

Introduction

Seasoned softwood is an ideal timber for a wide range of framing applications, including roof, wall and floor framing. This data sheet provides recommendations which will maximise the performance of seasoned softwood in domestic framing applications.

While these recommendations are specifically relevant to Hoop, Slash, Carribbean or Radiata Pine, the principles are equally applicable to other low durability softwood species.

Seasoned Softwood Selection

Grading Methods:

- Visual Stress Grading ('F' Grades)
- Machine Stress Grading (MSG) ('F' or 'MGP' Grades)
- Proof Grading (PG or "Proof") ('F' Grades)

Stress Grades:

- F4, F5, F7, F8, F11
- MGP10, MGP12, MGP15

Joint Strength:

- Softwood containing no pith JD4
- Softwood with pith included JD5

Standard Sizes:

STANDARD SIZES - SEASONED						
mm	70	90	120	140	190	240
35	X	X	X	X	X	X
45	X	X	X	X	X	X

Standard Lengths:

- The standard available lengths in metres are:-
2.4, 2.7, 3.0, 3.6, 4.2, 4.8, 5.4, 6.0

Design Information:

- AS 1684 - Residential timber-framed construction

Quality Assurance:

Third party audit programs exist which monitor compliance with appropriate grade specifications. Softwood produced under these programs can be identified by brands incorporating relevant certification marks.

Safe Working

Working with timber produces dust particles. Protection of the eyes, nose and mouth when sanding, sawing and planing is highly recommended. Refer to tool manufacturers for safe working recommendations for particular items of equipment.

Disposal of Offcuts and Waste

As with all treated timber, do not burn offcuts or sawdust. Preservative treated offcuts and sawdust should be disposed of by approved local authority methods.

Fasteners

Recommended nails for seasoned softwood framing are:

- For fixing into side grain -
 - 75 mm x 3.75 mm deformed shank (ring or annular), flat head, hand nailed.
 - 75 mm x 3.05 mm deformed shank (ring or annular), flat head, machine nailed or 90 x 3.33 coated shank.
- Fixing into end-grain -
 - 100 mm x 3.75 mm plain shank, flat head, hand nailed
 - 90 mm x 3.3 mm coated shank, flat head, machine nailed
 - 90 mm x 3.3 mm deformed shank, flat head, machine nailed.

Other forms of fasteners may also be used. Nailplates, framing anchors, bolts and metal strapping are suitable provided normal attention is given to edge and end distances, and spacing of fasteners.

Where preservative treated softwood is used in weather exposed situations, all fasteners should be hot dipped galvanised, monel, silicon bronze or stainless steel.

Where not weather exposed and not subject to wetting, standard steel nails are satisfactory.

On-site Storage and Protection

After delivery and prior to use, packs of seasoned softwood should be adequately protected from moisture by keeping them in impermeable wrapping as supplied. Timber delivered unwrapped should be covered by waterproof sheeting and stored level, approximately 150 mm off the ground on bearers placed not more than 600 mm apart.

After the softwood has been used in the framing, roof covering should be completed as soon as possible to provide adequate weather protection. Long term exposure may cause degrade.

Ventilation/Ground Clearance

Roof spaces, sub-floor spaces and external wall cavities should all be ventilated. The minimum ventilation requirements for a softwood floor frame directly over ground is 6000 mm² clear area per metre length of external wall. For T&G floors, see also TDS 11. Minimum distances from ground to any softwood member in the floor should be 400 mm. If the timber has been treated to H3 level or an approved impervious ground cover is provided and no access is required for termite inspections, then a minimum distance of 150 mm is allowed if adequate ventilation is provided. See also TDS 12 Termite Protection.

Ventilation in roof spaces can be achieved through vents in gable ends or soffits. Ample roof space ventilation should be provided in the vicinity of any venting system which exhausts water vapour from bathrooms and kitchens into roof spaces.

Termite Protection

All buildings should be adequately protected from termites (white ants) by the use of chemical or physical barriers described in Australian Standard AS 3660.1. Regular maintenance and inspection of these barriers are essential to ensure the barriers remain effective. In slab on-ground buildings in particular, it is essential that the ground line - floor line difference is maintained at a minimum of 225 mm and that weep holes are regularly inspected for evidence of termite activity. Softwood framing is also readily available treated to a H2 level to make it termite resistant. For further information refer to Timber Queensland Technical Data Sheet 12.

Where physical inspection of sub-floor spaces is a required part of termite protection, the minimum height from ground to lowest framing member shall be 400 mm.

