conditioning of test piece

7.1.1 *General*

Those portions of any appliance that make contact with the test piece during transfer to the machine shall be at the same temperature as the test piece. This requirement also applies to any device which uses the notch for centring.

7.1.2 *Tests at ambient temperature*

The ambient test temperature shall be recorded immediately before testing. In the event of dispute, the test temperature shall be 20 ±2°C.

NOTE: In view of the difficulties of performing the Izod test at temperatures other than ambient, it is recommended that the Charpy test be used for testing at sub-ambient and elevated temperatures refer to AS 1544.2 and AS 1544.3.

7.2 Location of test piece

The test piece shall be clamped rigidly in the supports so that it will be struck on the face containing the notch. Before being clamped, it shall be located by means of a setting gauge, so that the plane of symmetry of the notch coincides with the top surface of the support block, within ±0.1 mm, see Clause 5.5 and Figure 1.

When testing 2-notch and 3-notch test pieces, the reminder of the test piece after each test shall be extended to ensure that any deformed metal does not interfere with the performance of the next test.

7.3 Operation of the testing machine

The machine shall be operated in accordance with the manufacturer's instructions. Attention shall be given to the following:

(a) Safety, i.e. observing the correct sequence of operations, and taking precautions against possible accident (see Note 1).

(b) Correct location of the test piece.

(c) Setting the pointer.

(d) Releasing the pendulum without imparting vibration to it.

(e) Reading the scale, avoiding parallax errors (see Note 2).

NOTES:

1 It is recommended that a safety screen be provided to arrest the broken part of the test piece ejected during the test.

2 If the scale reading is taken after the pendulum has been reset in its initial release position, care should be taken hat the action of arresting and resetting the pendulum does not cause the scale reading to change.

7.4 Record of test results

A record of test results shall be made and shall include the information specified in Appendix B.

8 REPORT

Where a report of the test is required, it shall include the following:

(a) The type of test, i.e. Izod; the type of test piece used (square-section or circular-section); if a subsidiary test piece is used, the thickness shall be stated.

(b) Reference to this Australian Standard, i.e. AS 1544.1, and to a relevant product specification or code of practice, where applicable.

(c) The nominal striking energy of the machine, in joules.

(d) The identification of the test piece.

(e) The indicated absorbed energy, in joules.

(f) The test temperature, in degrees Celsius, see Clause 7.1.2.

(g) The fracture surface appearance, if required, see AS 1544.5.

(h) Date of report.

(i) Compliance or otherwise with specified requirements, if applicable.

NOTE: When the standard test piece is used, it is permissible to use symbols in giving the result of the test. The result may then be prefaced by symbols such as 'I 170S' or 'I 80R' to indicate respectively the type of test, the striking energy of the machine used, and the type of test piece (S-square, R-circular).

Example: I 170S:*x*J.

APPENDIX A

INSTALLATION, CALIBRATION AND MAINTENANCE OF THE TESTING MACHINE

(Normative)

A1 INSTALLATION

A1.1 Foundation

The machine should be set up in accordance with the manufacturer's instructions. It shall be bolted securely to a concrete floor not less than 150 mm thick or, where this is not available, it shall be bolted securely to a suitable foundation having a mass not less than 40 times that of the pendulum. Any lack of rigidity in the fixing of the machine or anvil will affect the test results.

NOTE: Details of a suitable foundation block are usually provided by the manufacturer.

A1.2 Level

A reference surface on the base of the machine shall be horizontal to within 1:1000, and the axis of rotation of the pendulum shall be horizontal to within 3:1000.

A2 CALIBRATION

A2.1 Calibration on installation

On completion of installation, the machine shall be given a complete calibration in accordance with AS 1544.4.

A2.2 Routine recalibration of the testing machine

The machine shall be recalibrated by a calibrating authority in accordance with AS 1544.4, which recommends a complete calibration at intervals not exceeding 5 years, and a partial calibration at intervals not exceeding 1 year, for machines in good order and used under favourable conditions.

A2.3 Additional recalibration of the testing machine

If a machine is moved to a new location, or is subject to major repairs or adjustments, or if there is any reason to doubt the accuracy of its results, it shall be recalibrated in accordance with AS 1544.4. The decision as to whether a complete calibration or a partial calibration is to be performed shall rest with the calibrating authority.

A2.4 Verification

In addition to the foregoing calibration requirements, the performance of each testing machine shall be verified by the testing of standardized test pieces, which have certified values of impact energy in the range of the material to be tested.

The average value determined for the standardized test pieces shall be within 1.5 J or 5% of the certified values.

NOTE: Information pertaining to the availability of standardized test may be obtained by addressing the National Association of Testing Authorities, Australia (NATA)

A2.5 Verification after replacement of striker or anvil parts

When parts that could affect the measured energy are replaced, the accuracy of the machine shall be checked by one of the following two methods:

(a) Verify in accordance with Paragraph A2.4.

(b) Verify by testing a minimum of three secondary standard test pieces which have impact values within the range of the material to be tested, and which have been assigned a nominal impact value through the analysis of test results obtained upon a machine which has been verified in accordance with Paragraph A2.4. Tests for the purpose of assigning a nominal impact value to batches of secondary standard test pieces shall be carried out after verification, and prior to any change of parts which could affect measured energy values.

