



## PLANT STANDARD HYDERABAD

**HY0490572**

**REV. NO. 01**

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### CODE OF PRACTICE FOR STORING, HANDLING, PACKING AND DESPATCH OF COMPONENTS

#### 1.0 SCOPE:

This standard covers technical instructions for packing and despatch of components. The related packing materials are indicated in Annexure 1. This standard supersedes company standard HY0490301 Rev.01.

#### 2.0 PACKING CASE:

2.1 Packing cases for special components like rotor, casings and other items shall be designed by central packing design cell based on the component drawing and the fixing and supporting methods indicated by engineering department.

2.2 The wood for packing cases shall conform to plant purchase specification no. HY51463 and HY51461.

2.3 Suitable stiffeners, steel brackets at corners, sides and for lifting shall be fixed to the packing case, wherever required.

#### 2.4 Nailing procedure:


2.4.1 In the case of nailing two or more layers of the board together, having total thickness not exceeding 7.5 cm, the nail end shall be bent 0.9 cm or more to the direction making a right angle to the timber grain.

2.4.2 Nailing must be carried out carefully by arranging nails zigzag so as not to cause cracking of the planks. Further, each nail must be driven adequately so that its head shall not protrude above the plank surface or excessively sink below the board surface.

#### 3.0 ORIGINAL PACKING CASES:

Care shall be taken while opening the packing cases at the stores receipt stage. The despatch from stores (DS) items like valves, precision instruments, condenser tubes etc. shall be despatched in the original packing cases received from supplier to avoid damage during transit, wherever possible.

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**4.0 RIGDITY OF COMPONENTS IN THE CASE:**

4.1 The movement of components in the packing case shall be arrested by fixing suitable wooden sections at proper places.

**5.0 STABILITY OF THE CASE IN THE WAGON:**

The movent of case in the wagon shall be arrested by providing necessary wooden support and suitable lashing.

**6.0 PROTECTION AGAINST INGRESS OF MOISTURE:**

Component shall be wrapped with VCI paper, waxed paper polythene sheet as applicable for the components/ products. 2 bags of indicating type silicagel in bleached and finished plain weave cloth bag each containing 0.5 Kg/m<sup>3</sup> volume of the case shall be placed in the packing case, wherver required.

**7.0 MEASURING INSTRUMENTS & DELICATE ITEMS:**

7.1 Temporary preservative shall be applied on the unpainted surfaces. The instruments shall be wrapped with waxed paper and packed preferably in the original packing/ thermocol boxes with suitable cushioning.

7.2 Glass instruments shall be covered with suitable cushioning material and preferably packed in original packing cases/ thermocol boxes.

7.3 Pressure gauge connections shall be protected with plastic caps.

7.4 The packing shall be fastened with adhesive tape and placed in a wooden case with cushioning material.

7.5 Fragile items shall be packed in separate boxes.

**8.0 PUMPS, ELECTRIC MOTORS, VENTILATORS ETC.**

8.1 The components of pumps, electrical motors, ventilators etc. Shall be cleaned to remove the presservative, dust etc and represerved.

8.2 Spare bearings shall be cleaned and then presservative grease shall be applied. The bearing shall be packed in cartons. Heavier bearings shall be packed in wooden cases.

**9.0 LOOSE PARTS LIKE FASTENERS, PIPE UNIONS ETC:**

9.1 These items shall be suitably preserved and wrapped in waxed paper. The items shall be packed in corrugated boxes.



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9.2 Loose parts pertaining to one individual group shall be packed in one fibreboard corrugated box as far as possible.

9.3 Fibre board boxes shall be packed in wooden boxes.

### 10.0 PIPES, FLATS, ANGLES:

10.1 Pipe and flange end covers:

10.1.1 The pipe end covers (external) for pipe sizes 6-610 mm O.D shall be as per plant standard HY7790962.

10.1.2 The flange end covers (external) for flange sizes ID=45mm, OD=70mm to ID=530mm, OD=600mm shall be as per plant standard HY7790963.

10.1.3 The stub end covers (external) for stub sizes 16.3 mm OD to 83 mm OD shall be as per plant standard HY7790964.

10.1.4 The pipe end covers (internal) for pipes on nom. Size 9 mm to 75mm shall be as per plant standard HY7790965.

10.1.5 Protective caps shall be provided for pipe/flange ends.

10.2 Steel tubes for general purpose upto and including 50 mm dia shall be bundled with 2 stranded mild steel wire. The steel wire dia shall not be lesser than 2 mm.

