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IS: 5923-1986

Indian Standard SPECIFICATION FOR WOODEN CLOTHES' LOCKERS

REAFFIRMED

2010

(First Revision)

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard SPECIFICATION FOR WOODEN CLOTHES' LOCKERS

(First Revision)

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IS: 5923 - 1986

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AMENDMENT NO. 1 APRIL 1992 TO

IS 5923: 1986 SPECIFICATION FOR WOODEN CLOTHES' LOCKERS

(First Revision)

- (Page 6, clause 4.5) Insert the following new clause after 4.5 and renumber the subsequent clauses accordingly:
- "4.6 Medium Density Fibre Boards (MDF) MDF where used in the manufacture of wooden clothes' lockers having flat surfaces shall conform to IS 12406: 1988 'Specification for medium density fibre boards for general purposes', shall be Interior Grade IGSB if air drying finishes are adopted and Exterior Grade ESGB, if oven drying finishes are adopted."
- (Page 7, clause 6.1.1, line 2) Insert the words 'or MDF' after the word 'plywood'.
- (Page 7, clause 6.1.2, line 2) Insert the words 'or MDF' after the words 'veneered particle boards'.
- (Page 8, clause 6.1.3, line 3) Insert the words 'or MDF' after the words 'veneered particle boards'.
- (Page 7, clause 6.1.4, line 2) Insert the words 'or MDF' after the words 'veneered particle boards'.

(CED 35)

AMENDMENT NO. 2 FEBRUARY 1997 TO IS 5923: 1986 SPECIFICATION FOR WOODEN

CLOTHES' LOCKERS (First Revision)

- (Page 3, clause 0.3) Insert the following new clause after 0.3 and renumber the subsequent clauses:
- '0.4 A scheme of labelling environment friendly products to be known as ECO Mark is being introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO Mark shall be administered by the Bureau of Indian Standards (BIS) under the BIS Act. 1986 as per the Resolution No. 71 dated 21 February 1991 published in the Gazette of the Government of India. For a product to be eligible for ECO Mark, it shall also carry the Standard Mark of the BIS besides meeting additional optional environment friendly requirements.'
 - (Page 5, clause 4.1) Substitute the following for the existing clause:
- "4.1 Timber Any species of timber specified in IS 13622: 1993 'Indian timber for furnitures and cabinets Classification' shall be used in the manufacture of wooden clothes lockers.
- 4.1.1 For ECO Mark, only species of timber as specified in IS 13622: 1993 from sources other than natural forests such as timber from industrial and social forestry plantations, shade trees from tea and coffee estates, etc, shall be used for the manufacture of wooden clothes lockers."
 - (Page 6, clause 4.2) Insert the following at the end of the clause:
- "For ECO Mark, the particle board shall conform to the requirements specified in IS 3087: 1985‡ for ECO Mark purposes."
 - (Page 6, clause 4.3) Insert the following at the end of the clause:
- 'For ECO Mark, the veneered particle board shall conform to the requirements specified in IS 3097: 1980 for ECO Mark purposes.'
 - (Page 6, clause 4.4) Substitute the following for the existing clause:
- "4.4 Plywood Plywood used shall conform to IS 303:1989 'Specification for plywood for general purposes (third revision)'.

Amend No. 2 to IS 5923: 1986

4.4.1 For ECO Mark the plywood shall conform to the requirements specified in IS 303: 1989 for ECO Mark purposes."

(Page 6, clause 4.5) — Insert the following at the end of the clause:

"For ECO Mark, the block board shall conform to the requirements specified in IS 1659: 1990 'Specification for block boards (third revision)' for ECO Mark purposes."

[Page 6, clause 4.6 (see also Amendment No. 1)]— Insert the following at the end of the clause:

'For ECO Mark, the medium density fibreboard shall conform to the requirements specified in IS 12406: 1988 for ECO Mark purposes.'

(Page 14, clause 9)— Insert the following new clause after 9 and renumber the subsequent clauses:

110 ADDITIONAL REQUIREMENTS FOR ECO MARK

10.1 General Requirements

- 10.1.1 The product shall conform to the requirements of quality and performance as specified in the standard.
- 10.1.2 The manufacturer shall produce to BIS environmental consent clearance from the concerned State Pollution Control Board as per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 alongwith the authorization, if required under the Environment (Protection) Act, 1986, while applying for ECO Mark.

