

[Modified On: 29/08/2008]

Dimensions in mm

1 Design for nameplates

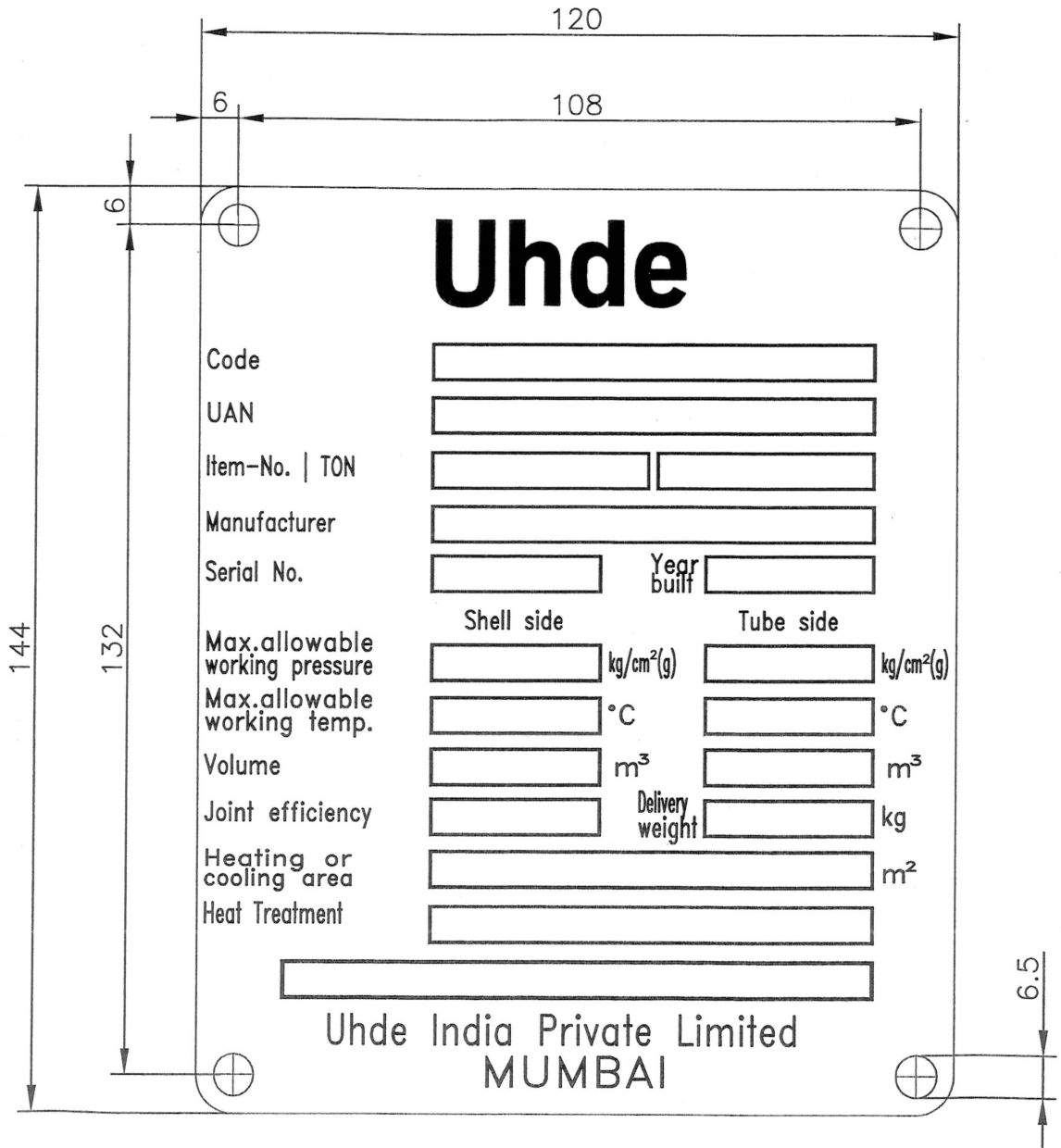


Figure 1 Nameplate; dimensions and lettering

2 Technical specification of nameplates

Design: Black characters and framing: recessed by etching, black outlay
 Background: raised, matt finished
 Plate thickness: 1.0 mm
 Etching depth: 200 µm
 All lettering shall be engraved
 All nameplates are to be deburred and provided with plastic sheeting

Material: Material number: SS 304

Remarks: For cold vessels, the minus and plus values of the maximum allowable working temperature shall be indicated, for example - 50 / + 120

