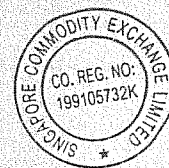




## **THE TSR 20 AWARD CONTRACT**

# Handbook on Pallet and Packaging Specifications



RUBBER ASSOCIATION OF SINGAPORE

# **THE TSR 20 AWARD CONTRACT**

## **Handbook on Pallet and Packaging Specifications**

### **PALLET AND PACKAGING SPECIFICATIONS**

- 1. Bale size and weight** Each bale should measure approximately 71cm × 36cm × 17cm (28" × 14" × 6½") and weigh 35 kgs.
- 2. Polythene Bag** Each bale is to be bagged in a polythene bag. The polythene used for the bag must have the following properties:-
  - a) clear and colourless
  - b) thickness — 0.03 mm
  - c) melting point of 109°C
  - d) specific gravity of 0.92

Note:

  - 1) Open end of bags must be heat sealed. Open end of bags must not be tied into a knot or just folded over. Cellophane tapes must never be used. (See addendum 1).
  - 2) Wrapping with polythene sheets must not be used in place of bags.
  - 3) To ensure that bags do not tear because of heat, rubber should never be baled "hot".
  - 4) Only one bag should be used. Do not "double-bag".
  - 5) Do not tie knots.
- 3. Bale Markings** Individual bag is to be printed showing the following marks:-
  - 1) Scheme Symbol (SMR/SIR/SSR/TTR etc).
  - 2) Country of Origin (Produce of . . . .)
  - 3) Grade designation
  - 4) Packers number
  - 5) Bale weight
  - 6) Producers' factory or company name

These marks are to be in red.

Alternately, this identifying strip is to be wrapped around the bale before the bale is bagged. This strip is not to be tied with a knot. It should be properly layed and folded over.

Each bale is to be wrapped with a 5cm (2") wide identifying polythene strip, 0.05 mm thick. The strips should be opaque white polythene.



#### 4. Palletization

##### a) Construction of pallet unit:

Pallet units are to be constructed as per attached plan.

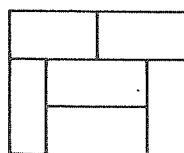
##### Special Notes:

- 1) Timber: Well seasoned hard timber is a pre-requisite. In order to ensure a pack of uniform strength throughout, sub-standard timber ("sawn-ends" or "off cuts") must not be used. Timber shall be sound and completely free of bark. Timber shall be free of borers and, where appropriate, be treated chemically by IRA approved formula and certified to be so.
  - 2) Boards size: All boards used are 10.2cm × 1.9cm (4" × ¾") with the following exceptions:-
    - 1) The front and back side middle board is 15.2cm × 1.9cm (6" × ¾").
    - 2) The pallet unit "top" is formed with the top layer of 2 boards measuring 10.2cm × 1.3cm × 142.2cm (4" × ½" × 56") long at each end, one board 15.2cm × 1.3cm (6" × ½") in the centre and bottom layer of boards measuring 10.2cm × 1.3cm × 101.6cm (4" × ½" × 40") long.
    - 3) The base pallet's main supports are 7.6cm × 5.1cm × 109.2cm (3" × 2" × 43") and the cut arch is 3.8cm (1½") deep.
    - 4) The boards used for the base pallets are:
      - a) lower layer — all boards are 15.2cm × 1.9cm (6" × ¾") × 3 pieces.
      - b) upper layer (floor of the pallet unit) — all boards are 7.6cm × 1.9cm (3" × ¾") × 9 pieces.
    - 5) All diagonals are 7.6cm × 1.9cm (3" × ¾") and are notched to 1.0cm (¾") depth.
    - 6) Overall external measurements of pallet unit must not exceed: 142cm (56") long, 109cm (43") wide and 112cm (44") high for 1260 kg unit.
  - 3) Metal Strapping: All metal strappings used are to be 1.6cm (⅝") wide × 0.06cm (0.023") thick.
- Note: Corner strappings are continuous as per plan.
- 4) Nails: Artificially rusted nails are to be used. (See addendum 2).

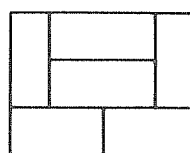
#### 5. Laying of bales, polythene interlayers and pallet unit interlinings.

