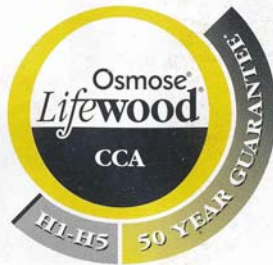


HOW TO BUILD
TREATED PINE
PINE DECKS



DIY BROCHURE OSM21



DESIGN

1 PLAN

Draw the deck out in plan on graph paper and to a scale (e.g. 1 m = 5 squares). Use a grid of 2.3m or less.

2 FOOTINGS

Mark the points on the grid where lines intersect. These are the centres of the posts. Footings occur at these points. Holes to take the steel post brackets which are set in concrete are dug to 450mm x 450mm x 300mm deep.

3 POSTS

Post sizes, according to Table A1, for a height above ground of 1.8m are 100 x 100 pine treated to H-5. The deck must not be higher than 3 metres from the ground.

4 BEARERS

Bearer sizes, according to Table A2, for spacings greater than 1.8 metres and less than 3.6 metres in treated pine. 200 x 75 will give a 2.4 metre span or post spacing.

5 JOISTS

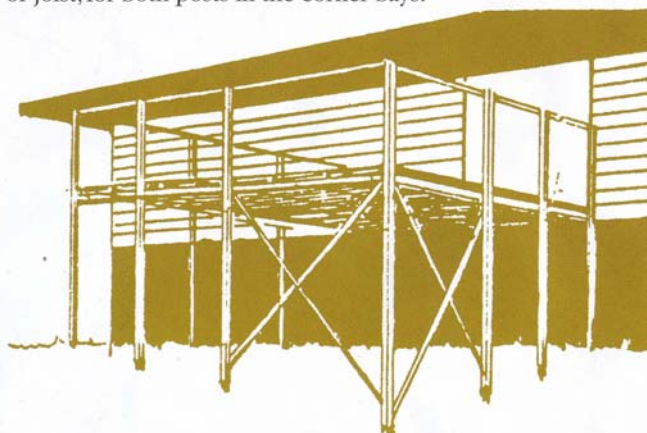
Joist sizes, according to Table A3, for spacings of 450mm in treated pine, 150 x 50 will give a 2.7m span or bearer spacing.

6 DECKING

For floor boards use treated pine treated to H3.

7 BRACING

Bracing must be located on at least one corner of the deck, in two directions. Brace from post to post with double diagonals. (This means that at least four individual bracing members are necessary). For decks up to 3m high use 100 x 50mm boards. For decks below 1.8m high use 75 x 50mm braces. For decks below 1.3m high, brace from the bottom of the post to the mid-span of the bearer or joist, for both posts in the corner bays.

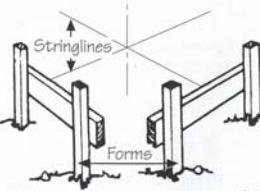


CONSTRUCTION

1 SETTING OUT

Set out on the ground with a string line, tape and level. Locate the corners of the deck and then measure the diagonals to ensure that the structure is square. Diagonals should be equal.

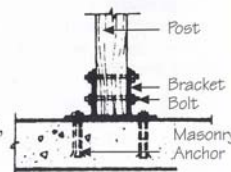
Use a line level to get a level string line. Measurements along this line will give the positions of posts. Vertical measurements from these points will give the height above ground. Peg these positions and make a note of their heights.



2 FOOTINGS & POSTS

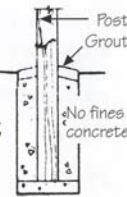
2 Bracket on concrete

Posts are bolted to the steel post brackets when the concrete is at least four days old. The bolts used should be 12mm, hex-headed, galvanized mild steel. Posts should be set in over-length so that a level string line can be run through to mark the level of the bearers.



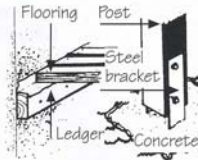
Posts in ground

Ensure that all posts which are to be set in ground for structural support are treated to a suitable level, (H-5). Post holes should be a minimum of 450mm - 500mm deep to ensure adequate support of the deck. (Depth required is dependent on the height of the deck being supported and the soil type. Consult local council requirements to ensure proper support.)