3 Construction design for nameplate attachment

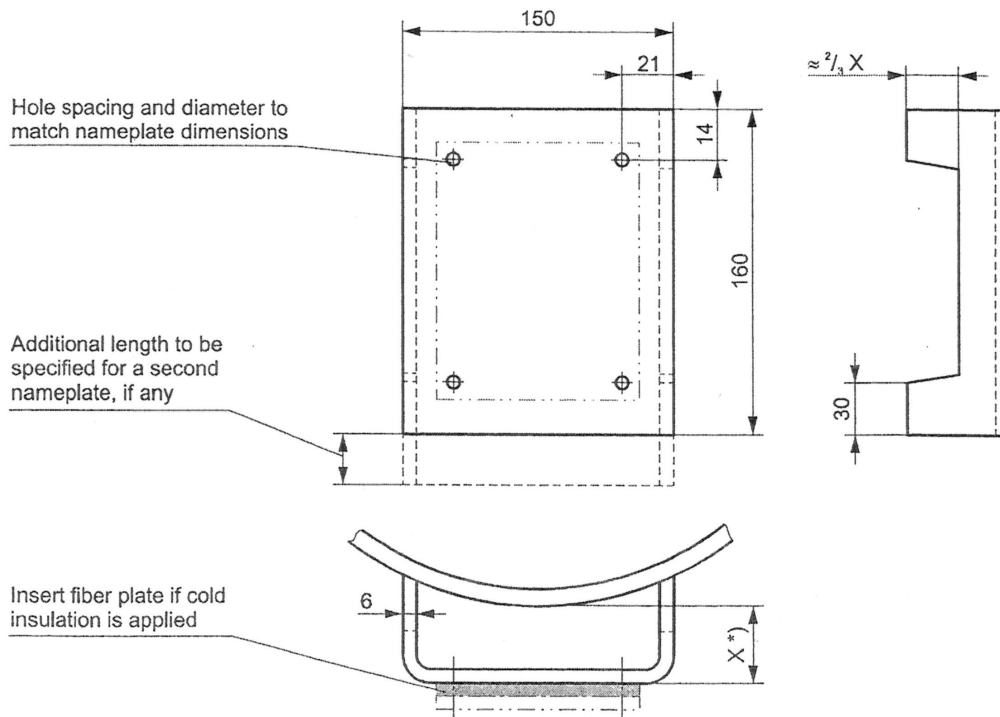


Figure 2 Nameplate attachment for vessels and equipment

Material: Bracket: For vessels of carbon steel and low-alloy steel = austenitic steel.
 For vessels of high-alloy steel = vessel material.
 Rivets: Flat-head rivets of austenitic steel (e. g. CrNi steel, Material SS 304 or equal).

*) With heat insulation X equal insulation thickness or 25 mm whichever is higher.
 With cold insulation X equal insulation thickness less 10 mm. A fibre plate of 10 mm thickness shall be placed between bracket and nameplate.

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1 Scope

The title blocks shown in this standard shall be used for manufacturer's drawings. This applies to the title block layout and contents. The title blocks shall be placed on the right hand side above the vessel designation block.

2 Layout

Title block 1. Block ¹⁾

Dwg. No.	Description	Dwg. No.	Description
Reference documents / belong to drawing:			
Uhde check stamp			
Revision			
Scale:	Drawn	Checked	Welding checked
Date			Design check.
Name			
Item No.:	TON:	Quantity:	
Engineered by: Uhde		Order No.:	
Equipment designation:		Client:	
		Client's Dwg. No.:	
Manufacturer:		Job No.:	Rev.:
		Dwg. No.:	

1) This title block shall be used for all manufacturers drawings

Uhde

Vessels and Equipment

TITLE BLOCKS
FOR MANUFACTURER'S DRAWINGSUN
2000-10
Part1 (M)

Page 2 of 4

Title block 2. Design acc. to ²⁾

Design acc. to:			
Pressure chamber *)			Inspection by:
Design pressure gauge	bar		Supervision of manuf. by:
Design temperature	°C		
Corrosion allowances	mm		Weight to be supplied: kg
Other additional allowances	mm		Operation weight: kg
Joint efficiency			Weight at retest: kg
Nominal volume	l		Bundle weight: kg
Initial test pressure gauge	bar		Total heat exch. surf.: m ²
with water/air	vertical/horizontal		Mfr's Serial No.:
Operating pressure gauge	bar		Year of manufacture:
Operating temperature	°C		
Retest pressure gauge	bar		
with water/air	at top in oper. position		
Process fluid			
Density	kg/m ³		
H ₂ -partial pressure	bar abs.		*) Data for shell side, tube side, jacket, etc.

