

PHILIP GOACHER ASSOCIATES

CONSULTING CIVIL AND STRUCTURAL ENGINEERS

PARK HOUSE
122A NEWLAND ROAD
WORTHING
WEST SUSSEX BN11 1LB
TEL: (01903) 217723 FAX: (01903) 821987

JOB TITLE

**50 Sea Lane
Ferring**

STANDARD DATA SHEET 1	Date Oct '14	Job No 13110	Data Sheet No 01
LOCATION	UNFACTORED LOADS	FACTOR yf	FACTORED LOADS
SLOPING ROOFS (Measured on Plan)			
Tiles	0.60 KN/m ²	1.4	0.84 KN/m ²
Battens and Felt	0.10 KN/m ²	1.4	0.14 KN/m ²
Rafters	0.10 KN/m ²	1.4	0.14 KN/m ²
Live Load	0.75 KN/m ² (max)	1.6	1.20 KN/m ²
Total	1.55 KN/m ²		2.32 KN/m ²
FLAT ROOFS			
Chippings and Felt	0.32 KN/m ²	1.4	0.45 KN/m ²
Boards, Joists and Firrings	0.32 KN/m ²	1.4	0.45 KN/m ²
Soffit and Insulation	0.16 KN/m ²	1.4	0.22 KN/m ²
Live Load	0.75 KN/m ²	1.6	1.20 KN/m ²
Total	1.55 KN/m ²		2.32 KN/m ²
ROOF SPACE			
Joists and Insulation	0.10 KN/m ²	1.4	0.14 KN/m ²
Soffit	0.15 KN/m ²	1.4	0.21 KN/m ²
Live Load	0.25 KN/m ²	1.6	0.40 KN/m ²
Total	0.50 KN/m ²		0.75 KN/m ²
TIMBER FLOORS			
Boards and Joists	0.35 KN/m ²	1.4	0.49 KN/m ²
Soffit	0.15 KN/m ²	1.4	0.21 KN/m ²
Live Load (Domestic)	1.50 KN/m ²	1.6	2.40 KN/m ²
Total	2.00 KN/m ²		3.10 KN/m ²
TIMBER STUD WALLS			
Internal			
Studding	0.10 KN/m ²	1.4	0.14 KN/m ²
Plasterboard and set x 2	0.30 KN/m ²	1.4	0.42 KN/m ²
	0.40 KN/m ²		0.56 KN/m ²
Internal			
Studding	0.10 KN/m ²	1.4	0.14 KN/m ²
Lath and plaster x 2	0.50 KN/m ²	1.4	0.70 KN/m ²
	0.60 KN/m ²		0.84 KN/m ²
External			
Studding	0.10 KN/m ²	1.4	0.14 KN/m ²
Plasterboard	0.15 KN/m ²	1.4	0.21 KN/m ²
Battens, Felt and Insulation	0.10 KN/m ²	1.4	0.14 KN/m ²
Tiles	0.60 KN/m ²	1.4	0.84 KN/m ²
	0.95 KN/m ²		1.33 KN/m ²

Issue 3, 08/05/07

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**50 Sea Lane
Ferring**

STANDARD DATA SHEET 2

Date
Oct '14

Job No
13110

Data Sheet No
02

LOCATION

UNFACTORED
LOADS

FACTOR
 γ_f

FACTORED
LOADS

MASONRY WALLS

100 Lightweight Block
Block
Plaster x 2

1.00 KN/m²
0.50 KN/m²
1.50 KN/m²

1.4
1.4

1.40 KN/m²
0.70 KN/m²
2.10 KN/m²

100 Dense Block
Block
Plaster x 2

1.50 KN/m²
0.50 KN/m²
2.00 KN/m²

1.4
1.4

2.10 KN/m²
0.70 KN/m²
2.80 KN/m²

215 Block Party Wall
Block
Plaster x 2

3.20 KN/m²
0.50 KN/m²
3.70 KN/m²

1.4
1.4

4.50 KN/m²
0.70 KN/m²
5.20 KN/m²

215 Brick Party Wall
Brick
Plaster x 2

4.50 KN/m²
0.50 KN/m²
5.00 KN/m²

1.4
1.4

6.30 KN/m²
0.70 KN/m²
7.00 KN/m²

265 Cavity Wall
Brick
Block
Plaster

2.25 KN/m²
1.50 KN/m²
0.25 KN/m²
4.00 KN/m²

1.4
1.4
1.4

3.15 KN/m²
2.10 KN/m²
0.35 KN/m²
5.60 KN/m²

CODES OF PRACTICE USED IN DESIGNS

CONCRETE
STEELWORK
MASONRY
TIMBER
LOADING FOR BUILDINGS

BS 8110
BS 5950
BS 5628
BS 5268
BS 6399 OR CP3 CHV PT2

Refer to Data Sheet 3 for standard construction notes.

