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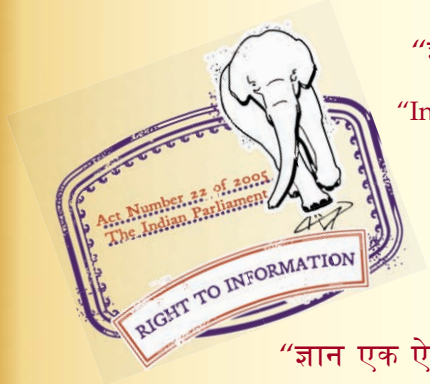
IS 190 (1991): Coniferous Sawn Timber (Baulks and Scantlings) [CED 9: Timber and Timber Stores]



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Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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IS 190 : 1991
(Reaffirmed 2005)

भारतीय मानक

शंकुधारी चिरी हुई लकड़ी (शहतीर एवं फट्टी) – विशिष्टि

(चौथा पुनरीक्षण)

Indian Standard

CONIFEROUS SAWN TIMBER (BAULKS AND SCANTLINGS) — SPECIFICATION

(Fourth Revision)

UDC 674·032·475·2/·8·038·6

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

November 1991

Price Group 2

FOREWORD

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

Coniferous trees grow in the mountains of the Himalayan range and these offshoot at altitudes between 900 and 3 200 metres above sea level. The coniferous timber differs from broad leaved timber in their gross appearance, anatomical structure and properties. In general, they work more easily with tools and take nails more readily.

Where the trees grow along the banks of large rivers, the timber is generally transported by converting it into logs and floating them downstream. The specification of such timber is covered in IS 5246 : 1969 'Specification for coniferous logs'. Most of the timber is, however, extracted from rather inaccessible areas. The general practice is to hand-saw the logs into baulks and scantlings in the forests for ease of floating in smaller streams before they join the larger rivers. This standard has been formulated to lay down the requirements of such coniferous sawn timber which is meant for further conversion.

This standard was first published in 1950 and subsequently revised in 1958, 1960 and 1974. In this fourth revision of the standard, the permissible defects for different grades of coniferous sawn timber have been modified with respect to knots, surface checks, wane, centre heart, etc, to rationalize the permissible limits. The permissible defects for centre heart have been further modified to accommodate the cases where the sawn timber is to be used as such, that is, without any further conversion.

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 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CONIFEROUS SAWN TIMBER (BAULKS AND SCANTLINGS) — SPECIFICATION

(Fourth Revision)

1 SCOPE

1.1 This standard covers the requirements of coniferous sawn timber (baulks and scantlings).

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
401 : 1982	Code of practice for preservation of timber (*third revision*)
707 : 1976	Glossary of terms applicable to timber technology and utilization (*second revision*)
1141 : 1973	Code of practice for seasoning of timber (*first revision*)
3364 (Part 2) : 1976	Methods of measurement and evaluation of defects in timber : Part 2 Converted timber (*first revision*)

3 TERMINOLOGY

3.1 For the purpose of this standard the definitions given in IS 707 : 1976 shall apply.

4 SPECIES

4.1 The species of timber covered by this specification shall be as given below:

Trade Name	*Botanical Name*	*Abbreviated Symbol*
Chir	*Pinus roxburghii*	CHR
Cypress	*Cupressus torulosa*	CYP
Deodar	*Cedrus deodara*	DEO
Fir	*Abies* spp. (other than *Abies densa*)	FIR
Kail	*Pinus wallichiana*	KAL
Khasi pine	*Pinus insularis*	KPI
Red fir	*Abies densa*	RFI
Spruce	*Picea simthiana*	SPR

4.2 The timber supplied in any one lot shall be of one species, except fir and spruce which may be supplied in mixed form.

5 DIMENSIONS AND MEASUREMENTS

5.1 Dimensions

The dimensions of the sawn timber shall be as ordered. However, the coniferous sawn timber is generally available in the following lengths and cross sections:

Length: 1 m, 1.5 m, 2.0 m, 2.5 m, 3.0 m and 3.5 m.