Title block 3. General notes ²⁾

General notes			
Insulation	Shell side: hot/cold	mm	Tube side: hot/cold mm
Spare parts	bolts and nuts:	%	gaskets: sets
Tolerances according to:			
Holes shall straddle both natural centerlines.			
Leakage test of reinforcing plate welds: at bar by applying soap bubble test.			
Test holes open/closed with:			
Bolt threads of outside flange connections to be coated with MoS ₂ -paste.			
Flange faces and machined surfaces to be protected with:			
Open nozzles to be closed for transportation with:			
Transportation in:	parts	Part weights:	kg

2) Title block 2 to 7 apply to the main drawings only.

Title block 4. Welding data ^{2) 4)}

Part (item No.)	Part (item No.)	Groove type sketch with ref. to dwg.	Backchipped and rewelded	Root pass	Other passes	Standard desgn.	Type	Temp. °C
Material	Material			Trade stamp				
Welded joints				Weld proced.	Filler material	Preheating		
Welding data								

Title block 5. Heat treatment ^{2) 3) 4)}

Part	Procedure	Temp. °C	Heating rate K/h	Holding time min.	Cooling rate K/h	Temperature measured furnace / part Qty. of sensors
Heat treatment						

Title block 6. Inspections ^{2) 3) 4)}

Part	Joint efficiency	Radio-graphic %	Ultra-sonic %	Magnetic particle %	Dye penetrant %	Tests specimens	Others
Tests (Test reports incl. appraisals are required in all cases)							

Title block 7. Surface treatment ^{2) 4)}

Part	Derusting	Paint quality and mfr.	Pre-treatment	Type	Pickling solution	Post treatment
	Painting		Protection		Pickling	
Surface treatment						

2) See page 2.
 3) If a heat treatment and/or test are not required, enter the respective note into block 3 „General notes“.
 4) The tables may be extended.

Title block 8. Parts list ^{4) 5)}

Part	Description	Quant.	Standard	Material	Insp. doc.	

Title block 9. Summary of nozzles ^{4) 6)}

Nozzle symbol	Description	DN	PN	Standard	Type of flange	Facing	Pipe dimensions at welding edge

4) See page 3.

5) Title block 8 „Parts list“ must reflect all details according to this Uhde standard.

6) Title block 9 „Summary of nozzles“ must be included in the main drawing

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1 Standard requirements for design/construction

All dimensions in mm

1.1 Materials and wire mesh packing specification

Wire mesh packing:

Corrosion-resistant steel (e.g. SS 304)

wire diameter of 0,28 mm, free space volume 98 % to 98.8 %,
weight approx. 136 kg/m³,wire surface area approx. 256 m²/m³, unless otherwise specified.Support grid and connecting
elements:

Corrosion-resistant steel (e.g. SS 304), unless otherwise specified.