##### a) Laying of bales

- 1) Bales are to be laid flat on its broad surface in a criss-cross manner, 6 bales to layer and 6 layers high, making 36 bales a pallet for 1260 kg unit.
- 2) Criss-cross arrangements: The layer of bales should be alternated at each layer by layout arrangement A and B.

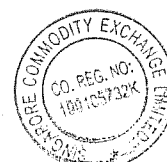


Layout A



Layout B

- 3) During the process of stuffing bales into the pallet unit, the unit should be held in place with suitable clamps.
- 4) The use of hooks to assist in stuffing/handling bales into pallet units is strictly prohibited.
- 5) After pallet units are fully packed they should be dunnaged so that the rubber bales become even with the sides of the pallet unit and so that when the top is nailed on there is no void (empty) space between the top and the rubber bales.



b) Polythene Interlayer

Polythene Interlayer is to be used between each layer and should be of 0.08 mm thick maximum.

c) Polythene Interlining

Pallet units are to be lined on all sides; bottom and top with transparent polythene sheets with a thickness of 0.14 mm. Top covering should be of a single sheet and should extend fully over the top and hang at least 15.2 cm (6") down sides. Important: see addendum 3. The use of cardboard/chipboard for interlining is not acceptable.

6. **Strapping of pallet units**

For strapping of the unit, 4 steel straps are to be used vertically over sides of pallet unit as per drawing.

7. **Pallet unit markings**

In addition to special markings which may be required from time to time, the following marks are to appear on pallet units.

Top:

1. Keep dry — 7.6cm (3") minimum
2. Use spreaders — 7.6cm (3") minimum

On all four sides:

1. Scheme grade — 7.6cm (3") minimum
2. ( ) code designation — 7.6cm (3") minimum
3. Producer's name — 5.1cm (2") minimum
4. Destination — 5.1cm (2") minimum

Other marks on two opposite long sides:

1. Nett lbs/kilos — 5.1cm (2") minimum
2. Gross lbs/kilos — 5.1cm (2") minimum
3. Country of origin — 5.1cm (2") minimum

Other marks on one short side:

1. Pallet No. and Lot No. — 5.1cm (2") minimum
2. Keep Dry — 7.6cm (3") minimum
3. SS ( ) — 5.1cm (2") minimum

Other marks on remaining short sides:

1. Pallet No. and Lot No. — 5.1cm (2") minimum
2. Keep Dry — 7.6cm (3") minimum
3. ( ) — 5.1cm (2") minimum



8. **Colour code  
for pallet  
markings:** SMR/SIR/SSR/TTR etc. 20 — RED

#### **ADDENDUM 1**

##### **Sealing of Polythene Bags**

###### **Heat Sealing**

Care must be taken not to tear the Polythene when sealing bags. When using a hot iron Polythene welder, a piece of Cellophane Poly Tetra Fluro Ethylene film or grease proof paper must be used between the iron and polythene to prevent damage to the polythene. It is important to ensure that no cellophane film or any other sealing aid be left, stuck on to the polythene bag.

#### **ADDENDUM 2**

##### **Nailing of Pallet and Pallet Unit**

Nails are to be artificially rusted by exposure to air and moisture. This can be done by dipping the nails in water and then taking them out to air.

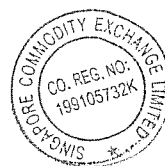
It is important that the wood of the pallet is dry before nails are driven in as a loosening of the nailed joint occurs during the drying of wood on account of wood shrinkage.

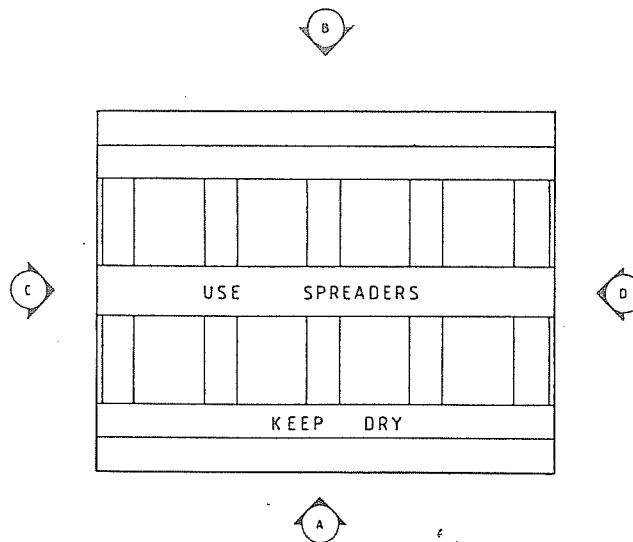
All nails should measure 6.4cm (2½") long with a diameter of between 0.28cm and 0.34cm (0.111 and 0.134 inches). Any excess protrusion should be bent (cleated) over. It is also important to ensure that the driven nails do not cause the wood to split.

