

	AMENDMENT -NOTIFIFCATION		AA 541 02		Rev. No. 01	
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AA 541 02: NITRIC ACID - TECHNICAL <u>PAGE 1 OF 1; Cl. 5. TEST CERTIFICATE:</u> The following sentence is added at the end of the clause. " Supplier should provide material safety data as per ISO 14001."						
Please see Instructions on the reverse.						
Ref : Cl. 29.29.32 of MOM of MRC-C		Amd No. 01	Approved MRC-C	Issued CORP. R&D	Date 01.06.2001	Cum.Sr.No. A 2943



CORPORATE PURCHASING SPECIFICATION

AA 514 02

REV, No. 03

PREFACE SHEET

NON-CONIFEROUS TIMBER FOR GENERAL PACKING PURPOSES

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Equivalent/Comparable Standards:Suggested/Probable suppliers & Grades:User Plants & Replaced Plant Specifications/References:

- | | | |
|------------------|---|-----------|
| 1. BHOPAL | | Sal wood |
| 2. HEEP, HARDWAR | | HW 514 03 |
| 3. HYDERABAD | | HY 401 01 |
| 4. TRICHY | : | Hard wood |

Revision: C1. 6.2.3 of MOM
of WG (T&PM)

Approved: INTERPLANT
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Year:

BHOPAL

MAR '80

**NON-CONIFEROUS TIMBER FOR GENERAL PACKING PURPOSES****1.0 GENERAL:**

This specification governs the quality requirements of Non-Coniferous Timber supplied in the form of planks, battens, beams and sleepers.

2.0 APPLICATION:

Used for general packing purposes.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no National standard covering this material. However, assistance has been derived from the following National standards:

IS:1326-1992 | Non-Coniferous Sawn Timber
(Baulks & Scantling)

IS:5966-1993 | Non-Coniferous Timber In Converted Form
For General Purposes.

IS:6662-1993 | Timber Species Suitable For Wooden
Groups I & II Packaging

4.0 TERMINOLOGY:

For the purpose of this specification, the definitions given in IS:707 (Glossary of terms applicable to timber and timber products) shall apply except for the beam which is defined as follows:

Beam is defined as converted timber whose cross-sectional dimensions exceed 50mm in both directions.

5.0 SPECIES:

Shall be as stated on the order.
Some standard species are:

<u>Trade Name</u>	<u>Botanical Name</u>
Rubber wood	Hevea brasiliensis
Salai	Boswellia serrata
Bahera	Terminalia bellirica
Jaman	Syzygium cumini

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Trade NameBotanical Name

Lendi

Lagerstroemia parviflora

Mango

Mangifera indica

Machilus(Kalamavu)

Machilus macrantha

Irul

Xylis xylocarpa

Irulbaken

Hopes

Karumarudu

Terminalia tomentosa

Murtenga

Bursera serrata

Nangal

Mesua ferrea

Pillamarudu

Terminalia paniculata

Sal

Shorea robusta

Silver oak

Grevillea robusta

Tada(Dhaman)

Grewia tillifolia

Any other species of wood as per Groups I & II of IS:6662 may also be ordered.

6.0 DIMENSIONS AND TOLERANCES:6.1 Sizes:

Width, thickness and length of timber shall be clearly stated on the order.

6.2 Tolerances:

6.2.1 Width : 50 to 250 mm Tolerance : ± 3 mm

6.2.2 Thickness : 20 to 250 mm Tolerance : $+3$ mm
-1 mm

6.2.3 Length:

Standard length : 1 to 12 metres in multiples of 0.5 metre.

Tolerance : $\pm 2\%$ or ± 25 mm whichever is less.

Note:

1.0 Measurements:

1.1 When nominal sizes are ordered, length, width and thickness shall be measured on the basis of accepted sizes. Plus tolerances shall not be added while computing the volume.



1.2 The measurements of length, width, thickness and computation of volume shall be as follows:

- a) The length shall be measured in metres in midline of a piece. The fractions of a metre shall be rounded off to the nearest lower 10 mm.
- b) The width shall be measured at the narrowest place in millimetres and shall be rounded off to the nearest lower one millimetre.
- c) The thickness shall be measured at the narrowest place in millimetres and shall be rounded off to the nearest lower one millimetre.
- d) The volume shall be computed in cubic metres correct to three places of decimal on the basis of accepted sizes.

2.0 Single sampling plan based on IS:2500 shall be followed.

7.0 MOISTURE CONTENT:

The timber shall have a moisture content as stated below within a depth of 15mm from the surface excluding a length of 300mm from each end at the time of inspection. The moisture content will be determined in accordance with Appendix-A of IS:287.