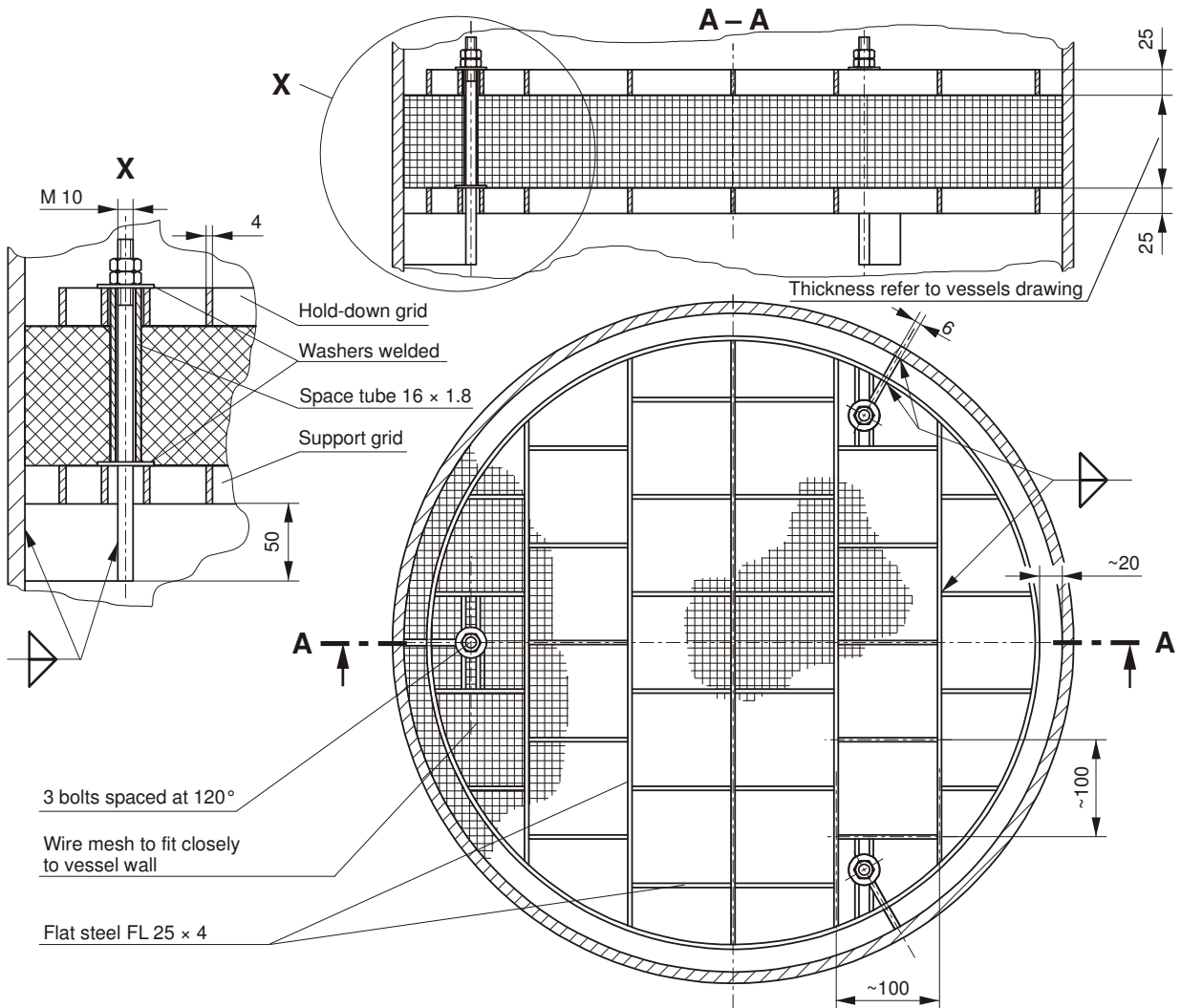
1.2 Vessels with a diameter of < 800 mm

Figure 1.