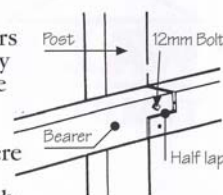
3 LEDGERS

Where an adjacent structure is sufficiently substantial to bear the loading, a ledger can be bolted to it with masonry expanding bolts or coach screws or with hex-bolts, depending upon the situation. The ledger should be 100 x 50mm and must be fixed at a minimum of 600mm centres.



4 BEARERS

When posts are in position, lay out the bearers on the ground beside the posts to which they relate. Mark the positions of bolt holes on the bearers so that they correspond with the centres of the posts. Cut the ends of the bearers to take a half-lap joint as shown, where necessary. Clamp the ends of the bearers on the posts at the correct level and drill through the post via the hole already made in the bearer. Bolt up the bearer with 12mm galvanized bolts using 25mm washers. When the bearer comes to the end of the deck put it up over-length and cut it off flush with the post. You may choose to make 12mm deep checks into the posts to house in the bearer.



5 JOISTS

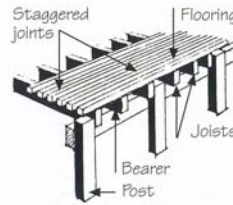
Mark the position of the joists on the bearers using a string line and tape measure. Joists must abut posts at edges. Joists to be skew nailed to bearers.

Lay the joists over-length and trim off afterwards.



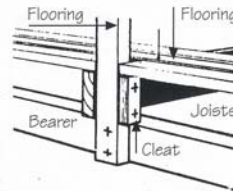
6 FLOORING

Lay the first length of decking level with the ends of the joists and nail into place. Nail sizes shall be as specified in Table A4. Each board should have two nails at every joist and kept at least 12mm in from the board edges. Ends and joins of boards should be pre-drilled prior to nailing to avoid splitting and nails should be punched. Make a spacer block 5mm wide for seasoned decking and 3mm wide for unseasoned decking. Use this to ensure an even spacing of board is maintained and check regularly that the boards are running true by measurement from the first board. Lay boards over length, mark cut with a string-line and trim them all off in one cut. NOTE: Tongue and groove flooring should not be used in weather exposed situations.



7 BALUSTRADES

Handrails and balustrades should be fitted when the decks heights above ground, exceeds 915mm. The height of the handrail should be not less than 865mm above the floor surface. This will need to be considered when determining the length of the post. Intermediate support posts may be used to reduced handrail spans. These are 50 x 75mm and are bolted to the bearers or joists with two 8mm galvanized cuphead bolts with washers. Rails are 75 x 38mm and are uprights with galvanized bolts and washers.



8 FINISHING

Finishes are important to preserve the life of the timber.

BEFORE FIXING: For Stain Finishes: Give all surfaces of decking and top of floor joists one coat of water repellent preservative, followed by the first coat of stain. NOTE: Some stains may not be compatible with water repellent preservatives. Seek stain manufacturer's advice before applying finish. For Paint Finishes: Give all surfaces of decking and top of floor joists one coat of quality oil base wood primer, followed by the first coat of the selected decking paint.

End Sealing: All cut ends should be sealed with stain or primer prior to being fixed in position.



9 MAINTENANCE

The long term performance of timber decking in weather exposed situations is dependent on regular and effective maintenance. The frequency of maintenance will depend on the type of finish and the degree of exposure of the deck. Before re-coating, the decking should be thoroughly cleaned and the gaps between boards, particularly over floor joists, cleared of debris.

Re-coating with stains or paint should be carried out in accordance with the stain/paint manufacturers specifications. The over watering of pot plants standing on timber decks should be avoided. It is recommended that pot plants be placed in drip trays standing on small timber cleats.

ALTERNATIVES

The following tables give a range of alternative sizes for different spans and lengths. If you do not wish to use the deck described on the other side of this sheet, then work through the tables below.

A. THE FOLLOWING TABLES PROVIDE SIZES AND SPANS FOR TIMBER MEMBERS IN DECKS TO BE USED FOR DOMESTIC APPLICATIONS.

TABLE A1: POSTS

| SPECIES | STRESS GRADE | POST SPACING UP TO (m) | SIZE OF POSTS (mm) FOR HEIGHTS OF (m) | | | |
|--------------|--------------|------------------------|---------------------------------------|---------|---------|---------|
| | | | 1.2 | 1.8 | 2.4 | 3.0 |
| TREATED PINE | F5* | 3.6 | 100x100 | 100x100 | 100x100 | 125x125 |

*Sizes for treated softwood rounds: up to 2.4 high - 100mm min. dia; over 2.4 to 3.0 - 125mm min dia.