10.2 Specific Requirements

The product shall conform to the specific requirements given for ECO Mark under relevant clauses of this standard.

NOTE — The manufacturer shall provide documentary evidence by way of certificate or declaration to this effect to the Bureau of Indian Standards while applying for ECO Mark.'

(Page 15, clause 11.1.1) — Insert the following at the end of the clause:

'11.2 The criteria for which the product has been labelled as ECO Mark.'

(CED 35)

Indian Standard SPECIFICATION FOR WOODEN CLOTHES' LOCKERS

(First Revision)

O. FOREWORD

- **0.1** This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 May 1986, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.
- 0.2 This standard was first published in 1970. In this revision, the tests for finished surface have been included. The revised standard also makes reference to the recent Indian Standards for various types of materials allowed in the standard.
- **0.3** This standard contains clause **8.4.1** and Appendix A which require the purchaser to supply certain technical information at the time of placing orders.
- **0.4** In the formulation of this standard, due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in this field in this country.

1. SCOPE

1.1 This standard covers the requirements for materials, sizes, construction and finish of wooden clothes' lockers with hinged doors.

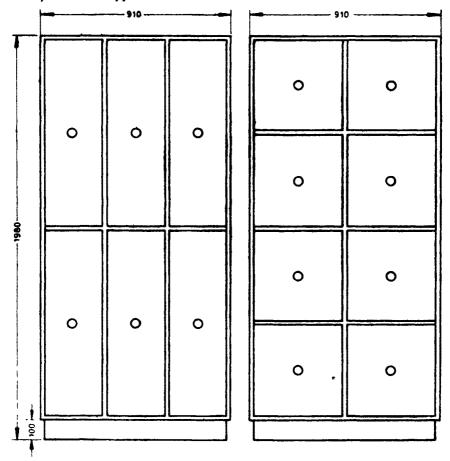
2. TERMINOLOGY

- 2.0 For the purpose of this standard, the following terms shall apply.
- 2.1 Lockers A storage compartment with its own lockable door.
- 2.2 Unit One or more lockers arranged vertically or horizontally as specified in 3.1.

IS: 5923 - 1986

3. TYPES

- 3.1 Wooden clothes' lockers: (a) general purpose with surface painted or stained and polished, and (b) with decorative veneered and polished surface, shall be of the following types (see Fig. 1):
 - a) 6-locker type,
 - b) 8-locker type,
 - c) 12-locker type, and
 - d) 18-locker type.

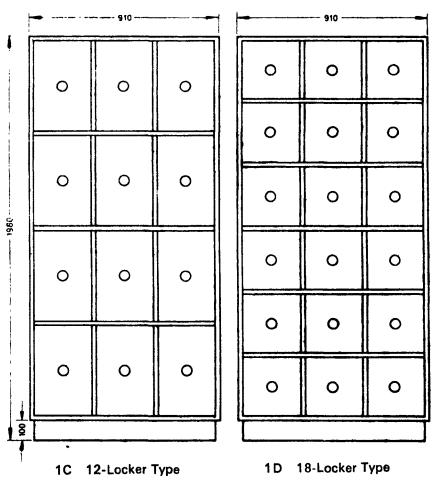


1A 6-Locker Type

1B 8-Locker Type

All dimensions in millimetres.

Fig. 1 Divisions of Compartments for Different Types of Clothes' Lockers — Contd



All dimensions in millimetres.

Fig. 1 Divisions of Compartments for Different Types of Clothes' Lockers

4. MATERIALS

4.1 Timber — Timber conforming to IS: 5247 (Part 1)-1982* shall be used. Sapwood of all durable species shall be given a preservative

^{*}Specification for converted timber (coniferous): Part 1 Light furniture (first revision).

treatment as specified in IS: 401-1982. The timber used shall be seasoned timber, with moisture content as permissible for the different climatic zones in accordance with IS: 287-1973.