1.3 Vessels with a diameter of ≥ 800 mm

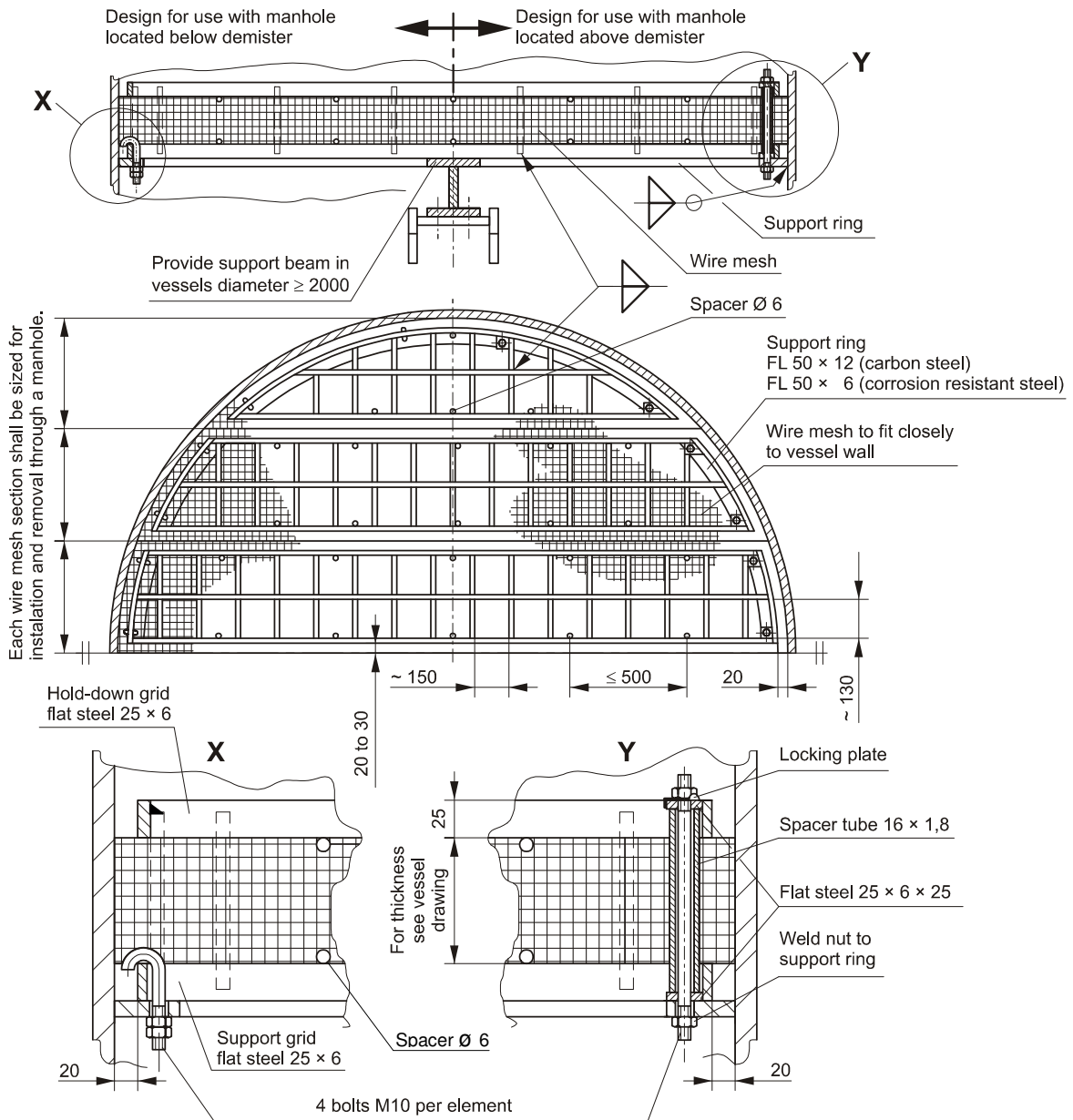


Figure 2.

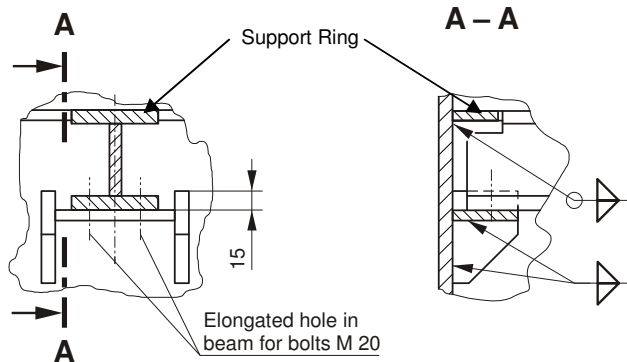


Figure 3. Support beam compliant with sectional drawing or equivalent

Uhde	Vessels and Equipment	UN
	EARTHING CONNECTIONS For vessels and equipment	2003-01 (M)
		Page 1 of 2

[Modified On: 29/08/2008]

1 Scope

This Uhde standard applies to the engineering and construction of industrial and chemical plants. It contains requirements for earthing connections for vessels and equipment.

2 Term / Definitions, Symbols, Units, Abbreviated Terms**2.1 Terms / Definitions**

For the use of this Uhde-Norm following terms apply:

2.1.1 Earthing connection

Device for short-circuit protection.

