

Indian Standard
SPECIFICATION FOR LOGS FOR PLYWOOD
(*Third Revision*)

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Indian Standard

SPECIFICATION FOR LOGS FOR PLYWOOD

(Third Revision)

0. FOREWORD

0.1 This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards on 22 December 1988, after the draft finalized by the Timber Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The supply of logs is of great economic and technical importance for plywood trade. While formulating the standard specifications for different grades of plywood, it was realized that the logs for plywood as offered to the plywood factories varied considerably in quality. With a view to providing the factories a guide for the selection of logs for the manufacture of plywood conforming to the relevant Indian Standards, the Committee felt it necessary to lay down minimum requirements for quality of logs.

0.3 Normally, logs are required to be supplied to the factories fresh after felling, and the time allowed between their felling and supply to the factories is three months. When trees are felled by axe, it is customary to square cut the ends

before supplying. However, if the ends are not square cut, it is permissible for the purchaser to eliminate the uneven ends in the measurements of the log. This standard was first published in 1955 and subsequently revised in 1964 and 1975. The third revision of this standard has been taken up to incorporate further changes necessary in the light of the comments received after the usage of this standard by the industry as well as the users. The modifications include measurements of defects of logs and a new clause on preliminary protection of logs.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2 - 1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard lays down minimum requirements for logs for making veneers for the manufacture of various grades of plywood, namely, tea-chest [IS : 10 (Part 2)-1976*] general purposes (IS : 303-1975†), medium strength aircraft (IS : 709-1974‡), and high strength aircrafts (IS : 4859-1968§), marine (IS : 710-1976||), decorative (IS : 1328-1982¶), (IS : 7316-1974**), shuttering (IS : 4990-1981††), fire retardant plywood (IS : 5509-1980‡‡), and veneered particle boards (IS : 3097-1980§§), block boards (IS : 1659-1979|||), and flush doors [IS : 2191 (Part 1)-1983¶¶] conforming to the relevant standards.

*Specification for plywood tea-chest : Part 2 Plywood (fourth revision).

†Specification for plywood for general purposes (second revision).

‡Specification for medium strength aircraft plywood (first revision).

§Specification for high strength aircraft plywood.

||Specification for marine plywood (first revision).

¶Specification for veneered decorative plywood (second revision).

**Specification for decorative plywood using plurality of veneers for decorative faces.

††Specification for plywood for concrete shuttering work (first revision).

‡‡Specification for fire retardant plywood (first revision).

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

|||Specification for block boards (second revision).

¶¶Specification for wooden flush door shutters (cellular and hollow core type) : Part 1 Plywood face canels (fourth revision).

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions and terms given in IS : 707-1976* shall apply.

3. SPECIES OF TIMBER

3.1 Logs for the manufacture of veneers for plywood, etc, shall be from any of the species of timber agreed upon between the supplier and the purchaser from among the specified in the corresponding standards.

4. DIMENSIONS OF LOGS

4.1 Length — The length of ply-logs shall be not less than 1.5 m.

4.2 Girth — Unless otherwise agreed upon between the supplier and the purchaser, the girth (see 4.3.2) of a log measured under the bark shall be not less than 1.20 m.

4.3 Measurement — The length and the girth of the log shall be measured as specified in 4.3.1 and 4.3.2. The length and the girth of the log shall be measured in metres. The length shall be rounded off to the nearest lower 0.01 m.

4.3.1 Length — When the ends are snouted, the length of the logs shall be measured from the first felling cut, that is, the cut extending farthest

*Glossary of terms applicable to timber technology and utilization (second revision).

into the length from the butt end, to the nearest cut at the top end (see Fig. 1).

4.3.1.1 Where there is a napha or chain-groove on one end, the length of the log shall be measured between the other end to the middle of the outer edge of napha or chain-groove and the first felling cut of the snouted end near it (see Fig. 1).

4.3.2 Girth

4.3.2.1 The mean girth of a log, in the case of logs of regular taper, shall be measured at mid-length of the log.

4.3.2.2 In a log with an irregular taper, these girth measurements shall be taken, that is, one near the mid-girth at a place free from any protuberances, and one at each end, the mean girth being obtained by taking the average of these three measurements.

