

Unseasoned NZ Plantation Grown Douglas Fir (Oregon)

Stress Grades F7

Products Installation Requirements

Performance Statement

Where used and installed in accordance with the following requirements, Thora Douglas fir framing will satisfy the performance requirements of the National Construction Code – Building Code of Australia (NCC – BCA), and AS 1684.2 and AS 1684.3 – Residential timber framed construction.

Product Description

Intended use

Thora Douglas fir framing is suitable for use in buildings in internal or weather protected situations. It is also suitable for short term, non-permanent weather exposed applications. It is not suitable for long term weather exposed structural applications such as for deck construction.

Moisture Content

Thora Douglas fir framing will be supplied with a moisture content greater than 15%.

Appearance

Thora Douglas fir framing will be supplied with a circular sawn finish.

As Thora Douglas fir framing is supplied unseasoned, some seasoning checks may develop from time of production and as the timber dries in service.

Product Identification

Products supplied will be identified on the accompanying invoices and delivery dockets.

Stress Grades

Thora Douglas fir framing in the stock sizes given below is visually stress graded in accordance with AS 2858 – Timber – Softwood – Visually stress graded for structural purposes, to achieve a stress grade of F7.

Where it is required to re-saw or machine stock sizes to alternative dimensions then the original grade of stock sizes may not apply.

Sapwood and Preservative Treatment

Thora Douglas fir framing may contain sapwood as permitted by AS 2858. Unless specifically ordered otherwise, all Thora Douglas fir framing will be supplied without any preservative treatment.

Timber Species and Properties

Some basic properties for Thora Douglas fir framing are given in the table below:

PROPERTY	Unseasoned Douglas fir
Strength Group	S6
Joint Group	J4
Density (unseasoned) (kg/m³)	710
Density (12%MC) (kg/m³)	480
Tangential Shrinkage (%)	4.0
In – ground durability Class (AS 5604)	Class 4
Above ground durability class (AS 5604)	Class 4
Bushfire resistant (AS 3959)	No
Termite resistant (AS 3660.1 and AS 5604)	No
Lyctid Susceptibility (AS 5604)	Not susceptible

Sizes and Tolerances

Thora Douglas fir framing is available in the following cross-sections and lengths:

At the time of manufacture, Thora sawn Douglas fir framing will be produced within the following X-section tolerances:

Depth -4 mm, +2 mm,
Breadth -4 mm, +2 mm

As timber dries from manufacture to and including in-service, shrinkage will occur and should be allowed for.

Width/Depth (mm)	Thickness (mm)					Readily Available Max Length (mm) *
	25	38	50	75	100	
75	-	X	X	-	-	All sizes available in pack or piece lengths of 6.0m
100	X	-	X	X	X	
150	-	X	X	-	-	
200	-	-	X	X	X	
250	-	X	X	-	X	
300	-	-	X	-	-	

Packaging

Packs of Thora Douglas fir framing will be supplied on gluts, covered with plastic and strapped with corner edge protection.



Design and Installation Requirements

Design

Thora unseasoned structural Douglas fir framing is supplied in nominal sawn dimensions. AS 1684.2 and AS 1684.3, which are primary referenced documents under the NCC-BCA, and therefore ‘deemed to satisfy’, include span tables for the sizes and stress grade available.

Durability and Preservative Treatment

Thora Douglas fir framing where used for construction purposes, shall be used in accordance with Construction Timbers in Queensland (CTIQ). (i.e. generally in weather protected situations). CTIQ can be accessed here <http://era.daf.qld.gov.au/id/eprint/3623/> or a digital version ‘Qtimber’ here <https://qtimber.daf.qld.gov.au/>

Construction in Bushfire Prone Areas

Where used in designated bushfire prone areas, Thora Douglas fir framing shall comply with the requirements of AS 3959 – Construction in Bushfire Prone Areas. Guidance on use of timber in bushfire prone areas is provided in Wood Solutions Design Guide 04, Building with timber in bushfire prone areas, including installation which can be accessed here.

Termite Management

Termite management of timber structures shall be in accordance with the NCC-BCA and AS 3660.1 – Termite management.

Installation and Building Practice

Where used in residential construction, Thora Douglas fir framing shall be installed in accordance with the requirements of AS 1684.2 and AS 1684.3 with respect to building practice, housing, notching, member support, connections, bracing and tie-down etc.

Moisture Movement (Shrinkage)

Thora unseasoned Douglas fir framing can be expected to shrink as its moisture content reduces. For unseasoned Douglas fir, an average shrinkage rate of approximately 4% should be assumed. Allowances should be made for shrinkage particularly where:

- timbers of different shrinkage characteristics are used together, or
- where unseasoned timber is used in conjunction with seasoned timber, steel or masonry.

In these instances, well accepted standard building practices for unseasoned timber should be adhered to, particularly the allowance of suitable clearances between brick sills and windows, design of eaves linings, design of split levels and detailing around doors.

Where it is not practical to allow for shrinkage, seasoned timbers should be used.

Refer to AS 1684.2 and AS 1684.3, Appendix E, for guidance regarding shrinkage recommendations.

Storage

Thora Douglas fir framing may be stacked on the ground on evenly levelled gluts spaced at 1200 mm max and a minimum of 100 mm clear of the ground or any water ponding. The top, sides and ends of packs (not the underside) should be covered with impervious sheeting or plastic and should be kept covered until use.

Exposure to sun and rain may result in excessive distortion and other defects developing.



Weather Protection, Finishing and Maintenance

Unseasoned hardwood framing will equilibrate (dry out) until it reaches an equilibrium moisture content to that of the environment in which it is installed. Typically, around 12% for protected situations and 15% in well ventilated above ground weather exposed situations. This may take in excess of 6 months depending upon the thickness of the timber. As the timber dries, it will shrink, and seasoning checks may develop.

To minimise the potential for degrade in timber subjected to full sun exposure, timber should be primed all round with a quality pale coloured alkyd oil-based primer or pale coloured oil-based stain. Top coats, where required, should be applied and maintained in accordance with the finish manufacturer's instructions.

Safe Working

Working with timber produces dust particles. Protection of the eyes, nose, mouth and hearing 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

Offcuts and waste from Thora Douglas fir framing should be disposed of by approved local authority methods.