10.2.1 The recommended bundling places are as per table below:

Product weight	Upto 200 Kg.	>200 ≤300 Kg.	>300≤500	>700≤1000 Kg.
Number of bundling places	3	4	7	8

10.2.2 Steel tubes above 50 mm dia shall be shipped loose.

### 10.3 Special purpose and heat exchanger tubes & pipes:

10.3.1 Suitable rust preventive shall be applied to the items as per HY0490563.

10.3.2 The gross weight of the standard case for HE tubes shall not exceed 1500 Kg.

10.3.3 U Tubes:

10.3.3.1 U tubes shall be packed in moisture proof cases. Cloth bags of silicagel shall be placed in the case as per clause 6.

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10.3.3.2 Longitudinal & transverse movement of tubes within the case shall be avoided by providing soft packing.

10.3.3.3 A horizontal layer of tubes shall be separated by polythene sheet.

10.3.3.4 Vertical rows of tubes shall be separated by wooden spacers to avoid rubbing and movement of tubes.

10.3.3.5 The two legs of the inner most U tube shall be separated by wooden spacers.

#### **10.4 FIN TUBES:**

10.4.1 Suitable cushioning material and soft pads shall be provided inside the case on all the sides.

10.4.2 Soft pads shall be kept between two horizontal layers of the tubes.

10.4.3 Spacers of soft material shall be kept between the 2 adjacent vertical rows to avoid interlocking of tubes.

10.5 Brass rods shall be wrapped with polythene sheet and packed in longitudinal boxes.

10.6 Straight lengths like bars, flats, angles shall be bundled with annealed steel wire of diameter 3 to 6 mm.

#### **11.0 IDENTIFICATION:**

The tag number as per completion schedule shall be painted on metal tag and tied with thin wire or tack welded to the individual items being despatched.

#### **12.0 PACKING SLIP HOLDER:**

The packing slip shall be fixed on the packing case at suitable location. The packing list shall be sealed in a polythene bag against the ingress of moisture and placed in the packing slip holder.

#### **13.0 MARKING:**

13.1 The following data shall be marked on two opposite sides of the case with waterproof black paint.

- BHEL and sender's address
- Company Monogram
- Consignee's full and correct address
- Identification number of the case



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- e) Net weight and gross weight of the case
- f) Rough dimensions of the case in cm
- g) Position of slings or chains for handling
- h) Indication of top of the case
- i) Name of the consignment (eg: "Instrument Panel", "Middle part MP casing", "Miscellaneous" etc.)
- j) Special remarks wherever applicable (eg: "Turbine rotor with care", "Glass instruments with care" etc.)
- k) The remark "NOT TO BE LOOSE SHUNTED", wherever applicable.
- l) Storage instruction code

e.g. P - Storage in a totally enclosed shed under controlled conditions.  
Q - Storage in a totally enclosed shed.  
R - Storage in a shed having roof but no side walls.  
S - Storage in open yard on elevated platform/ wooden sleepers.

### **14.0 HANDLING:**

Procedure for handling shall be as per HY0490571.

### **15.0 NOTE:**

The following are the related documents on packaging and despatch of components.

- 15.1 OMI 064 - Procedure for packing and despatch of finished products.
- 15.2 AA 0232601 - Pictorial markings for handling, labling of goods in general.
- 15.3 AA 0232801 - Technical information on loading and transportation of consignments by railway wagons.
- 15.4 AA 0232802 - Loading particulars of standard railway wagon broad gauge and metre gauge.
- 15.5 AA 0232803 - Standard moving dimensions on indian railways broad gauge and metre gauge (for bogie goods stock).
- 15.6 HY0490563 - Code of practice for preservation of different products and their components
- 15.7 HY0490564 - Code of practice for storage of different products and their components.
- 15.8 HY0490571 - Procedure for handling of components.
- 15.9 HY0490569 - Seaworthy packing for export orders.
- 15.10 HY51463 - Non - conifer timber for general packing purposes.

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- 15.11 HY51461 - Rubber wood for general packing purposes.
- 15.12 HY0490562 - Preservation of heat exchangers prior to shipment
- 15.13 HY0490570 - Instructions on handling, storage, preservation, represervation and transport of export order components at works and sites
- 15.14 HY0490571 - Procedure for handling of components

TABLE - 1

## PACKING MATERIALS

Sl. No.	Description	IS No. and Grade	BHEL Spec./ Std. No.
1.	Waxed grease proof paper 0.3mm thkx900mmx100 mtrs	IS: 3962	AA51407
2.	Packing paper water proof bitumen laminated type 1	IS: 1398 Type 1	AA51410
3.	Polythene coated bitumen hessian kraft paper	IS: 1398 Type 3	AA51409
4.	Pressure sensitive adhesive tapes with poly-propylene plastic base	IS:13262	AA51412
5.	Pressure sensitive adhesive cloth	IS: 3687	AA51411
6.	Cotton tape for electrical purpose	IS: 1923	AA23107
<b><u>CUSHIONERS</u></b>			
7.	Wood wool	IS:1707	AA51404
8.	Rubberised coir sheets	IS: 8391	AA51415
9.	Woolen felt hard (Proofed) (Grey colour)	IS: 1719	AA23121
10.	Polythelene air bubbled film	IS:12787/89	HY78489



