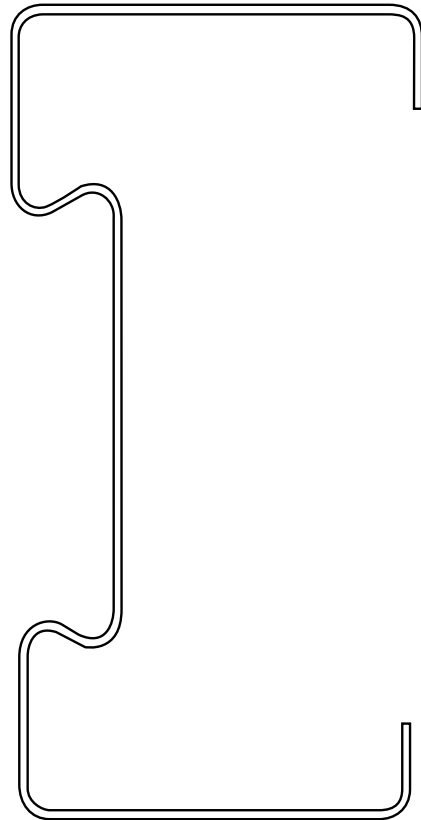


SUPRAFRAME[®]



DESIGN REFERENCE

75mm Open Stud System
W41N Wall Design



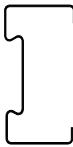
This document is to be used in conjunction with the BHP House Framing Customer Information Manual for SUPRAFRAME[®] Wall Framing System.

Specifications included in this document are subject to change without notice. Reference must be made to a controlled copy of the SUPRAFRAME[®] Construction Manual for current specifications.



BHP House Framing

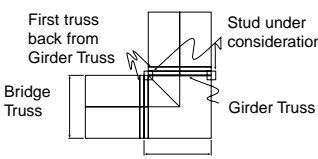
SHEET W41N

WALL DESIGN - Max Overhang 750mm			
Member	Truss Span	Wall Height 2400mm	Wall Height 2700mm
 Common Stud	8m	0.6 Open Studs @ 600mm c/c 1 row of nogging	0.6 Open Studs @ 600mm c/c 1 row of nogging
	10m	0.6 Open Studs @ 600mm c/c 1 row of nogging	0.6 Open Studs @ 600mm c/c 1 row of nogging
	12m	0.6 Open Studs @ 600mm c/c 1 row of nogging	0.75 Open Studs @ 600mm c/c 1 row of nogging
Jamb Stud (opening 900mm)		1 x 0.6mm Open Stud beside opening/max. 6m truss span	1 x 0.75mm Open Stud beside opening/max. 12m truss span
Jamb Stud (opening 2700mm)		Up to 12m truss span 2 x 0.6mm Open Studs beside opening	2 x 0.75mm Open Studs beside opening


NOTE: If plasterboard wall linings are to be used, maximum stud spacing is 600mm. 2. Truss spacing is 1200mm.

LINTELS		
Lintel Span (mm)	Max Truss Span (m)	
	Truss Spacing 1200mm	
	Endspan	Midspan
900	11 (12)	12 (12)
1200	9.9 (12)	12 (12)
1500	7.9 (9.7)	12 (12)
1800	6.6 (8.1)	12 (12)
2100	5.7 (6.9)	11.3 (12)
2400	4.9 (6.1)	9.9 (12)
2700	3.6 (4.4)	7.2 (8.8)

NOTE: 1. Figures for single (200 x 35 x 1.0) lintels appear first. Figures for single (200 x 35 x 1.5) lintels are bracketed.
2. For 280 x 35 x 1.5 single lintels, the maximum truss span is 12m for spacings up to 1200mm.
3. Use 0.75 top plate.

STUDS UNDER GIRDER TRUSSES					
	Total Area				
	10m ²	15m ²	20m ²	25m ²	30m ²
	2	(2) 2	(2) 2	(2) 2	(2) SHS

NOTE: 1. Total area = (bridge truss span x girder truss span)/4.
2. Figures are for 0.6 (0.75)mm stud thickness.
3. SHS – 75 x 75 x 2.5mm Square Hollow Section.

