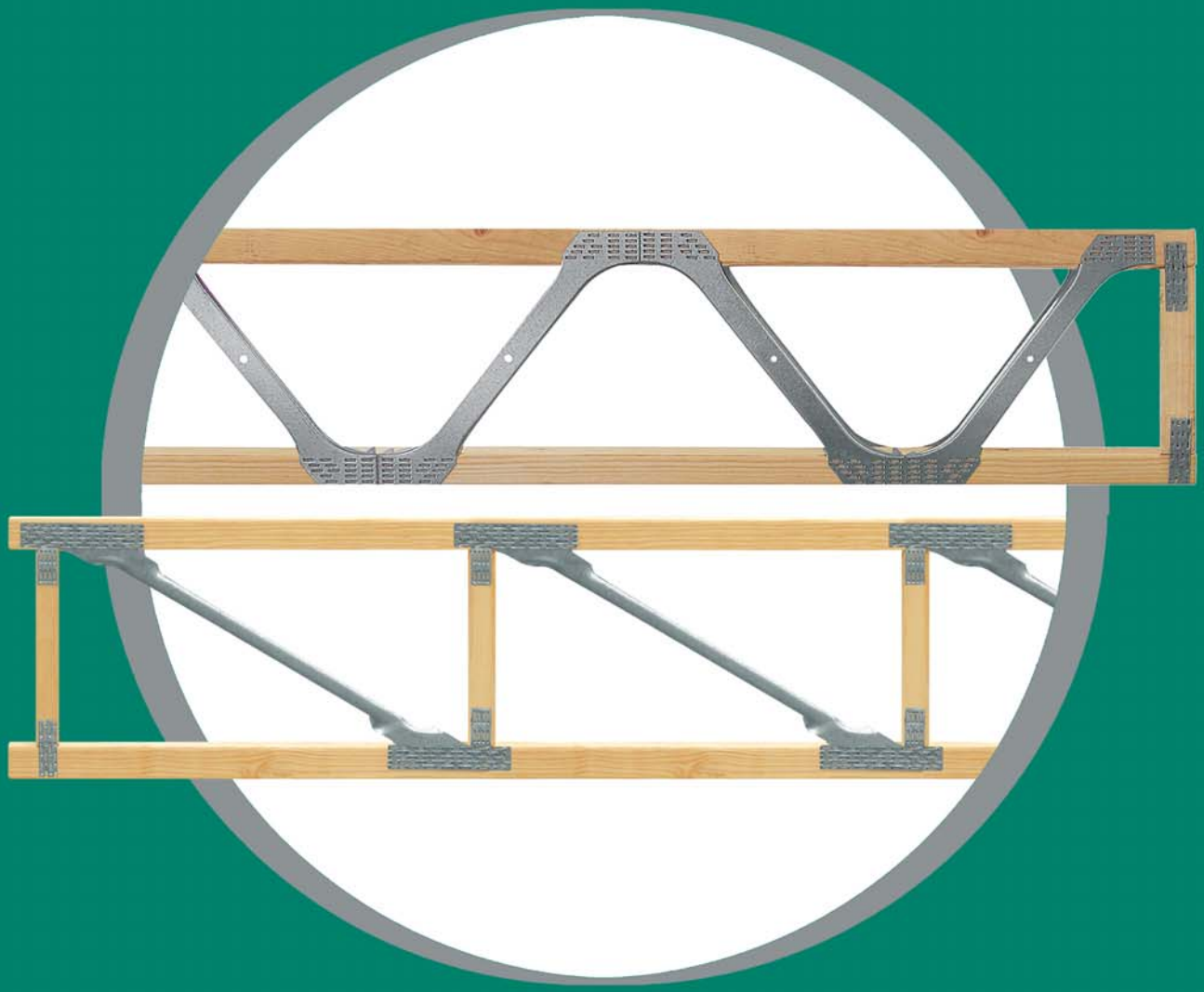
MULTINAIL

Parallel Chord Trusses

MultiStrut & SteelWood Floor Joists



On Site Installation Guide

PARALLEL CHORD TRUSSES
On Site Installation Guide

1. INTRODUCTION

The information in this brochure covers Multinail engineered floor joists, known as MultiStrut Joists (MSJ) and SteelWood Joists (SWJ).

MSJ/SWJ's are designed to be part of a structural system that includes the bracing, flooring, ceiling, supporting structure and the connections between these elements. Until these elements are fully assembled, fixed and braced, the floor structure and the building will not have achieved its final strength.

2. SAFETY

To prevent injury and/or damage to the engineered components, anyone working with the engineered structural components must exercise common sense and a large degree of caution during the construction phase. Do not load joists until all bracing has been completed.

3. CHECK FIRST

Before MSJ/SWJ's are erected they must be checked to ensure that they comply with the specific requirements of the job, i.e. span, depth and number off.