#### **ADDENDUM 3**

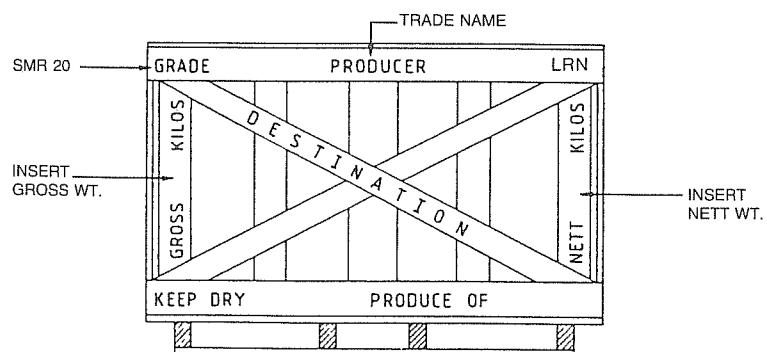
##### **Interlining Polythene**

Extreme care must be taken to avoid openings between polythene to provide maximum protection against water contamination. It is most important that an additional one-piece top covering single sheet (0.14 mm) is used and should extend over the entire top surface to hang down a minimum of fifteen centimetres (six inches) on all sides. It has been experienced that even the best packed units are not water proof and it is necessary to ensure that no pallets are left at any time in the open where they can be rained or water splashed on.

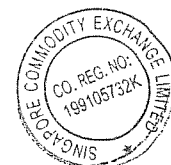




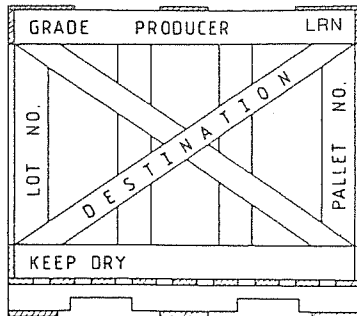
**TOP PLAN**



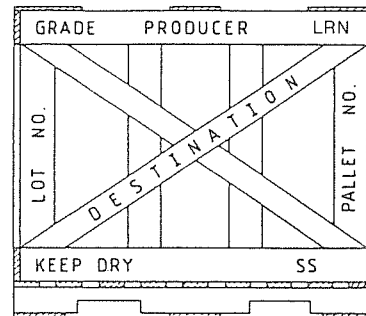
**ELEVATION**  &   
(SIMILAR MARKINGS ON BOTH SIDES)



