

Date of Issue: 04-03-2004
Date of Implementation: 04-03-2004
Rev: 03

**Technical Delivery Conditions
For
Wooden Packing Boxes Made Of Non-Coniferous Timber**

1. General:

This specification governs the quality of packing boxes of non-coniferous in the form of planks, battens as per the dimensions and drawing in different sizes as per annex.

2. Application:

Packing boxes/crates/battens shall be used at industrial valves plant for transportation of the valves and shall be duly provided with a black polythene lining, sufficiently strong to protect the valves from outside rain water or condensing moisture during and after transportation. The lining is not required for the base of the boxes. Corner plates made of mild steel measuring 150 x 100 x 1.0 mm. shall be nailed at two places for strengthening each vertical corner of the boxes and the base.

Compliance With National Standard:

Assistance has been derived from the following standards in the preparation of this specification.

-BHEL Corporate P.S. No. : AA 51402
-IS-1326-1976: Spn. For Non-Coniferous Timber
-IS-5966-1970: Spn. For Non-Coniferous Timber
in converted from for general purpose.

Dimensions & Tolerances:

Width, thickness and length of Planks/Battens Shall have the following tolerance:

Width	:	+ 3mm	from 75-100mm
		- 0	
		+ 5mm	from 100-200mm
		- 0	
Thickness in mm			

Box Type No.	Planks	Diagonal Brace	Battens
2	18 +3 -0		+5 on the ordered -0 dimensions
3,3A, 4,4A, 5,5A, 6, 7,9A, 10A, 13A	20 +3 -0	25 +3 -0	+5 on the ordered -0 dimensions
9,9B, 10,11A, 13,14,14A, 14B, 15,16,16A, 16B	25 +3 -0	25 +3 -0	+5 on the ordered -0 dimensions

Length : As Per the Dimensions of the Boxes/ordered.

Moisture Content:

Normally no. Seasoning is required, however the moisture content should not exceed more than 40%.

Freedom from Defects:

- Brashness, splits across the grains, shakes, cups, twist, insect attack, centre heart in planks are the defects which are not acceptable.
- Following defects are acceptable when measured in accordance with IS-3364

Bow:

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

End Splits:

The largest end splits at each end shall be measured and the length added together. The added lengths of these shall not exceed 80mm per meter run of the piece.

Live / Dead Knots:

A maximum of 5 Knots/m length are permissible; however, the knots shall not be so grouped or located as to affect the strength of the piece. Knots above 35mm. diameter are not permissible. Major axis of the knot shall be taken as the diameter of this knot.

Surface Cracks:

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

Certificate:

The supplier shall furnish a certificate with each lot/consignment in support of the species of the wood, moisture content, size of the nails used, and any special information which the tenderer feel is essential for the quality of the packing boxes and battens distance between two nails should be 50mm. Any hard wood species are acceptable.

Marking:

The boxes shall be marked/painted in order to identify the source of supply on two faces with additional stenciling on one face as:-

- CONSIGNEE:
- OA NO./WO. NO.:
- CASE NO. :
- NO. OF VALVES:
- WEIGHT:
- FROM: BHEL/GOINDWAL/TARN TARAN

BHEL/IVP/GOINDWAL**SIZES FOR THE PACKING BOXES**

Box size No. Type	Dimensions (overall) (L. x W. x H.)
2	430x 370x 430
3A	670x 670x 500
4	710x 630x 600
5	850x 630x 600
6	1000x 770x 670
7	1100x 430x 670
9A	1250x 570x 710
10A	1300x 770x 850
13A	1300x 650x 710
14A	1850x 700x 710
14B	1850x 700x 1050
9B	1250x 570x 1050
16	2134x 915x 1220
16A	2743x 1220x 1070
16B	2743x 1220x 1525

N.B. 1. Supplier's Name and type of the box shall be stenciled on the boxes