Sarking

All windows, external doorways, and any other breaks in the external wall (e.g. meter boxes), should be effectively flashed and framing below window openings sarked down over bottom plates. Corner studs should be effectively sarked for the full height of the wall. Where framing is used under a cladding material that does not provide a permanent weatherproof seal (such as brick veneer, unsealed fibre cement, or timber cladding where required by Technical Data Sheets 3 or 5) sarking should be used throughout in accordance with the sarking manufacturers recommendations. Only vapour permeable sarking should be used behind timber cladding.

Flashing or Damp Proof Course (DPC)

Flashing should be used in corners within showers and any joints in sheeting within this area should be flashed or sealed to prevent moisture penetration. Breaks in the sheeting which are also likely to provide entry points for moisture should be adequately flashed or sealed, e.g. around plumbing protrusions.

DPC's shall be provided under non-preservative treated external bottom plates where the edge of the slab is not protected from weather, refer Figure 2.

Hoop Pine (*Araucaria cunninghamii*)

Where untreated hoop pine framing is not fully enclosed in construction in coastal areas from Bundaberg south to the Queensland/New South Wales border, e.g. in sub-floor framing to suspended floors or in roof framing where soffits are not lined, a protective film finish, e.g. paint or preservative solution should be applied to prevent attack by the Queensland pine beetle.

Weather Exposed/High Hazard Uses

Where the softwood framing is to be exposed to the weather but not in ground contact the softwood should be preservative treated. The recommended level of treatment is H3. Where water-borne preservative treatment is applied, the framing should be seasoned after treatment.

Examples where treatment would be required are:-

- (i) Floor joists which extend beyond the building envelope.
- (ii) Studs and bottom plates which are exposed to the weather.
- (iii) Where roof members extend beyond the protective covering to form a pergola.
- (iv) Sub-floor framing closer than 400 mm to the ground.

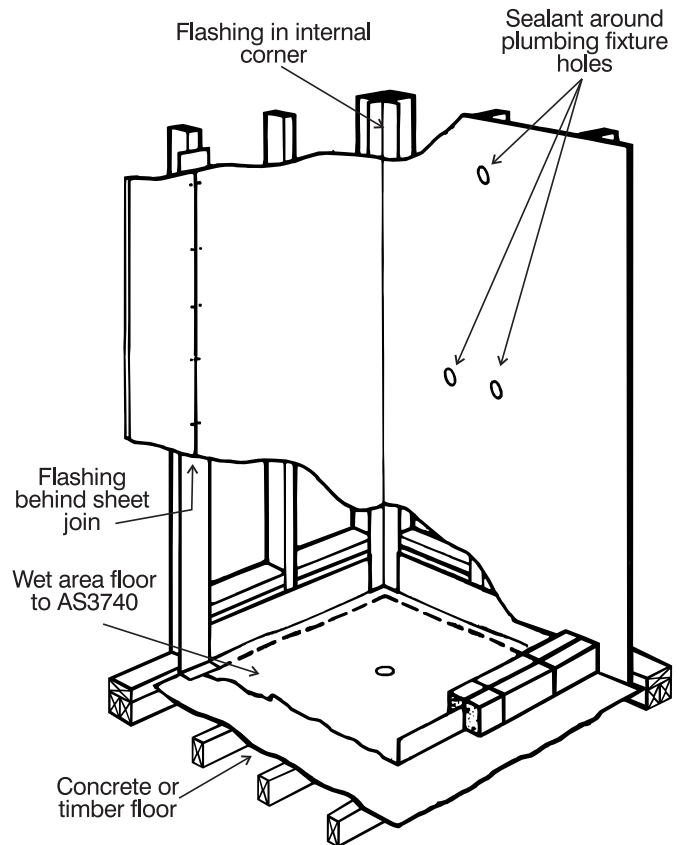


Figure 1. - Wet area details

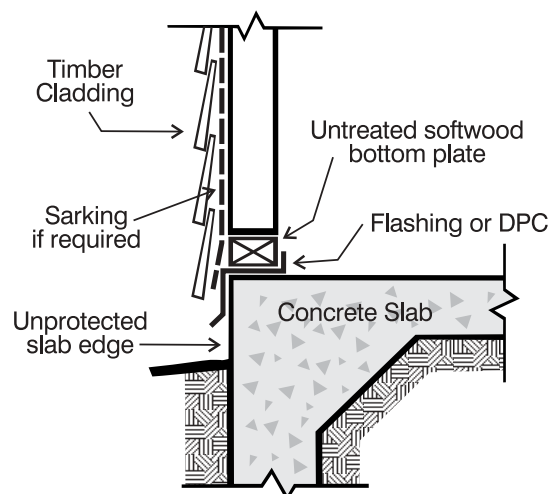


Figure 2. - Timber Cladding



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