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**50 Sea Lane
Ferring**

STANDARD DATA SHEET 3

Date
Oct '14

Job No
13110

Data Sheet No
03

CONSTRUCTION NOTES:

- 1) All loadings are standard loadings. Confirmation of existing materials and weights to be undertaken by others on site.
- 2) Calculations prepared in accordance with Architect's drawings.
- 3) No works should be undertaken on site until Building Regulations Approval has been granted.
- 4) The builder and owner are reminded that works on or adjacent to a party wall or boundary will be subject to the Party Wall etc. Act 1996 and approval from the adjoining owner must be sought 2 months prior to commencing works. Further information can be provided by this Company if required.
- 5) All dimensions to be taken on site and not scaled from the drawings or sketches. All details and dimensions relating to subcontractors or suppliers work must be checked and agreed between the subcontractor or supplier and the general contractor.
- 6) The drawings, details and sketches to be read in conjunction with all relevant Architects' and Engineers' drawings and specifications.
- 7) Works to comply with current Codes of Practice, British Standards and Building Regulations.
- 8) Contractor to expose structure to confirm span directions, support locations and details, footings etc. and to verify that all assumptions made by the Engineer are correct prior to ordering any materials or carrying out any works on site.
- 9) Steelwork to have two coats of red oxide primer generally and to have two further coats of bitumen paint where supported at external walls unless indicated otherwise.
- 10) All internal steelwork subject to fire regulations to have two layers of 12.5mm plasterboard with joints staggered or to Architect's specification to comply with Building Regulations.
- 11) Where timbers are bolted together the bolt holes are to be drilled no more than 2mm diameter larger than bolt diameter. Holes to be at right angles to line of timbers. The bolts are to be tightened until local crushing is apparent around the 51mm square plate washers. If timbers are not touching then timber packers are to be installed full depth of the joists/rafters to make up the gap.
- 12) Bearing of all new foundations to be 1000mm below external ground or to level of base of foundations to main building, whichever is deeper, unless indicated otherwise on drawings.
Foundation details may have to be altered if ground conditions prove to be different from those assumed in the calculations, i.e. poorer ground conditions, obstructions or existing structures.
Footings may be required to go deeper if trees are, or recently have been, in close proximity to the building.
All foundations to be confirmed on site by the Building Control Officer.
- 13) All underpinning works to be checked and approved by the Local Authority Building Control Officer and to be carried out in accordance with our specification for underpinning.
- 14) The works are to be carried out in accordance with the Construction, Design and Management Regulations 2007. The Client and contractors should ensure they comply with their duties as set out in the regulations. Refer to HSC document Managing Health and Safety in Construction (CDM 2007), Approved Code of Practice for further details.

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PARK HOUSE 122a NEWLAND ROAD WORTHING

WEST SUSSEX BN11 1LB

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50 Sea Lane, Fareham

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Oct '10

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13110

Sheet no

04

CALCULATIONSNew Run sections.LOADINGS (kN/m²)

Roof $1.0 \times 2.3/2$
 Submerant $0.75 \times 2.2/2$
 say

D.L.	L.L.
1.15	0.86
0.15	

Sole Σ	1.30	0.86	2.16 kN/m
ult Σ	1.82	1.38	3.20 kN/m

$$L_s = L_b \therefore 3.20 \times 2.9/2 = 4.64 \text{ kN}$$

$$I_{reqd} = 2.29 \times 2.16 \times 2.9^3 = 120 \times 10^6 \text{ m}^4$$

$$M_{max} = 3.20 \times 2.9^2/8 = 3.36 \text{ kNm}$$

SEE FOLLOWING ANALYSIS FOR BEAM DESIGN

Provide 60 x 60 x 6.3mm SUS SECTIONS, CONTINUOUS OVER CENTRE TRUSS.

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50 SEA LANE, FURNESS

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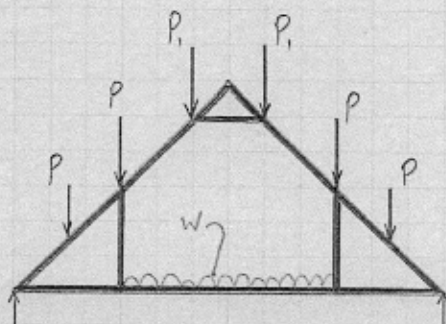
Oct '16

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13110

Sheet no

05

CALCULATIONSTRUSSUphanger reactions
loads ignored.