- 4.2 Wood Particle Board Wood particle board required for the manufacture of wooden clothes' lockers shall conform to IS: 3087-1986‡ and shall be of flat-pressed single-layer or flat-pressed 3 layer type. These boards, if required, may be veneered.
- 4.3 Veneered Particle Board Veneered particle boards shall conform to IS: 3097-1980§. Both interior and exterior grades of veneered particle board may be used where the clothes' lockers are to be finished with air-drying paints or varnishes. Where suitable baking paints, enamels or varnishes are to be used, only exterior grade veneered particle boards shall be used.
- 4.3.1 For clothes' lockers, decorative veneered type, decorative veneered board of specified timber facing shall be used for door and sides. Usually, decorative timbers are specified as figured teak and rose wood.
- 4.4 Plywood Plywood used in the manufacture of clothes' lockers shall conform to IS: 303-1975||. Any of the three grades, namely, BWR, WWR and CWR of plywood may be used for cabinets which are to be finished with air-drying paints, enamels or varnishes, where clothes' lockers are finished with suitable oven-drying paints, enamels or varnishes, only BWR grade of plywood shall be used. The plywood used shall not be inferior to Type BB. In case, veneered plywood is used, it shall conform to IS: 1328-1982¶.
- 4.5 Blockboard Blockboard used in the manufacture of clothes' lockers shall conform to IS: 1659-1979**.
- 4.6 Adhesive Adhesive used for joinery work shall conform to IS: 848-1974††, IS: 852-1969‡‡ or IS: 4835-1979§§.

^{*}Code of practice for preservation of timber (third revision).

[†]Recommendations for maximum permissible moisture content for timber used for different purposes (second revision).

^{*}Specification for wood particle boards (medium density) for general purposes (first revision).

[§]Specification for veneered particle boards (first revision).

Specification for plywood for general purposes (second revision).

Specification for veneered decorative plywood (second revision).

^{**}Specification for blockboards (second revision).

††Specification for synthetic resin adhesives for plywood (phenolic and aminoplastic) (first revision).

^{\$\}frac{1}{2}\text{Specification for animal glue for general wood-working purposes (first revision).} \$\frac{8}{2}\text{Specification for polyvinyl acetate dispersion-based adhesives for wood (first revision).}

- 4.7 Wooden screws (see IS: 6760-1972*), wooden dowel pins, almirah locks, handles, knobs, hinges, latches, escutcheons and other hardware shall conform to the relevant Indian Standards, wherever they exist.
- 4.8 Paint, enamel polish and varnish shall be in accordance with the schedule given in IS: 2338 (Part 2)-1967.

5. DIMENSIONS

5.1 The overall dimensions of clothes' lockers shall be as follows:

Height	1 980 mm
Width	910 mm
Depth	480 mm

NOTE — The minimum clearances required for clothes' lockers to be put into recesses or opening, where required, shall be as follows:

For top	20 mm
For each side	10 mm
For depth	5 mm

- **5.2 Tolerances** The overall dimensions specified in **5.1** shall not vary by more than ± 5 mm.
- 5.3 The wooden clothes' lockers shall be rectangular at all the measurable surfaces within a tolerance of ± 8 mm between the two diagonals of the rectangle.

6. FABRICATION

- 6.1 Components It is advised that wooden clothes' lockers are first made in component form and assembled from the components as are given in 6.1.1 to 6.3.3.
- 6.1.1 Sides The sides shall be made from veneered boards, or plywood as specified in 4 having a thickness 20 ± 1 mm and shall be prepared for joinery and fixtures as required. The width of the side shall correspond to the width of the top. The side shall extend between the extreme surfaces of the top, the bottom and the back. Sides may extend to full front where doors are to be inside with front bordered construction or be short of the thickness of doors where doors extend to full width.
- 6.1.2 Backs The backs shall be made from veneered boards, plywood blockboards, particle boards or veneered particle boards, specified in 4 be and shall in thickness of not less than 10 ± 1 mm. It shall be one piece panel prepared for joinery. The width of back panels shall correspond to the length of the top panel and the length shall extend between the extreme surface of the top and bottom of clothes' lockers.

^{*}Specification for slotted countersunk head wood screws.