The average of the three test pieces shall correspond to the assigned nominal value of the secondary standard specimens, within 1.5 J or 5% of the certified value.

NOTE: Secondary standard test pieces may be manufactured and tested within the laboratory concerned, or they may be obtained, along with appropriate certification, from elsewhere.

A3 MAINTENANCE OF THE TESTING MACHINE BY THE USER

A3.1 General

The user should ensure that the machine is maintained in satisfactory working order and condition in the intervals between successive calibrations made in accordance with AS 1544.4. In this regard it is recommended that the procedures given in Paragraphs A3.2 to A3.5 below be followed.

A3.2 Inspection of components and operation

The machine should be inspected frequently to ascertain that—

(a) the pendulum swings freely between the limits of travel;

(b) there are no visible signs of damage to the pendulum, or damage to, or wear of, the striker and test piece supports;

(c) the test piece can be securely gripped and supported behind the notch (square-section, rectangular-section and circular-section, as applicable);

(d) the release mechanism is functioning correctly, and does not impede the swing of the pendulum or impart vibration to it;

(e) the pendulum bearings have not developed excessive play; and

(f) the indicating equipment appears to function correctly throughout its range, and the scale divisions are legible.

NOTE: See also Paragraph A2.3.

A3.3 Test piece locating device

The setting gauge, or end stop, should be inspected frequently for signs of wear or damage.

It should be ascertained periodically, by direct measurement, that the locating device correctly positions the plane of symmetry of the notch within 0.5 mm of the plane of swing of the striking edge.

A3.4 Zero reading

The machine should be operated normally, but without a test piece in position, and the zero reading (A_{v1}) checked to ensure that it does not exceed ±0.5 percent of the nominal initial potential energy (A). This test should be made frequently.

NOTES:

1 The small zero error is permitted to allow for the fact that—

(a) whereas some machines have compensation for acceptable friction losses for a complete swing, some machines have no such compensation; and

(b) friction losses can vary over a period of time.

2 Checking the zero reading is a convenient means of ascertaining whether the pendulum and indicating mechanism are operating satisfactorily. It is not intended that allowance should be made for the zero reading in the performance of impact tests.

A3.5 Friction losses

A3.5.1 *General*

Energy is absorbed by friction, including air resistance, bearing friction and friction of the pointer. The total losses by friction for one swing shall not exceed 0.5 percent of the nominal initial potential energy (A).

The losses by friction should be determined periodically as described in the following Paragraphs.

A3.5.2 *Loss by friction of the pointer*

The loss by friction of the pointer shall be determined by the following procedure:

(a) Operate the machine normally but without a test piece in position and obtain a reading (A_{v1}).

(b) Without resetting the pointer, release the pendulum again from the initial position and obtain a new reading, (A_{v2}). Each of the values A_{v1} and A_{v2} is the mean of three determinations.

(c) Determine the loss of friction of the pointer for one swing from $A_{v1} - A_{v2}$.

NOTE: If the reading A_{v1} does not comply with the requirements of Paragraph A3.4, lack of compliance may be the result of excessive friction. The determination of friction losses should be continued, regardless of the reading A_{v1}.

A3.5.3 *Losses by air resistance and pendulum bearing friction*

The losses by air resistance and pendulum bearing friction shall be determined by the following procedure:

(a) Operate the machine as described in Paragraph A3.5.2 to obtain a repeat reading of A_{v2}. Let the pendulum continue to swing freely. At the beginning of the tenth forward swing subsequent to A_{v2}, reposition the pointer, so that on completion of this swing it is driven a few divisions along the scale. Obtain reading A_{v3}.

(b) Calculate each of the values A_{v2} and A_{v3} as the mean of three determinations.

(c) Calculate the losses by air resistance and pendulum bearing friction for one swing from: $0.05(A_{v3} - A_{v2})$.

A3.5.4 *Total losses by friction.*

The total losses by friction for one swing shall be equal to $(A_{v1} - A_{v2}) + 0.05(A_{v3} - A_{v2})$.

APPENDIX B

RECORD OF TEST RESULTS

(Normative)

The record of results shall provide the following information:

(a) Identification of machine.

(b) Product specification or code of practice.

(c) The type of test, i.e. Izod.

(d) Reference to this Standard, i.e. AS 1544.1.

(e) The nominal striking energy of the machine, in joules.

(f) Identification of the test piece and whether it is a standard or a subsidiary piece. If a subsidiary piece, the thickness shall be stated.

(g) The indicated absorbed energy, in joules.

(h) The test temperature, in degrees Celsius, see Clause 7.1.2.

(i) The surface appearance of the fractured test pieces, if required (see AS 1544.5).

(j) Date of test and operator.

The test piece may not be completely broken, and this may or may not be significant.

If the test piece has passed through the supports without having been completely broken, then this fact may be recorded if any significance is attached to it.

If the test piece absorbs the full energy of the machine without passing through the supports, the result is rejected.

NOTES

NOTES

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