4.3.2.3 In measuring girth, measurements shall be taken without the bark on and excluding any protuberances. Where girth measurements are taken with bark, 10 percent reduction of mean girth shall be made from mid girth on account of bark.

4.3.3 Volume — The volume of the log shall be calculated by the following formula:

$$V = \left(\frac{G}{4} \right)^2 \times L$$

where

V = volume in m^3 ,

G = girth in m, and

L = length in m.

5. QUALITY REQUIREMENT

5.1 The logs shall not be knobby. They shall be free from buttresses, crotches, brash wood, any kind of decay (rot) including dote, insect attack and any other defect (except those permitted under 5.2) which may reduce the usefulness of logs for plywood or veneer production. The plugging of defects shall not be permissible.

5.2 Permissible Defects

5.2.1 Curvature — A deviation in straightness up to 30 mm in 1 m length, as measured from a

line passing through the ends, shall be permissible.

5.2.2 Taper — A taper up to 25 mm in girth for every 1 m of girth for one metre length of log shall be permissible.

5.2.3 Hollow or Spongy Heart — When hollow or spongy hearts are present, they shall be permissible up to a diameter of 50 mm.

5.2.4 End Splits and Heart Shakes — The longest end splits and heart shakes on both sides added together shall be permissible up to a total length of 40 mm for every one metre of the log.

5.2.5 Cup Shakes — Cup shakes visible on one or both ends and located within 50 mm from the centre heart (pith) of the log shall be permissible.

5.2.6 Knots

5.2.6.1 Live knots — Live knots measuring up to 50 mm in diameter and occurring not more than one in number in a length of 1 m shall be permissible.

5.2.7 Wounds, Bird Pecks or Bark Pockets — Wounds, bird pecks or bark pockets not exceeding 10 mm in diameter and 25 mm in depth shall be permissible up to one in number per metre length of the log.

5.2.8 Flutes — As agreed upon between the purchaser and the supplier, where flutes occur, appropriate reduction in girth shall be made.

5.2.9 Notwithstanding the permissible defects referred to under 5.2.6 and 5.2.7 (knots, wounds, bird pecks or bark pockets), the total number of defects shall not collectively exceed 4 per 3 m length of the log.

6. PROTECTION OF PLYWOOD

6.1 Timber species shall be given prophylactic treatment in accordance with Table 2 Group 9 of IS : 401-1982*. The treatment shall be given immediately after felling.

6.2 Besides the prophylactic treatment of logs in accordance with 6.1, the end coating shall also be

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

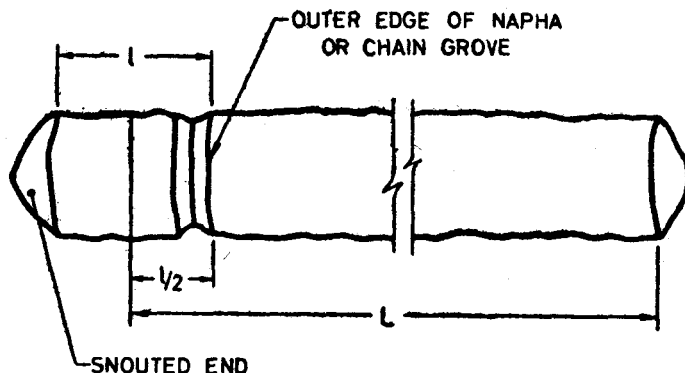


FIG. 1 MEASUREMENT OF LENGTH OF LOGS

given in accordance with IS : 1141-1973* to prevent end splitting and other drying defects.

7. MARKING

7.1 Each log shall be legibly and indelibly marked on both the ends with the following:

- a) Supplier's identification mark by abbreviated initials,
- b) Length and mid girth of log, and
- c) Species of timber (*see* 3.1).

*Code of practice for seasoning of timber (*first revision*).

7.1.1 The log may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The Standard 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 BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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