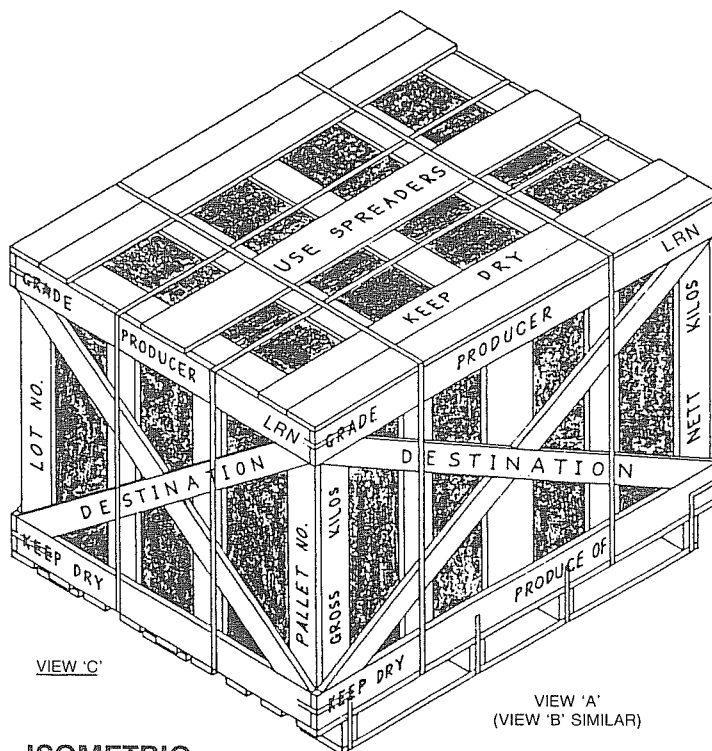
**LRN = Lot Registration Number**



**SIDE ELEVATION** C



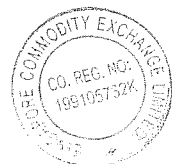
**SIDE ELEVATION** D



**VIEW 'C'**

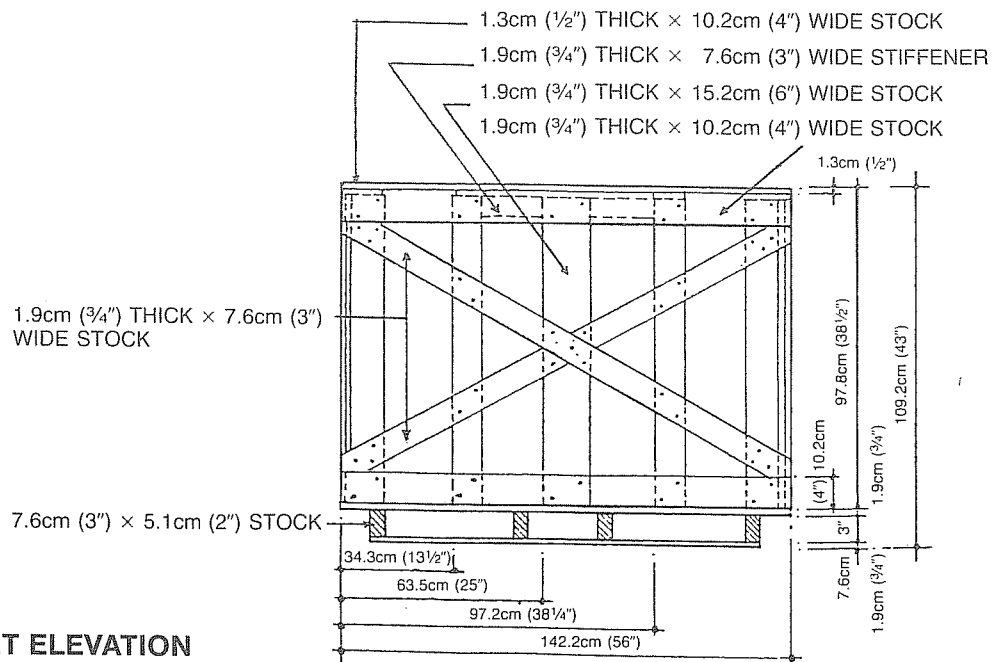
**VIEW 'A'**  
(VIEW 'B' SIMILAR)