Cross Section :

200 mm × 100 mm, 200 mm × 125 mm,
200 mm × 150 mm, 200 mm × 200 mm,
250 mm × 125 mm, 250 mm × 150 mm,
and
300 mm × 150 mm.

5.2 Measurement

5.2.1 *Length*

The length shall be measured from end to end in metres correct to 0.01 m. Any end portion of sawn timber that has become rounded or damaged shall be excluded from length measurement.

5.2.2 *Width and Thickness*

The width and thickness shall be measured at the narrowest place correct to 10 mm.

5.2.3 *Volume*

The volume shall be computed in cubic metres correct to three places of decimal by the product of length, width and thickness on the basis of accepted sizes.

6 REQUIREMENTS AND GRADING

6.1 The coniferous sawn timber shall be of three grades, that is, Special Grade, Grade 1 and Grade 2, depending upon prohibited and permissible defects as given in 7.

6.2 All the grades of sawn timber shall be either sawn or axe-hewn. Axe-hewn timber shall be reasonably even. The timber shall be free from cuts across the grain and shall have fairly straight and parallel sides.

6.3 Timber shall be air seasoned to a moisture content not exceeding 20 percent within a depth of 15 mm

from the surface, excluding a length of 300 mm from each end.

7 PROHIBITED AND PERMISSIBLE DEFECTS

7.1 Prohibited Defects

The sawn timber of all the three grades shall be free from spiral or twisted grain, warp, any kind of decay or live insect attack. Special grade sawn timber shall be free from centre heart, wane, cup shakes, borer holes (dead infestation), sapstain (blue stain) and knots also. Grade 1 shall be free from cup shakes also (*see also* Table 1).

7.2 Permissible Defects

The defects to the extent specified in Table 1 for different grades of coniferous timbers shall be permissible. The defects specified shall be measured according to IS 3364 (Part 2) : 1976.

8 PROPHYLACTIC TREATMENT

8.1 All timbers may be given prophylactic treatment as specified in IS 401 : 1982 subject to the agreement between the purchaser and the supplier.

9 END COATING

9.1 To prevent and to minimize end cracking, splitting, etc, the ends of each baulk and scantling, up to a distance of at least 25 mm more than the length of longest split, shall be adequately coated with any of the materials mentioned in IS 1141 : 1973. Application of end coating on the timber shall be done soon after the inspection of the timbers.

10 MARKING

10.1 Each piece of timber shall be legibly and indelibly marked at a convenient place with the supplier's name, initials or recognized trade-mark, the year of supply, abbreviation of the species and grade of the timber and size (dimensions) in which accepted.

10.1.1 Each piece of timber may also be marked with the Standard Mark.

Table 1 Permissible Defects for Different Grades of Coniferous Sawn Timbers

(*Clauses* 7.1 *and* 7.2)

Sl No.	Defect	Special Grade	Grade 1	Grade 2
(1)	(2)	(3)	(4)	(5)
i)	Cross grain	Cross grain shall be permissible up to a maximum deviation of 1 in 15	Cross grain shall be permissible up to a maximum deviation of 1 in 10	Cross grain shall be permissible up to a maximum deviation of 1 in 8
ii)	End splits	The longest end split at each end shall be measured and the lengths added together. The total length of these shall not exceed 60 mm per metre run of the piece	The longest end split at each end shall be measured and the lengths added together. The total length of these shall not exceed 80 mm per metre run of the piece	The longest end split at each end shall be measured and the lengths added together. The total length of these shall not exceed 100 mm per metre run of the piece
iii)	Knots	Not permissible	a) Live knots up to 25 mm in diameter shall be permissible provided these are not grouped or located in such a manner as to affect unduly the yield and strength of the converted timber. Live knots from 25 mm to 35 mm in diameter shall be permissible to the extent of 3 knots per metre length of the piece provided these are not grouped or located in such a manner as to affect unduly the yield and strength of the converted timber. Live knots from 35 mm to 50 mm in diameter shall be permissible to the extent of one knot per metre length of the piece	a) Live knots up to 35 mm in diameter shall be permissible provided these are not grouped or located in such a manner as to affect unduly the yield and strength of the converted timber. Live knots from 35 mm to 50 mm in diameter shall be permissible to the extent of 3 knots per metre length of the piece provided these are not grouped or located in such a manner as to affect unduly the yield and strength of the converted timber. Live knots from 50 mm to 75 mm in diameter shall be permissible to the extent of one knot per metre length of the piece