October to June	: 30%
July to September (Rainy season)	: 40%

8.0 FREE FROM DEFECTS:

Timber shall be free from the following defects:

Brashness, splits across the grain, shakes, spring, twist, insect attack, any kind of decay (rot), any sign of infection, open centre heart, centre heart on planks and any other defect.

Defects to the extent specified below are permissible. These defects shall be measured in accordance with IS:3364.

8.1 Bow:

Shall be permissible upto a maximum of 2mm for 300mm length.

8.2 Wane:

- a) For sections upto and including 150 X 150 mm:

Shall be permissible upto 1/5 of the width on the broad face subject to a maximum of 60mm and upto 1/3 of the width on the narrow face subject a maximum of 40mm, provided that one broad face is completely free from this defect. The wane shall be measured at its deepest part.



b) For sections above 150 X 150 mm:

The cumulative lengths of waness on all the sides should not be more than one length of the piece.

8.3 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 60mm per metre run of the piece.

8.4 Live knots upto 35mm diameter:

A maximum of 5 knots/metre length are permissible. However, the knots shall not be so grouped or located as to affect the strength of the piece.

Live knots above 35mm diameter are not permissible.

8.5 Dead knots:

a) Below 10mm diameter:

A maximum of 3 knots/metre length are allowed provided that the knots are not so grouped or located as to affect the strength.

b) From 10mm to upto and including 25mm diameter:

A maximum of 2 knots allowed to the extent of 1 knot/metre length.

c) Above 25mm diameter:

Not allowed.

Note: (For clauses 8.4 & 8.5): Major axis of the knot should be taken as the diameter of the knot.

8.6 Surface cracks:

Surface cracks with a depth of 10% subject to a maximum of 10mm are permissible. A continuous crack of any depth all along the length is not permissible.

8.7 Sap wood:

Permissible upto a maximum of 12 percent of the cross sectional area.

9.0 END COATING:

Timber shall be coated with any of the following effective compositions upto a distance of 80mm from each end.

9.1 Thick coal tar or bituminous paint.

- 9.2 Resin and lamp black (10:1) melted, mixed and applied hot.
- 9.3 Hardened gloss oil.
- 9.4 Paraffin wax.
- 9.5 Molasses and lime (3:1).
- 9.6 Geru/Yellow clay.

10.0 INSPECTION AT SUPPLIER'S WORKS:

Whenever specified, tests and inspection are to be conducted in the presence of BHEL's representative. BHEL representative shall have free access at all times while work on the contract is being performed to all parts of the manufacturer works. The manufacturer shall offer BHEL's representative all reasonable facilities, without charge, to satisfy the latter that the material is being furnished in accordance with this specification.

The manufacturer shall prepare and provide necessary test specimens for testing to be carried out at his premises. If facilities are not available at his works the manufacturer shall make necessary arrangements for carrying out the prescribed tests elsewhere. The manufacturer shall notify BHEL in advance about the readiness of the material for inspection and testing.

BHEL reserves the right to test the material at BHEL's Works and the final acceptance of the material shall be based on these test results.

11.0 TEST CERTIFICATES:

Three copies of test certificate shall be supplied unless otherwise stated on the order.

In addition, supplier shall ensure to enclose one copy of test certificate along with their dispatch documents to facilitate quick clearance of the material.

The test certificate shall have the following information:

AA 514 02 (Rev.No.03) : Non-Coniferous timber for general packing purposes

BHEL order No.	:
Supplier's References	:
Type & Specie	:
Treatment, if any	:
Results of Dimensional Inspection	:
Moisture content	:
Defects as per clause 8	:
Size	:
Quantity supplied	:

**12.0 MARKING :**

The timber shall be marked/painted with the following:

AA 514 02

BHEL order No. :

Supplier's Name :

Size & Quantity :

13.0 REJECTION AND REPLACEMENT :

If the material does not conform to the requirements of this specification or found defective during further processing, such material shall be rejected notwithstanding any previous certification of satisfactory testing and/or inspection. The supplier shall under take to replace the rejected consignment at his own cost and the rejected material shall be taken back by the supplier after fulfilling the commercial terms and conditions.

14.0 REFERRED STANDARDS:

The following is the list of the latest standards, as published by the respective issuing bodies, referred to in this specification.

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|------------|------------|------------|------------|
| 1) IS:287 | 2) IS:707 | 3) IS:1326 | 4) IS:2500 |
| 5) IS:3364 | 6) IS:5966 | 7) IS:6662 | |