2.2 Units

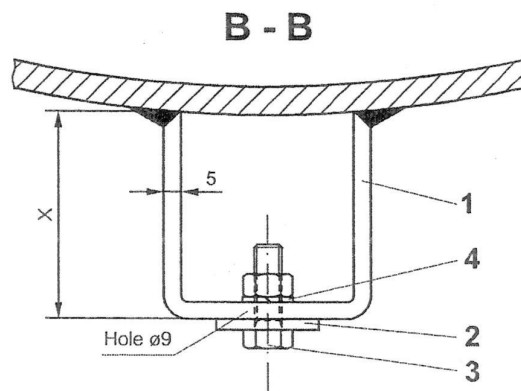
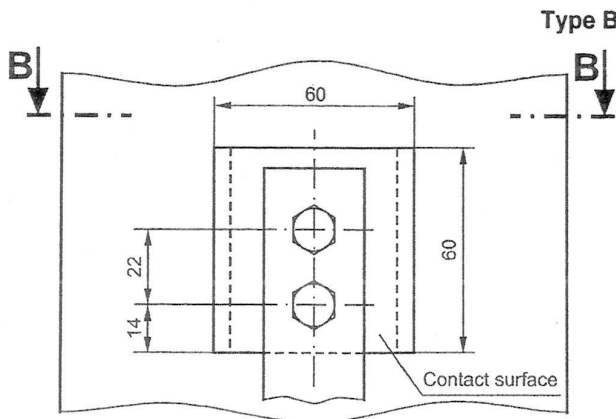
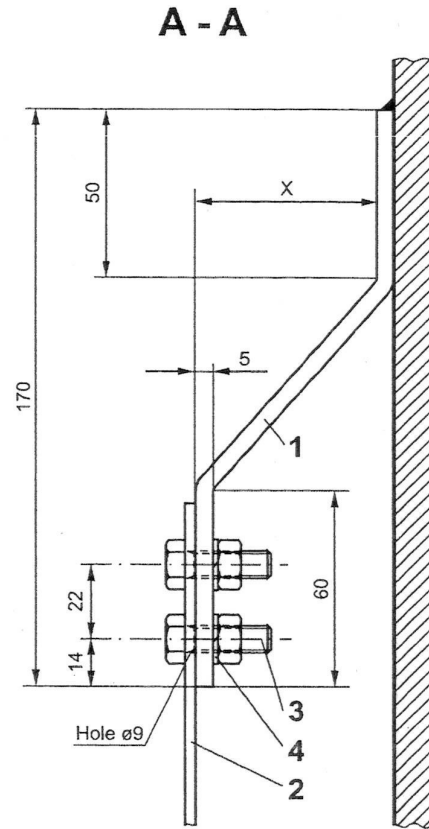
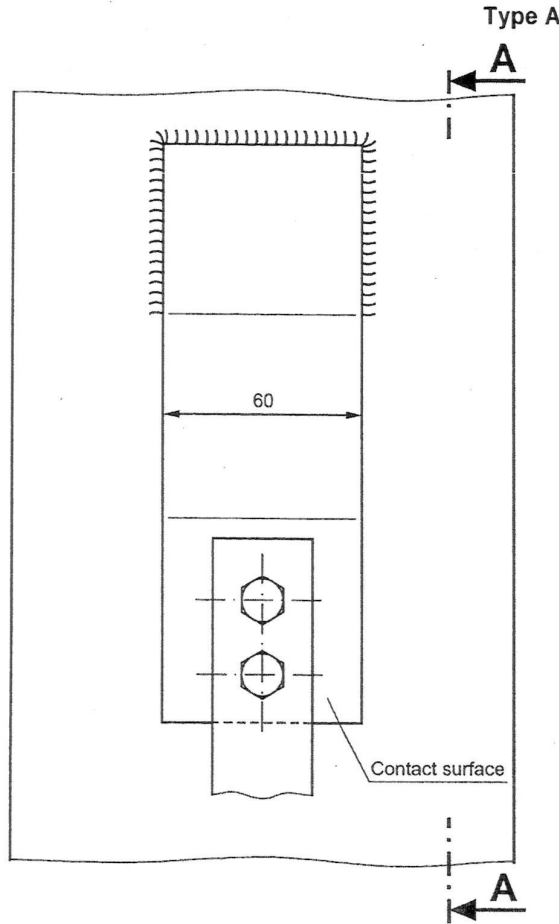
The following units will be used:

Table 1. **Units**

General	SI units
Dimensions	mm
Temperature	°C

2.3 Abbreviations

DS = data sheet (design data sheet; part of technical specification)



- Item 1 Earthing connector, stainless steel or steel with galvanized contact surface
- Item 2 Earthing conductor (strap iron or copper conductor with cable lug)
- Item 3 Bolts with nuts M 8 × 25, cadmium-plated
- Item 4 Split ring or lock washer 8

X = 50 mm + Insulation thickness

[Modified On: 29/08/2008]

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1 Scope

These packing instructions are to be adhered to by both the supplier, who renders the packing services himself (hereinafter referred to as "supplier") and the packer, separately entrusted by Uhde for rendering the packing services either at the supplier's premises, at his own works or at any other place (hereinafter referred to as "packing contractor"). In all other respects, Uhde's General Conditions of Purchase shall apply. Special arrangements made in the written order shall take precedence over the present packing instructions.

2 Corrosion protection

If no standards are available, the supplier/packing contractor shall observe the following:

- Materials which, because of their nature and design characteristics, are susceptible to corrosion must be heat-sealed in sheeting. When selecting the type of sheeting (polyethylene or aluminium compound sheeting), its permeability to water vapour is to be taken into consideration as well as the transport and storage period. The minimum thickness of polyethylene sheeting shall be 0.2 mm and that of aluminium compound sheeting 0.12 mm.
- For the transport and storage period specified in the Uhde Shipping Instructions, an adequate amount of desiccant shall be placed inside the package. The relative air humidity inside the heat-sealed envelope shall be maintained at less than 50% during the entire transport and storage period (calculation as per DIN 55474).
- With regard to the use of waterproof cardboard, it should be noted that this method must not be used if any metals are used or contained in the item to be packed, which might be affected by such cardboard.
- The use of hygroscopic filling and padding materials (e.g. wood-wool, hay, straw, paper) for filling any voids or for padding purposes is not permitted.