P = PURW ANALYSIS RE REACTION

D.L. = 5.5 kN (unit)

U.L. = 4.3 kN (unit)

 $P_1 = \text{REACTION AS } P \text{ BUT WITH REDUCED PURW CENTRES (ie 2.0m INSTEAD OF 2.3m)}$ $\therefore DL = (5.5/2.3) \times 2.0 = 4.8 \text{ kN (unit)}$ $UL = (4.3/2.3) \times 2.0 = 3.7 \text{ kN (unit)}$

W: fixed end

$(0.5 \times 1.4) \times 4.9/2$	1.7 kN/m
$(1.5 \times 1.6) \times 4.9/2$	5.9 kN/m

SEE ANALYSIS ON FOLLOWING PAGES.



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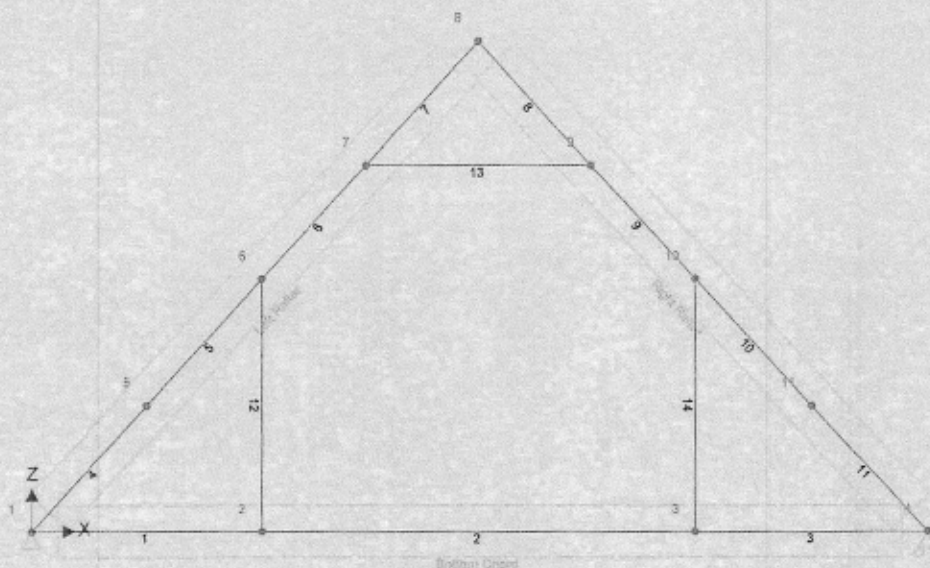
Project 50 SEA LANE, FERRING				Job Ref. 13110	
Section TRUSS				Sheet no./rev. 06	
Calc. by MWP	Date 02/10/2014	Chk'd by PSC	Date 06/11/14	App'd by	Date

ANALYSIS

Tedds calculation version 1.0.05

Geometry

Geometry



Nodes

Node	Co-ordinates		Freedom			Coordinate system		Spring		
	X (m)	Z (m)	X	Z	Rot.	Name	Angle (°)	X (kN/m)	Z (kN/m)	Rot. kNm/°
1	0	0	Fixed	Fixed	Free		0	0	0	0
2	1.5	0	Free	Free	Free		0	0	0	0
3	4.3	0	Free	Free	Free		0	0	0	0
4	5.8	0	Free	Fixed	Free		0	0	0	0
5	0.75	0.828	Free	Free	Free		0	0	0	0
6	1.5	1.655	Free	Free	Free		0	0	0	0
7	2.175	2.4	Free	Free	Free		0	0	0	0
8	2.9	3.2	Free	Free	Free		0	0	0	0
9	3.625	2.4	Free	Free	Free		0	0	0	0
10	4.3	1.655	Free	Free	Free		0	0	0	0
11	5.05	0.828	Free	Free	Free		0	0	0	0

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	50 SEA LANE, FERRING			13110	
	Section			Sheet no./rev.	
TRUSS			07		
Calc. by	Date	Chk'd by	Date	App'd by	Date
MWP	02/10/2014	PSG	02/11/14		

Materials

Name	Density (kg/m ³)	Youngs Modulus kN/mm ²	Shear Modulus kN/mm ²	Thermal Coefficient °C ⁻¹
Steel (BS5950)	7850	205	78.8	0.000012

Sections

Name	Area (cm ²)	Moment of inertia		Shear area	
		Major (cm ⁴)	Minor (cm ⁴)	A _y (cm ²)	A _z (cm ²)
Top - SHS 100x100x5.0	19	279	279	9	9
Bottom - UC 152x152x23	29	1250	400	19	9
Internal - SHS 100x100x5.0	19	279	279	9	9