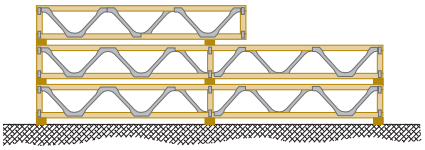
The support of additional loads (eg; water beds, spa baths) demands that the MSJ/SWJ's are designed for these unusual loads. Look for special markings or stickers on the joists indicating extra supports, special loads or other requirements.

Wall frames must be properly constructed and designed according to AS1684 to support the MSJ/SWJ's and the associated roof, ceiling and floor loads.

The information contained in this brochure plus any supplementary information concerning MSJ/SWJ's must be fully understood before attempting installation.

4. TRANSPORT & STORAGE

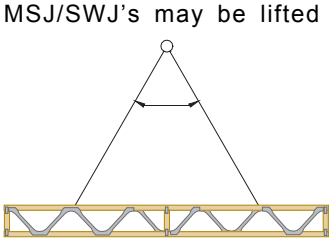
MSJ/SWJ's may be transported either vertically or horizontally provided that in either case they are fully supported. No excess stress should be placed on any part of a MSJ/SWJ by tie down straps, chains or banding and, where necessary, "right angle" protectors should be used to avoid damage.



Bundles (or individual joists) should be stored on a dry, solid, flat surface. Where MSJ/SWJ's must be stored on open ground, a dry area must be selected and the joists held flat by supports under every third panel point. They must be kept dry while awaiting erection.

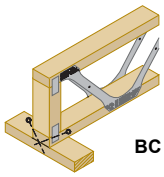
5. LIFTING

MSJ/SWJ's may be lifted in single units or in packs. Care should be taken to avoid twisting, bending and dropping, or knocking against the frame. Slings should always be attached to the timber chords where a panel point occurs.

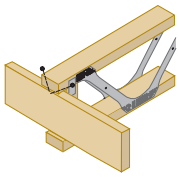


6. BEARING CONDITIONS

MSJ/SWJ's may be designed to bear upon their TC's or BC's or at some point in between. Special care should be taken to the intended bearing point when erecting.



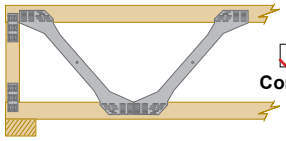
BC Bearing



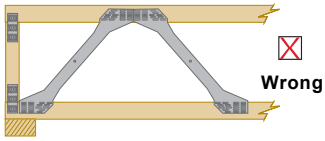
TC Bearing

7. CORRECT ORIENTATION

MSJ/SWJ's are specifically designed to have a top and a bottom and these must be correctly positioned during installation to ensure structural integrity is maintained.



Correct



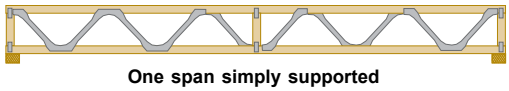
Wrong

8. LAYOUT

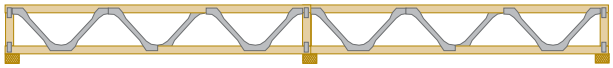
The MSJ/SWJ layout is determined prior to design and a copy is provided with this guide for you to follow. Please check with your fabricator if in doubt.

9. DESIGN NOTES

MSJ/SWJ's are usually designed to be supported at the ends only but in some specific cases may be designed to have three bearing points.

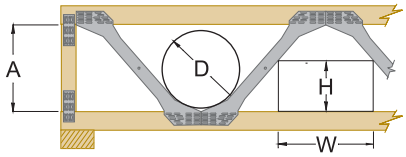


One span simply supported



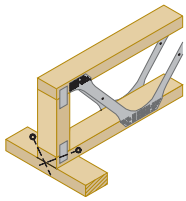
Two span continuous

10. SERVICE CLEARANCES



	MS200	MS250	MS300	MS400
A (mm)	125	160	210	323
D (mm)	120	150	200	280
H (mm)	W (mm)	W (mm)	W (mm)	W (mm)
50	280	300	330	500
100	140	200	250	410
150	N/A	70	170	330
200	N/A	N/A	70	250
250	N/A	N/A	N/A	170
300	N/A	N/A	N/A	70

11. FIXING TO TOP PLATE



Each MSJ/SWJ must be fixed onto its supporting plate/bearer with a minimum of 2 nails through the side of the chord into the top plate, beam, lintel or other timber member. Alternately a Multigrip may be used.

12. FLOORING MATERIAL

All MSJ/SWJ's are designed to have flooring material nailed, glued and/or screwed to the top chord. In general, sheet flooring must be applied to the manufacturer's specification but must generally comply with the following:

- The sheets must run perpendicular to the MSJ/SWJ.
- The end joints of the sheets must be made on a structural sub floor member, usually a MSJ/SWJ.
- Each sheet must be continuous over more than 1 span.
- T & G edge joining must be used - if not, a common nogging must be included.
- Fastener spacings at the ends of the sheets must be at a maximum of 150mm centres.
- Fastener spacings at the intermediate MSJ/SWJ must be at 200 or 300mm spacings depending on the material.