TABLE A2: BEARERS

| SPECIES | STRESS GRADE | SPACING OF BEARERS UP TO (m) | SIZE OF BEARERS (mm) FOR SPANS OF (m) | | | | | | | | |
|--------------|--------------|------------------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|----|
| | | | 1.2 | 1.5 | 1.8 | 2.1 | 2.4 | 2.7 | 3.0 | 3.6 | |
| TREATED PINE | F5* | 1.8 | 100x75 | 150x75 | 150x75 | 150x75 | 200x75 | 200x75 | 250x75 | 250x75 | NS |
| | | 3.6 | 150x75 | 150x75 | 200x75 | 250x75 | 250x75 | 300x75 | 300x75 | NS | |

TABLE A3: JOISTS

| SPECIES | STRESS GRADE | SPACING OF JOISTS (mm) | SIZE OF BEARERS (mm) FOR SPANS OF (m) | | | | | | | |
|--------------|--------------|------------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| | | | 1.2 | 1.5 | 1.8 | 2.1 | 2.4 | 2.7 | 3.0 | 3.6 |
| TREATED PINE | F5 | 450 | 100x38 | 100x38 | 150x38 | 150x38 | 150x38 | 175x50 | 200x38 | 250x38 |
| | | 600 | 100x38 | 125x50 | 150x38 | 150x50 | 175x50 | 175x50 | 225x38 | 250x50 |

TABLE A4: SHOT EDGE DECKING

| SPECIES | MIN GRADE | THICKNESS (mm) | ALLOWABLE SPAN | NAILING REQUIREMENTS |
|--------------|--------------------------|----------------|----------------|--------------------------|
| TREATED PINE | STANDARD GRADE (AS.1782) | 22 | 450 | 50 x 2.8 Galv Flat Head |
| | | 35 | 600 | 65 x 3.15 Galv Flat Head |
| | F5 (AS.2858) | 35 | 600 | 65 x 3.15 Galv Flat Head |
| | | 45 | 900 | 75 x 3.15 Galv Flat Head |

NAILING INSTRUCTION:

All nails to treated softwood joist should be deformed ring shank nails. Drill holes if necessary at 80% of nail diameter.

TIMBER CARE

Cutting, notching or boring may expose untreated heartwood. A liberal coating of **PROTIM RESEAL** is recommended to restore the protective envelope. For more details refer to the **PROTIM TimberCare** product literature. The appearance and surface water repellency of Osmose **Lifewood** and **Lifewood Plus** treated timber can be enhanced periodically with **PROTIM RainCoat UV Plus**.

CLASSIFICATIONS FOR TREATED TIMBER

H1 Hazard Level

Exposure - inside above ground. **Conditions** - completely protected from the weather and well-ventilated. **Biological Hazards** - insects other than termites (i.e. lyctid or anobiid). **Uses** - framing, flooring, furniture, and interior joinery.

H2 Hazard Level

Exposure - inside above ground. **Conditions** - completely protected from the weather and well-ventilated. **Biological Hazard** - borers including termites. **Uses** - framing, flooring, furniture and interior joinery.

H3 Hazard Level

Exposure - outside above ground. **Conditions** - subject to periodic moderate wetting and leaching. **Biological Hazard** - moderate decay, borers and termites. **Uses** - weatherboard, fascia, window joinery, framing and decking.

H4 Hazard Level

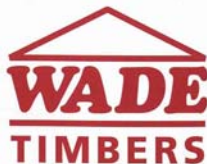
Exposure - outside in ground. **Conditions** - subject to severe wetting and leaching. **Biological Hazard** - severe decay, borers and termites. **Uses** - fencing, greenhouses, pergolas and landscaping timber (non-critical structures).

H5 Hazard Level

Exposure - outside in ground contact with or in fresh water. **Conditions** - subject to extreme wetting and leaching and/or where the critical use requires a higher degree of protection. **Biological Hazard** - very severe decay, borers and termites. **Uses** - retaining walls, piling, house stumps, building poles, cooling tower fill.

H6 Hazard Level

Exposure - marine water. **Conditions** - subject to prolonged immersion in sea water. **Biological Hazard** - marine wood borers and decay. **Uses** - boat hulls, marine piling, jetty cross bracing, landing steps etc.



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