[†]Code of practice for finishing of wood and wood-based materials: Part 2 Schedules.

- **6.1.3** Top, bottom, shelves, in between compartments and the dividing partitions for the compartments shall be made from plywood blockboards, particle boards, or veneered particle boards, as specified in 4 and shall be of thickness 20 mm with a tolerance of ± 1 mm. The length of the top and bottom shall cover the width of the clothes' locker and adjusted for the joinery and shall cover the depth including the thicknesses of the door and allowance for joinery work.
- **6.1.4** Doors The doors shall be made of plywood, blockboards, particle boards, or veneered particle boards as specified in 4, in thickness 20 mm with a tolerance of ± 1 mm. The doors shall be prepared to fit the size of compartments of the clothes' lockers and any of the following two methods may be used:
 - a) Door fixing recessed with the side, top and bottom front form as border and hinges fixed on inside surface of sides (see Fig. 2); and
 - b) Door fixing on the full front with the hinges on the sides of front edge (see Fig. 3).

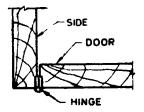


Fig. 2 Recessed for Shutter

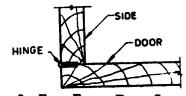


Fig. 3 Full Front Door Shutter

Dimensions of the side and the door shall be adjusted to suit any of the above methods adopted. In case of 6-locker type, 12-locker type and 18-locker type, the middle vertical set of doors (2 in 6-locker type, 4 in 12-locker type and 6 in 18-locker type) may play on pivot hinges.

Norm — Details of various joints and fixtures are given in Fig. 4 to 9.

6.1.4.1 Door stops — The doors shall be single leaf construction having plain smooth edges all round. Wooden or suitable stops shall be provided at the top and bottom or side of each of the compartment for the door to stop in proper position in line of the face of the clothes' locker as shown in Fig. 7 and 9.

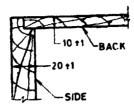


Fig. 4 Joint Between Side and Back

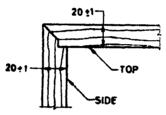


Fig. 5 Joint Between Side and Top

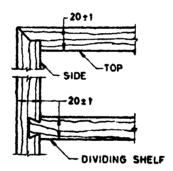


Fig. 6 Detail of Top and Dividing Shelf

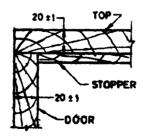


Fig. 7 DETAIL OF DOOR MEETING

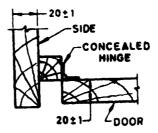


Fig. 8 DETAIL OF INVISIBLE HINGE

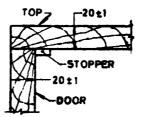


Fig. 9 Detail of Door Stopper

- 6.1.5 The edges of the sides, the dividing shelves and partitions, the bottom and the top and each side of the doors shall be prepared either by internal lipping or external lipping to give proper finish and ability to stand wear of the edges and take necessary fixtures. The components shall also be given filler and undercoat paint or polish so as to be ready for final paint or polish and finishing treatment.
- 6.2 Joinery The joining shall comply with A-9 of IS: 3087-1986* when wood particle boards are used. The joining of the sides to the top and bottom shall be splined mitre joint or interlocked mitre joint or straight mitre joint fixed by screws driven angularly or supported by wood strip, or by butt joint without or with dowels or half-lapped joining. The joints shall be well secured by glue and suitable wood screws for tight and strong fit. Wherever applicable, joints shown in IS: 3845-1966† shall be followed for various locations.
- 6.2.1 The back shall be fixed on to the sides, top and bottom by straight butt joint recessed by half-lap cut and secured by glue and wood screws. Alternatively, it may be fixed by double half-lapped or straight butt joint and glued and screwed by wood screws. In the latter case, adjustment shall be made in the width of sides, top and bottom.

†Code of practice for joints used in wooden furniture.

^{*}Specification for wood practicle boards (medium density) for general purposes (first resision).