13. STRONGBACKS

Strongbacks are installed within the MSJ/SWJ's at right angles to the direction of the joists and are used to dampen the vibrations by increasing the stiffness of the floor system and reduce deflection by load sharing.

Strongbacks must be fixed to the vertical webs in each MSJ/SWJ with 2/3.15 x 75 mm nails.

MultiStrut Nominal Size	Strongback Size (same grade as chords of MSJ)	Alternate Strongback Size (one grade lower than chords of MSJ)
MS200	90 x 35	90 x 45
MS250	90 x 35	120 x 35
MS300	120 x 35	140 x 35
MS400	140 x 35	170 x 35

Strongbacks may be field spliced in accordance with Diagram 1

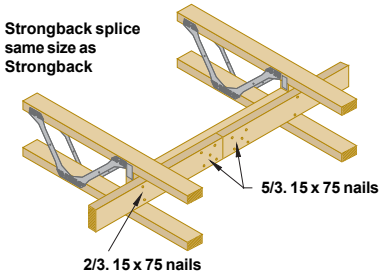


Diagram 1
Timber Splice to Strongback

Fix strongback with 2/3. 15x 75 nails as close as possible to top of bottom chord

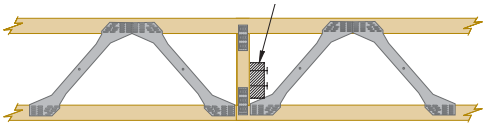


Diagram 2
Strongback Fixing

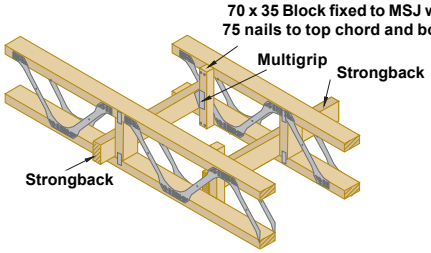


Diagram 3
Strongback Splicing at Change of Span

14. BRACING

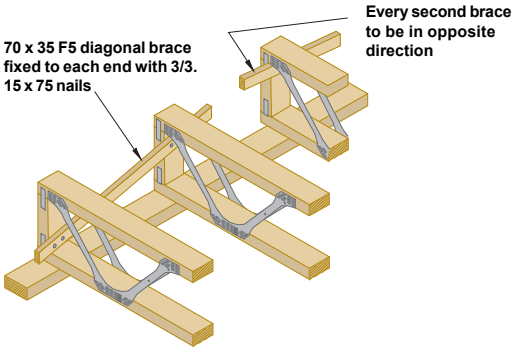
For standard houses, with a wind classification of N1 or N2, brace at all supports with Type 1 braces at 1800mm centres, Type 2 at 2400mm or as specified. This applies to internal and external bearing points.

For non-standard houses or houses with a wind classification of greater than N2, refer to your supplier for further information.

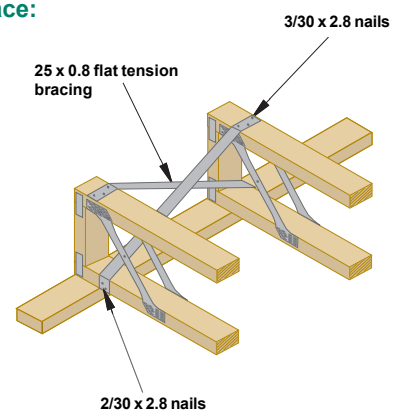
In all cases the bracing is to be distributed as evenly as possible throughout the house.

TYPE 1 BRACING UNITS

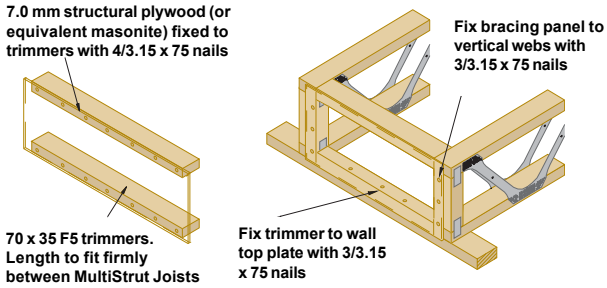
(a) Timber Diagonal Brace:



(b) Strap Brace:



TYPE 2 BRACING UNIT



15. SAFETY NOTES

MSJ/SWJ's are engineered structural components designed and manufactured for specific engineering conditions.

Timber must not be removed by sawing, drilling, notching from any part of the MSJ/SWJ as this may seriously impair its strength and lead to failure of the structure

Steel webs or steel connectors must not be removed, cut, drilled or bent as this may seriously impair the strength of the MSJ/SWJ and lead to failure of the structure.

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