Table 1 *(Continued)*

Sl No.	Defect	Special Grade	Grade 1	Grade 2
(1)	(2)	(3)	(4)	(5)
			b) Dead knots up to 15 mm in diameter shall be permissible to the extent of not more than two knots per metre length of the piece and dead knots from 15 mm to 25 mm in diameter shall be permissible to the extent of one knot per metre length of the piece. Knots more than 25 mm in diameter shall not be permitted	b) Dead knots up to 15 mm in diameter shall be permissible provided these are not too numerous and are not located in such a manner as to affect unduly the yield on conversion and usefulness of the sawn timber. Dead knots from 15 mm to 25 mm in diameter shall be permissible to the extent of three knots per metre length of the piece and for more than 25 mm and up to 35 mm, two knots per metre length shall be permitted. Knots more than 35 mm in diameter shall not be permitted
iv)	Sapwood	Permissible	Permissible	Permissible
v)	Surface checks	Surface checks not exceeding 5 mm in depth on any face shall be permissible. In case one of the faces if entirely free from checks the opposite face may have individual checks up to 10 mm in depth and not more than 5 in number	Surface checks not exceeding 15 mm in depth on any face shall be permissible. In case one of the faces is entirely free from checks the opposite face may have individual checks up to 25 mm in depth and not more than 5 in number.	Surface checks not exceeding 25 mm in depth on any face shall be permissible. In case one of the faces is entirely free from checks the opposite face may have individual checks up to 40 mm in depth and not more than 5 in number.
vi)	Sapstain	Not permissible	Permissible	Permissible
vii)	Wane	Not permissible	Wane shall be permissible up to one-fifth of the width on a broad face, and up to one-third of the width on the narrow face provided that one narrow face is completely free from this defect. The wane shall be measured at the deepest part. Wane shall not be present in more than 30 percent of pieces accepted at any one time	Wane shall be permissible up to one-fourth of the width on a broad face, and up to one-third of the width on the narrow face provided that one narrow face is completely free from this defect. The wane shall be measured at its deepest part. Wane shall not be present in more than 30 percent of pieces accepted at any one time
viii)	Borer	Not permissible	Borer holes (dead infestation) shall be permissible on one face only provided such holes are not deeper than 10 mm and are well scattered	Borer holes (dead infestation) shall be permissible on two faces only provided such holes are not deeper than 10 mm and are scattered, on a single face only up to 20 mm depth provided they are well scattered
ix)	Centre heart	Not permissible	a) If baulks and scantlings are to be converted further : Centre heart shall be permissible provided it is not farther than 25 mm from the nearest edge and is sound.	Centre heart shall be provided it is not farther than 50 mm from the nearest edge and is sound and boxed.
			b) If baulks and scantlings are to be used as such : Centre heart shall be permissible provided it is farther than 50 mm from the nearest edge	Centre heart shall be permissible provided it is farther than 25 mm from the nearest edge

Table 1 *(Concluded)*

Sl No.	Defect	Special Grade	Grade 1	Grade 2
(1)	(2)	(3)	(4)	(5)
x)	Cup shake	Not permissible	Not permissible	Cup shake shall be permissible to a total length (maximum) of 150 mm, when measured along the arc and up to a maximum depth of 150 mm provided they appear only one end

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