- 6.3 Doors The doors shall be fixed to the sides internally or externally and by use of either piano hinges (continuous hinges) or 2-number hinges 75 mm long and to suit the width of fixing edge by use of suitable wood screws in 6-locker type clothes' lockers. In 8-locker type and 12-locker type, the doors shall be fixed by use of either piano hinges (continuous hinges), 50 mm long and to suit the width of fixing edge and the doors of 18-locker type shall be fixed by use of piano hinges (continuous hinges) as long as the edge of the door and to suit the width of the fixing edge by use of suitable wood screws. The doors of the clothes' lockers may be opening right or left, as desired by the purchaser. The doors may have ball catches fixed at the top edges and bottom edges to stop at the proper position. The doors shall be provided by suitable almirah locks and suitable lock plates on the sides of each compartment where the doors meet. The locks shall be internally fixed and the keyholes provided in the doors for fixing the key shall have escutcheon plates. The doors shall also be provided with suitable handles or knobs. Generally the doors of the clothes' lockers open on right.
- 6.3.1 The clearance around the door between the sides, top and bottom shall not be more than 1.25 mm.
- **6.3.2** The hinges shall conform to IS: 205-1978*, IS: 1341-1981† and IS: 3818-1971‡.
- 6.3.3 Pedestals shall be made from solid wood not less than 100 mm high.

7. ASSEMBLY

- 7.1 The various components shall be assembled by means of glue and screws securely fixed under pressure. Before driving the screws, pilot holes should be driven into the wood panel and the screws should be dipped in glue before driving in.
 - 7.1.1 Typical construction and assembly is shown in Fig. 10 and 11.

8. FINISH '

8.1 Wood panel components shall be given a coat of primer paint and filler, wood putty conforming to IS: 419-1967§ shall be applied to all surfaces requiring filling. After preparing the surfaces, two coats of enamel paint, that is, one under coat and one finishing coat shall be given. The finishing coat shall be synthetic air-drying or suitable stoving enamel conforming to air-drying or stoving paints for wood work. The enamel or paint shall be of exterior type and of a finish and colour as required.

^{*}Specification for non-ferrous metal butt hinges (third revision).

[†]Specification for steel butt hinges (fourth revision).

Specification for continuous (piano) hinges (first revision).

Specification for putty, for use on window frames (first revision).

IS: 5923 - 1986

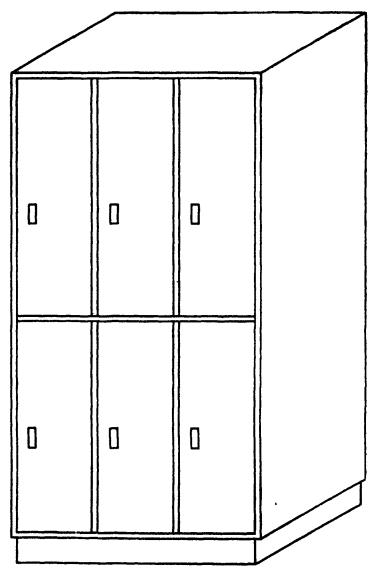


Fig. 10 Typical Sketch of a Clothes' Locker

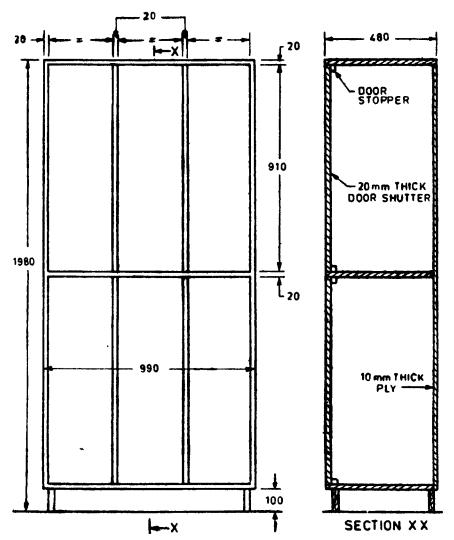


Fig. 11 Cross and Long Sections Showing Construction and Assembly

8.2 The finish shall be smooth, uniformly applied and free from visible defects. It shall be well based and shall not readily chip or flake. The dry film thickness shall not be less than 0.10 mm.