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Sl. No.	Description	IS No. and Grade	BHEL Spec./ Std. No.
11.	Rubber sheets	IS: 638 Gr. 1 Type A	AA59001
12.	Expanded polysterele (Thermocol) sheet	IS: 4671 Type- 2	AA51416
<b><u>BINDING &amp; FIXING MATERIALS</u></b>			
13.	MS binding wire galvanised		AA10110
14.	Hot rolled steel strip (baling)	IS: 1029	HY10189
15.	Metal seal (Tin) with BHEL emblem to suit steel strip		HY78462
16.	Steel counter sunk head wire nails	IS: 723	AA7177001
<b><u>MARKING MATERIALS</u></b>			
17.	High quality full glossy out door paint (Block)	IS: 2932	AA56126
18..	Non - yellowing full glossy white paint		AA56127
<b><u>OTHERS</u></b>			
19.	Corrugated fibre board boxes	IS: 2771 (Part 1)	AA51414
20.	Low density polyethylene film	IS: 2508	AA51408
21.	Low density polyethylene bags with BHEL Emblem printed on one side with one colour		AA51408
22.	Bleached cloth bag		HY78464

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Sl. No.	Description	IS No. and Grade	BHEL Spec./ Std. No.
23.	Plywood MR/AB	IS:303	AA51101
24.	G I sheet for name plate	IS:277	AA10166
25.	G I sheet plain		AA10166
26.	Pipe end covers (internal)		HY7790965
27.	Indicating type silicagel size 5 to 3 mm	IS: 3401	AA55619
<u>STANDARD FASTENERS</u>			
28.	Square head bolt, nut & washer		HY9601101
29.	Netlon protective sleeving		HY7840797
30.	MS clamps		
31.	HDPE Tarapaulin 60' x 40'	IS:7903	HY78133
	NYLON ROPES Ø 10 MM		HY78499
32.	VCI Rusto paper VCI Rusto powder		AA51406 AA55120
33.	Packing stud two sq. nuts & two sq. washers		HY9601411
34.	G I Binding wire		AA10110
35.	Metallic pouches Blue Red		





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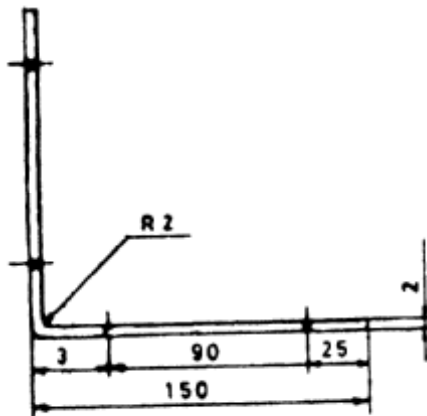
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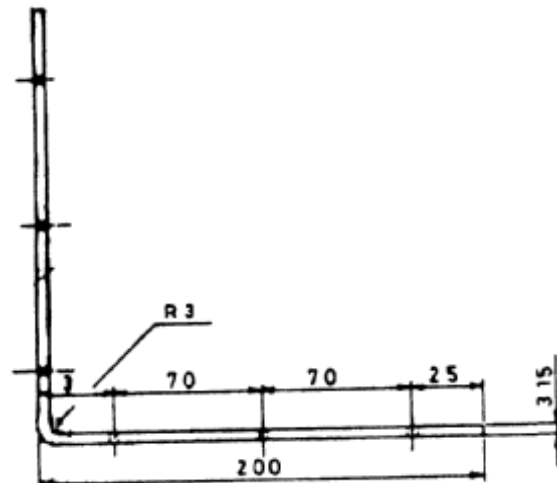
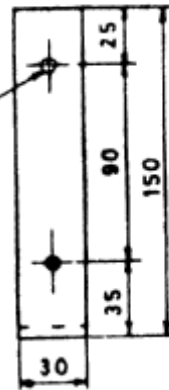
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## L CLAMPS