**ISOMETRIC**

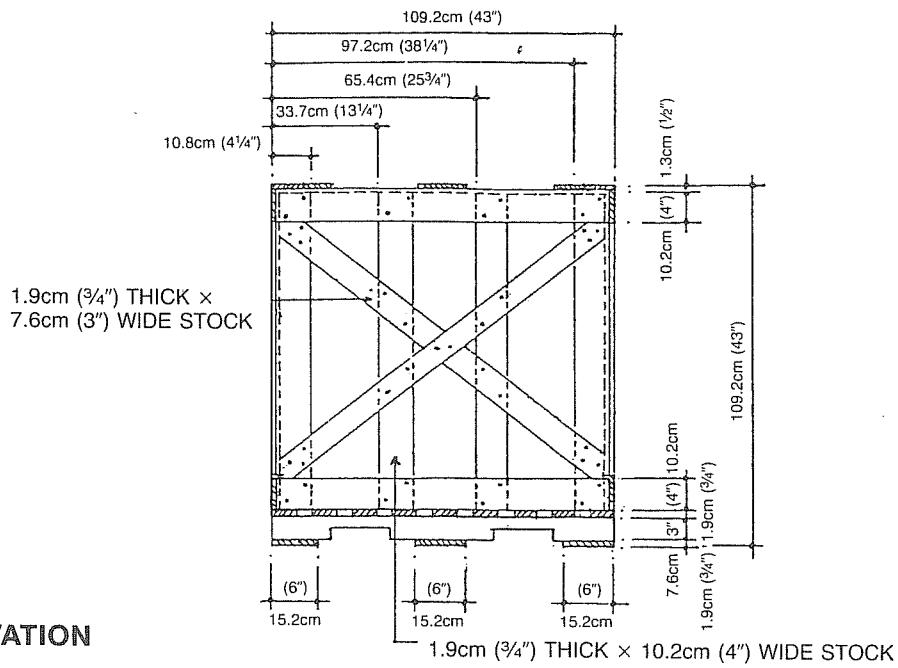


TIMBER 1.26 TONNES PALLET	
PALLET MARKINGS	

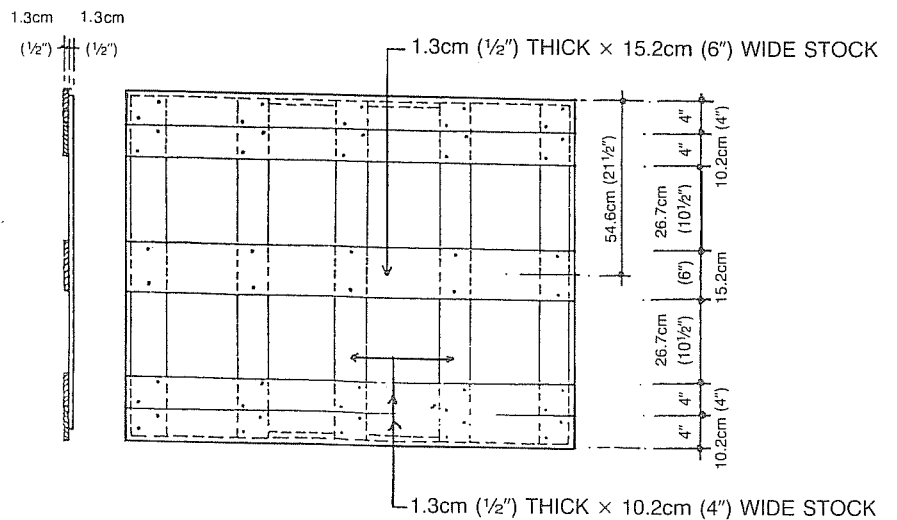
**FRONT ELEVATION**



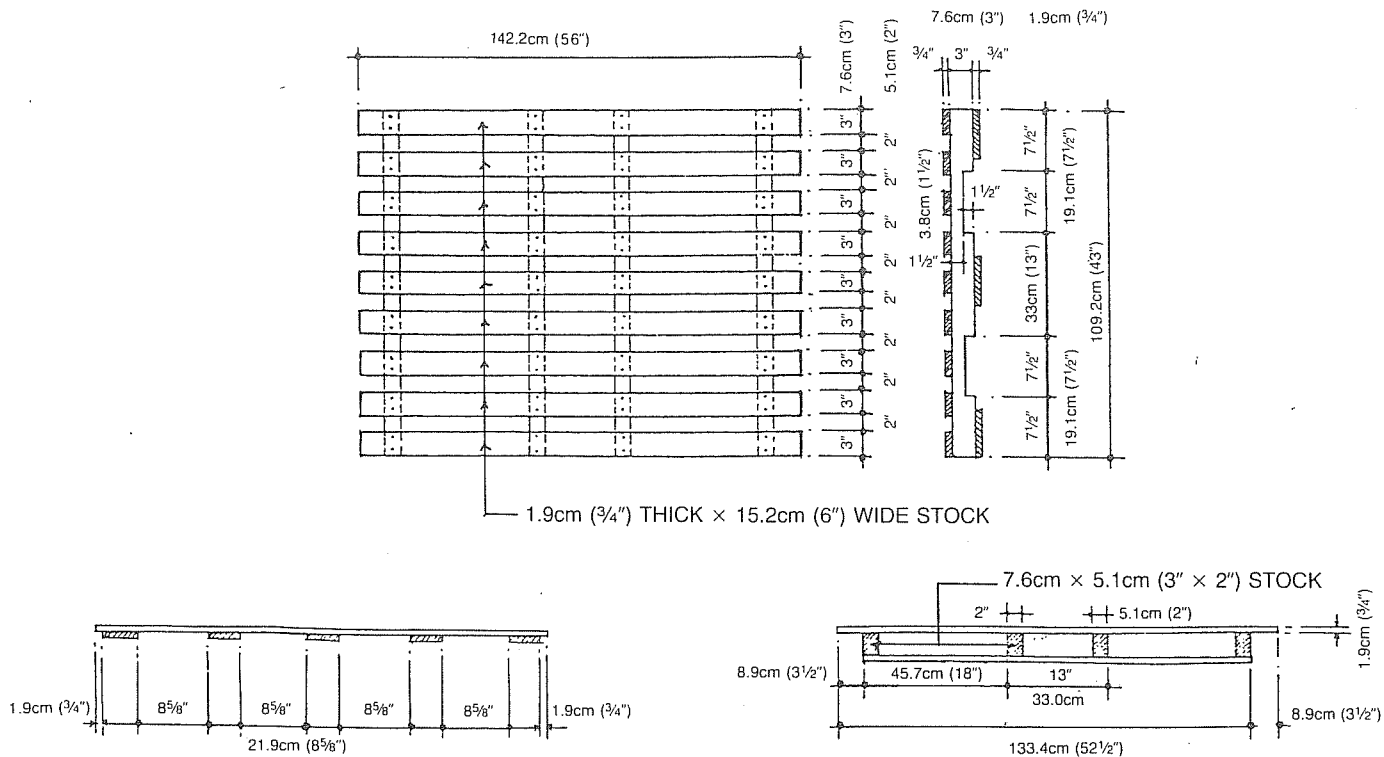
**SIDE ELEVATION**



**TOP ELEVATION**

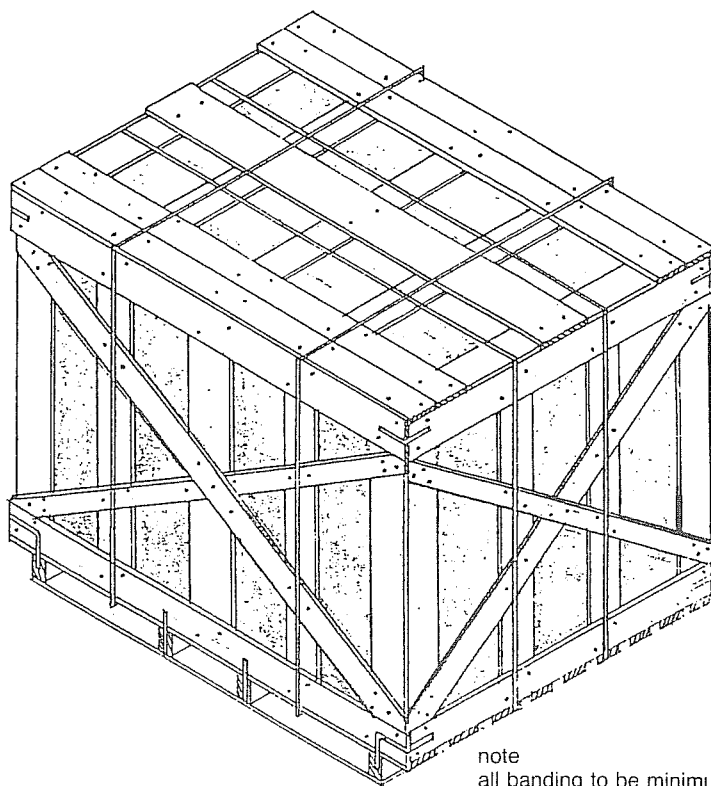




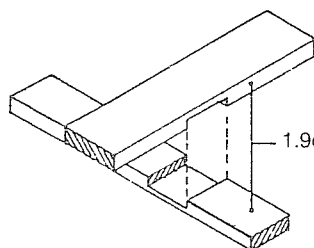


**COVER**

**BASE**



note  
all banding to be minimum 1.6cm (5/8")  
wide x 0.06cm (0.023") thick painted  
or coated steel



1.9cm (3/4") THICK x 7.6cm (3") WIDE STOCK

**DIAGONAL JOINT**

**1.26 TONNES PALLET**

SCALE

DATE