TOP PLATE				
	Common Stud Spacing (mm)	Truss Spacing (mm)		
		600	900	1200
	450	600	Truss Span (m)	Truss Span (m)
		12 (12)	10 (12)	7.0 (12)
		12 (12)	8.5 (12)	6.5 (10.5)

NOTE: Figures are for 0.75 (1.0)mm top plate thickness.


CONNECTIONS			
Truss Span (m)	8m	10m	12m
Top Plate/Stud	4 clinches per side	5 clinched per side	5 clinches per side
Bottom Plate/Stud	3 clinched per side	3 clinched per side	3 clinches per side

NOTE: 1. Use 0.75mm plate and 0.6mm stud.
2. 1200mm truss spacing.

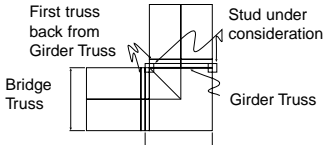
INTERNAL NON LOAD BEARING WALLS	
2400mm Wall Height	3600mm Wall Height
0.6mm Open Stud at 1000mm c/c	0.6mm Open Stud at 500mm c/c

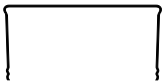
NOTE: It is permissible to interpolate within the table.

TILE W41N

WALL DESIGN - Max Overhang 750mm			
Member	Truss Span	Wall Height 2400mm	Wall Height 2700mm
 Common Stud	8m	0.6mm Open Studs @ 600mm c/c 1 row of nogging	0.6mm Open Studs @ 600mm c/c 1 row of nogging
	10m	0.6mm Open Studs @ 600mm c/c 1 row of nogging	0.6mm Open Studs @ 600mm c/c 1 row of nogging
	12m	0.6mm Open Studs @ 600mm c/c 1 row of nogging	0.6mm Open Studs @ 600mm c/c 1 row of nogging
Jamb Stud (opening 900mm)		1 x 0.75mm Open Stud beside opening/max. 6m truss span	1 x 0.75mm Open Stud beside opening/max. 12m truss span
Jamb Stud (opening 2700mm) Up to 12m Truss Spans		2 x 0.75mm Open Studs beside opening	2 x 0.75mm Open Studs beside opening
NOTE: 1. If plasterboard wall linings are to be used, maximum stud spacing is 600mm. 2. Truss spacing is 600mm.			

LINTELS		
Lintel Span (mm)	Max Truss Span (m)	
	Single Lintel	Double Lintel
900	12 (12)	12 (12)
1200	12 (12)	12 (12)
1500	11 (12)	12 (12)
1800	8.9 (10.8)	12 (12)
2100	6.3 (9.1)	12 (12)
2400	3.7 (6.3)	12 (12)
2700	2.3 (4.2)	9.2 (11.3)
NOTE: 1. Figures for single (200 x 35 x 1.0) lintels appear first. Figures for single (200 x 35 x 1.5) lintels are bracketed. 2. For (280 x 35 x 1.5) single lintels, the maximum truss span is 12m for spacings up to 1200mm. 3. Use 0.75mm top plate.		

STUDS UNDER GIRDER TRUSSES					
	Total Area				
	10m ²	15m ²	20m ²	25m ²	30m ²
	2 x 0.6mm Studs	1 SHS	1 SHS	1 SHS	1 SHS
NOTE: 1. Total area = (bridge truss span x girder truss span)/4. 3. SHS – 75 x 75 x 2.5mm Square Hollow Section.					

TOP PLATE			
 Common Stud Spacing (mm)	Truss Spacing (mm)		
	600	900	1200
	Truss Span (m)	Truss Span (m)	Truss Span (m)
450	11.5 (12)	7.5 (12)	5 (9)
600	10 (12)	6 (11)	4 (8)
NOTE: Figures are for 0.75 (1.0)mm top plate thickness.			

CONNECTIONS			
Truss Span (m)	8m	10m	12m
Top Plate/Stud	2 clinches per side	2 clinched per side	2 clinches per side
Bottom Plate/Stud	2 clinched per side	2 clinched per side	2 clinches per side
NOTE: 1. Use 0.75mm plate and 0.6mm stud. 2. 1200mm truss spacing.			