3 Identification of individual items

All individual items in one packing unit are to be marked separately.

The designation of individual items will be notified to the supplier with Uhde's order or Uhde's "Shipping Instructions".

All designations must be listed in the appropriate packing lists to allow the delivered material to be identified.

4 Type of packing**4.1 General**

The packing material is to be designed and constructed to allow for the loads occurring during transport, handling and storage (static as well as dynamic) and taking economic aspects into consideration.

Allowance must be made for the following loads:

- load on the lid: min. 1 t/m²
- shunting impact: 4 g

If the package can be handled by means of a crane or a fork-lift truck, then the packings described below must be suitable for this type of handling.

4.2 Cases

Only grade II/III timber according to DIN 4074 parts 1 and 2 (fir/spruce) is to be used for fabricating cases. The boards for the outside surfaces must be between 24 and 30 mm in thickness, depending on the type, size, and weight of the materials to be packed. The boards must be nailed close together. An essential criterion for the design of the cases is their stackability. In other words, importance must be attached to the internal structures with square timber and diagonal braces.

The cases shall be provided with skids and underskids (slinging reinforcements). The width and number of skids depends on the total weight, length and width of the package. For cases with a gross weight of more than 5 tons, the slinging points (bottom/side and side/lid) shall be additionally provided with angle irons (at least 3 mm thick) to prevent the steel cables from cutting into the cases. For cases with a total weight of 1000 kg and above, the front-end timber shall be firmly bolted to the skids (see Figure 4).

The cases shall be strut-braced and reinforced for absorbing any load (static and dynamic) to be expected during transportation by rail, road or ship (rail: 4 g, truck: 1.2 g, ship: 1.1 g). Provision shall be made to prevent any displacement of the packed material within the package (bolting together, bolting to the bottom of the case, etc.).

The cases shall be lined with waterproof materials (e.g. jute board, bituminized felt).

The lids of the cases shall be fabricated such as to prevent the ingress of water. The finished lid of the cases shall therefore be provided with polyethylene or aluminium compound sheeting on the inside. Fibreboard, plywood or a plastic plate shall be nailed to the lid to prevent the formation of "water pockets".

The finished cases must not be stored outdoors unprotected. If it is not possible to store them indoors, they shall be covered with tarpaulins.