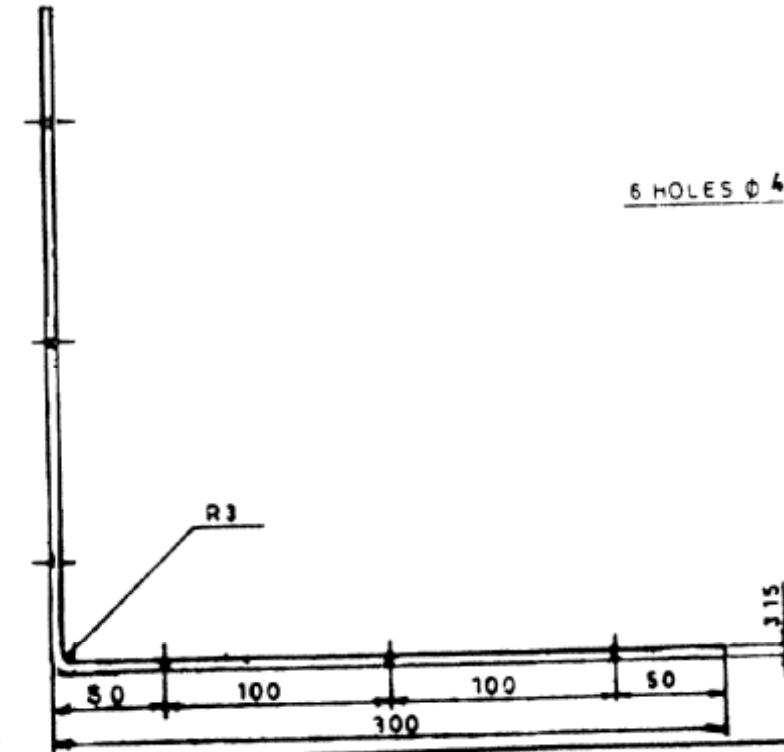
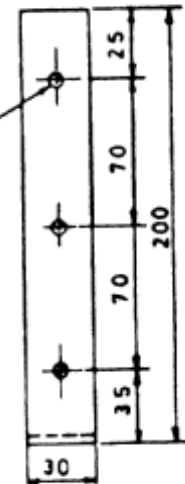
## ANNEXURE I



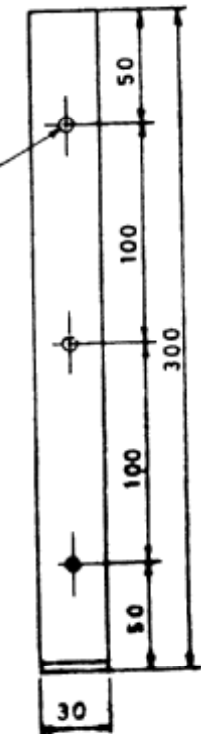
4 HOLES Ø 6



6 HOLES Ø 6

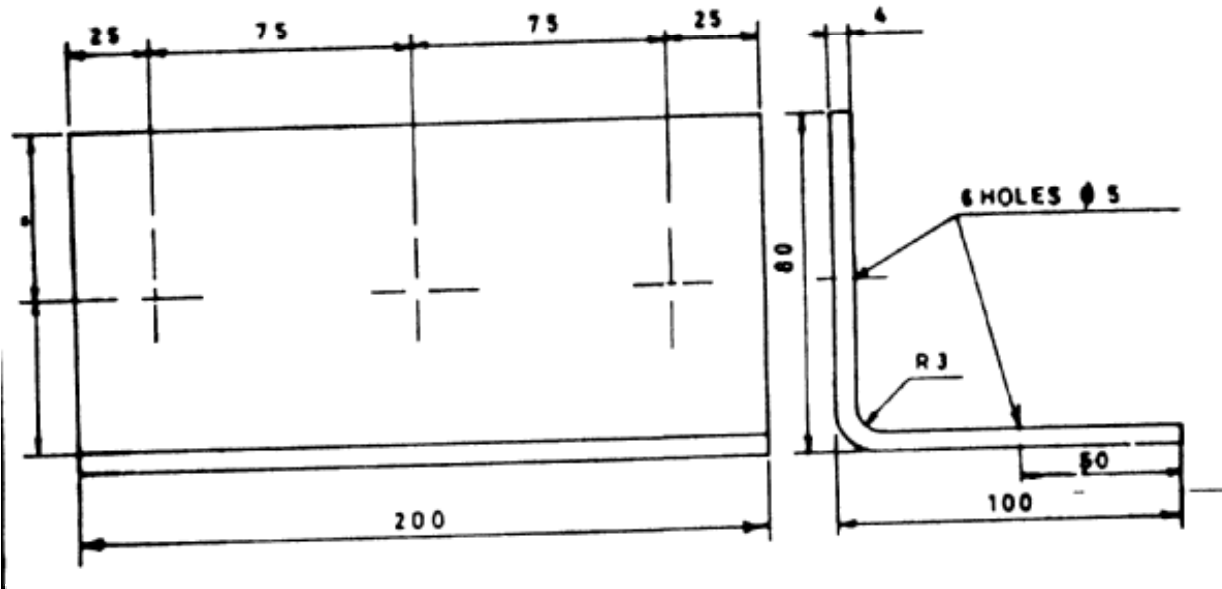


6 HOLES Ø 6



PLANT STANDARD  
HYDERABADSHIELDING PLATE  
(LIFTING ANGLE)

ANNEXURE-11

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