INTERNAL NON LOAD BEARING WALLS	
2400mm Wall Height	3600mm Wall Height
0.6mm Open Stud at 1000mm c/c	0.6mm Open Stud at 500mm c/c
NOTE: It is permissible to interpolate within the table.	

National Certificate of Registration of a Building Product

No. 960199

This is to certify that:

BHP SUPRAFRAME™ Wall Framing System

Manufactured by:

BHP House Framing
Lot 1 Russell Street
Emu Plains NSW 2750
Telephone: (047) 20 1900
Facsimile: (047) 20 1999

And described in:

Reference material	Reference No.	Date of publication
BHP SUPRAFRAME™ Wall Framing System Manual		
Section 1	Component Details - Issue 1, October 1995	
Section 2	System Documentation	
2.1	Design Wall Framing	
2.1.1	Single or upper storey construction - Issue 1, October 1995	
2.1.2	Lower Storey of Two Storey Construction (Upper Storey Load) - Issue 1, Rev. 1, Oct. 1995 Pages 1-4, 6-21 and 46-49	
2.1.2	Issue 2, Rev. 1, July 1996 Pages 9 and 22-47	

Has been approved by Dr. Lita Pines (CSIRO) Division of Building Construction Engineering as suitable for construction of one storey and upper storey domestic buildings in non-cyclonic areas subject to the following conditions and provided it conforms to the description and is used within the conditions specified it will fulfil the requirements of the following clause of The Building Code of Australia:

B1.3(c) Domestic metal framing - AS 3623

Quality Assurance Level, Level C (Three stage quality assurance system in place for the installation of the product)

Conditions of Approval:

- The design of the wall complies with BHP SUPRAFRAME™ Wall Framing System Manual.
- The fabrication of the wall shall comply with procedures specified in BHP SUPRAFRAME™ Wall Framing System Manual.
- Construction is carried out only in accordance with specifications issued by BHP House Framing.
- Design of other components to be used with the wall system shall comply with the requirements of relevant Australian Standards and be approved by the local authorities.
- Where the site conditions, loads or spans are beyond those included in the SUPRAFRAME™ Wall System Manual, specific engineering advice is obtained to verify these requirements.

Dated: 19 August 1996

This Certificate is valid until: 19 August 1999

Paul Williams
NATIONAL INSTITUTE OF BUILDING CONSTRUCTION SCHEME
REGISTRATION OFFICER



Structural, Building, and Engineering
National Institute of Building Construction Scheme
Registration Officer

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House Framing Division
BHP Steel

6 August 1996

CERTIFICATE OF STRUCTURAL APPROVAL

This is to certify that the following documented SUPRAFRAME™ Design Wall Framing System Single or Upper Storey construction - Domestic Areas, pages 1-625 (July 1995), has been prepared in accordance with the following criteria:

APPROVED STANDARDS

- AS 3623-1995: Domestic metal framing
- AS 1338-1998: SAA Cold Formed Steel
- AS 1428-1995: SAA Hot Formed Steel
- AS 1170-1996: Part 1 SAA Loading Code - Dead and Live loads and Loading Combination
- AS 1170-1997: Part 2 SAA Loading Code - Wind loads
- AS 4055-1992: Wind Loads for Building

References

1. NASH/AISC: Minimum requirements for domestic metal framing - Structural Acceptability of Steel Framed Housing, 1995.
2. SAA 1995: STRUCTURAL STEELWORK - DOMESTIC METAL FRAMING
3. Handbook, 1995: Strength of Cold Formed Steel Structures, AISC, 1989

Domestic Loads

Dead Loads: In accordance with AS 1170 Part 1
Live Loads: In accordance with AS 1170 Part 1
Wind Loads: In accordance with AS 1170 Part 1 and AS 4055

THE DESIGN presented herein complies with the following standards:
SUPRAFRAME™ Construction Manual / Wall Framing, (pages 1-625 G-10, 1996)

Buildings designed in per the SUPRAFRAME™ Bored Steel Design, M.A.A. & A.S.P. comply with conditions and construction details which will conform in accordance with the provisions of relevant codes and Australian Standards.

For and on behalf of BHP Building Division

Paul Williams
N. Fitzsimmons
BHP Steel, Lot 1 Russell Street, Emu Plains
Product Development Manager - Framing System

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