IS: 5923 - 1986

- 8.3 All other components shall be finished in colour as agreed to between the purchaser and the manufacturer.
- 8.4 In case of decorative veneered clothes' lockers, the decorative veneered surface shall be given a suitable French polish or wax polish. All veneered surfaces of the components shall be properly cleaned and sand papered and then filler coat, for French polish, shall be applied. Allow it to dry and settle for 24 hours. The surfaces shall again be sand papered and cleaned by duster. Three coats of French polish conforming to IS: 348-1968* shall be applied, after the first coat has dried completely. Care shall be taken to sand paper properly before application of each coat. Alternatively, wax polish shall be applied after the filler base. Clear lacquer based, nitrocellulose or other synthetic finishes may also be used as protective finish and shall conform to the relative Indian Standards.
- 8.4.1 If staining is desired by the purchaser, it shall be done after the filler base is ready for application of stain. After staining and a lapse of 24 hours' time, finishing coats shall be applied.

9. PERFORMANCE REQUIREMENTS OF FINISH

- 9.1 Every wooden clothes' locker shall be checked for good workmanship and freedom from any stain and work.
- 9.2 Resistance of Surface to Wet Heat The test sample shall be tested for resistance to wet heat in accordance with IS: 5807 (Part 2)-1975. The minimum qualifying average ratings shall conform to 7 of IS: 5807 (Part 2)-1975.
- 9.3 Resistance of Surface to Marking by Liquids The test sample shall be tested for resistance to marking by liquids in accordance with IS: 5807 (Part 4)-1975†. The minimum qualifying average rating shall conform to 8 of IS: 5807 (Part 4)-1975†.

9.4 Type Test

9.4.1 Resistance of Surface to Mechanical Damage — The test sample surface shall be tested for impact, cross-cut and scrape tests in accordance with IS: 5807 (Part 6)-1978†. The rating shall conform to 5.3 of IS: 5807 (Part 6)-1978†.

^{*}Specification for French polish (first revision).

[†]Method of test for clear finishes for wooden furniture:

Part 2 Resistance to wet heat (first revision).

Part 4 Resistance to marking by liquids.

Part 6 Resistance to mechanical damage.

10. PACKING

- 10.1 All the components parts shall be packed in such a way that no damage is caused to them during transit.
- 10.2 The purchaser may require the clothes' locker to be supplied in knocked down conditions, in which case, the manufacturer shall prepare the components fully for quick joining and shall supply the purchaser complete details and instructions for fixing.

11. MARKING

- 11.1 All wooden clothes' lockers shall be marked with a suitable mark identifying the manufacturer.
- 11.1.1 The clothes' lockers may also be marked with the ISI Certification Mark.

Note — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

APPENDIX A

(Clause 0.3)

INFORMATION TO BE SUPPLIED BY THE PURCHASER

- **A-1.1** The purchaser shall supply the following information to the supplier along with the order:
 - a) Type of clothes' lockers required;
 - b) Whether handles or knobs are required;
 - c) Finish:
 - 1) Painted (specify colour),
 - 2) French polished (stained or natural), and
 - 3) Waxed (stained or natural), and
 - 4) Lacquered, nitrocellulose or other synthetic finish with stain or natural.
 - d) Whether alternative methods of construction and finish are specified if so, they shall be clearly stated in the order; and
 - e) The doors are generally opening right and if desired otherwise, it should be specified.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	Umit	SYMBOL	
Length	metre	m	
Mass	kilogram	kg	
Time	second	3	
Electric current	ampere	A	
Thermodynamic temperature	kelvin	K	
Luminous intensity	candela	cd	
Amount of substance	mole	mol	

Supplementary Units

QUANTITY	Unit	SYMBOL	
Plane angle	radian	rad	
Solid angle	steradian	sr	

Derived Units

QUANTITY	Unit	SYMBOL	DEFINITION
Force	newton	N	$1 N = 1 \text{ kg.m/s}^2$
Energy	joule	J	1 J = 1 N.m
Power	watt	w	1 W = 1 J/s
Flux	weber	· Wb	1 Wb == 1 V.s
Flux density	tesla	T	$1 T = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s} (s^{-1})$
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	v	1 V = 1 W/A
Pressure, stress	pascal	Pa	$1 Pa = 1 N/m^2$



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