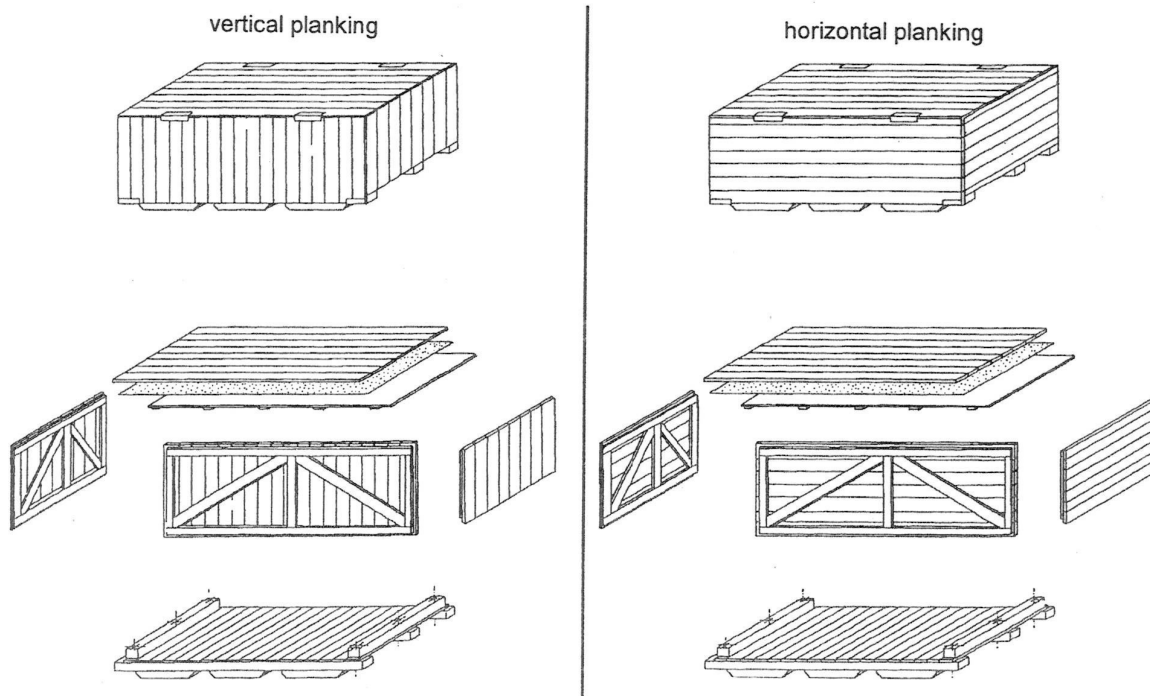


Figure 1. Case for packing with preservation

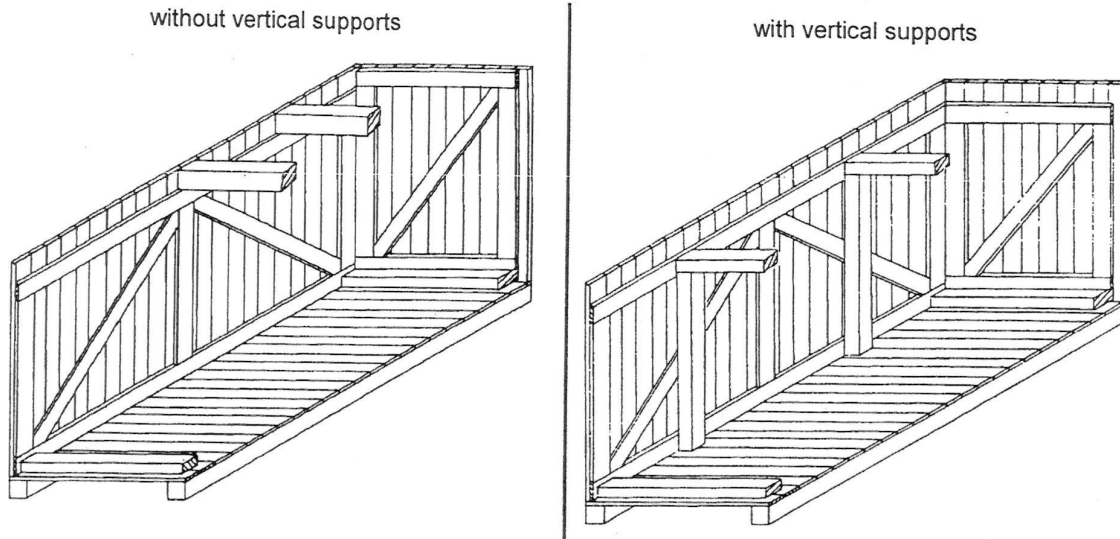


Figure 2. Case with vertical boarding, lid stringers, and vertical supports

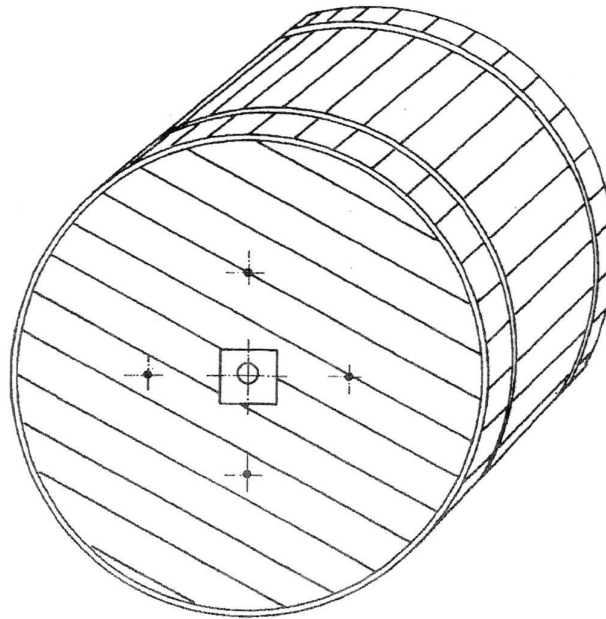


Figure 3. Cable drum

4.3 Crates

In principle, the same design features apply to crates as to cases, except for the construction of the outer surfaces. An adequate amount of closed surfaces must be provided for marking. If necessary, parts of the surface shall be boarded completely in order to provide sufficient space for the marking. The ratio of boarded to open space shall generally be between 1 : 1 and 2 : 1. The boards must not be less than 10 cm wide. The long and short sides must always be reinforced with diagonal braces.