Elements

Element	Nodes		Section	Material	Releases			Rotated
	Start	End			Start moment	End moment	Axial	
1	1	2	Bottom - UC 152x152x23	Steel (BS5950)	Fixed	Fixed	Fixed	
2	2	3	Bottom - UC 152x152x23	Steel (BS5950)	Fixed	Fixed	Fixed	
3	3	4	Bottom - UC 152x152x23	Steel (BS5950)	Fixed	Fixed	Fixed	
4	1	5	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
5	5	6	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
6	6	7	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
7	7	8	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
8	8	9	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
9	9	10	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
10	10	11	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
11	11	4	Top - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
12	6	2	Internal - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
13	7	9	Internal - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	
14	10	3	Internal - SHS 100x100x5.0	Steel (BS5950)	Fixed	Fixed	Fixed	



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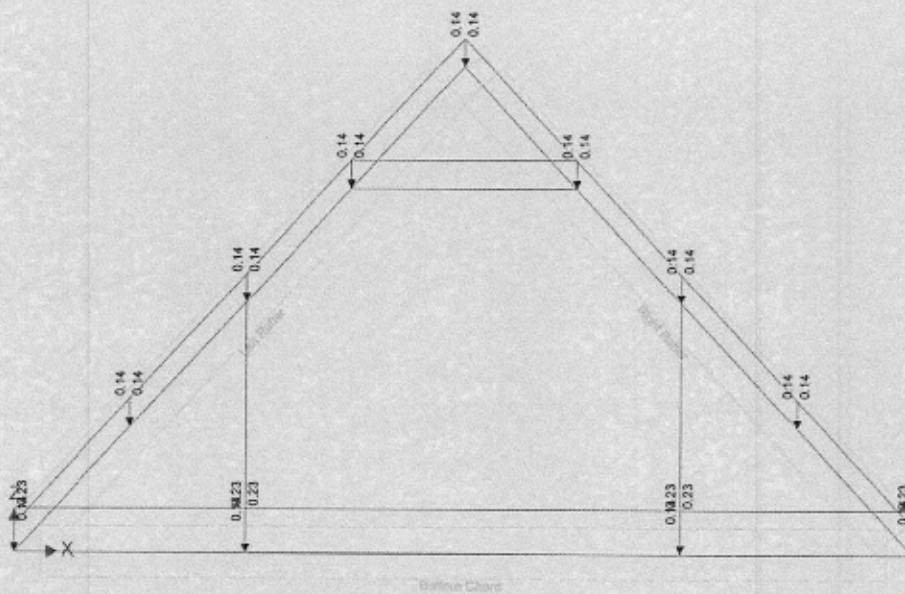
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Members

Name	Elements	
	Start	End
Bottom Chord	1	3
Left Rafter	4	7
Right Rafter	8	11

Loading

Self weight - Loading





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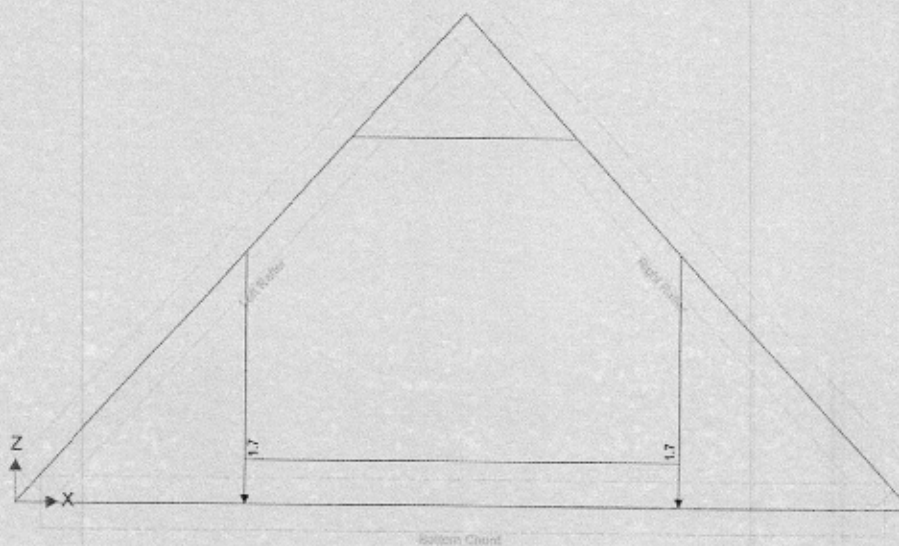
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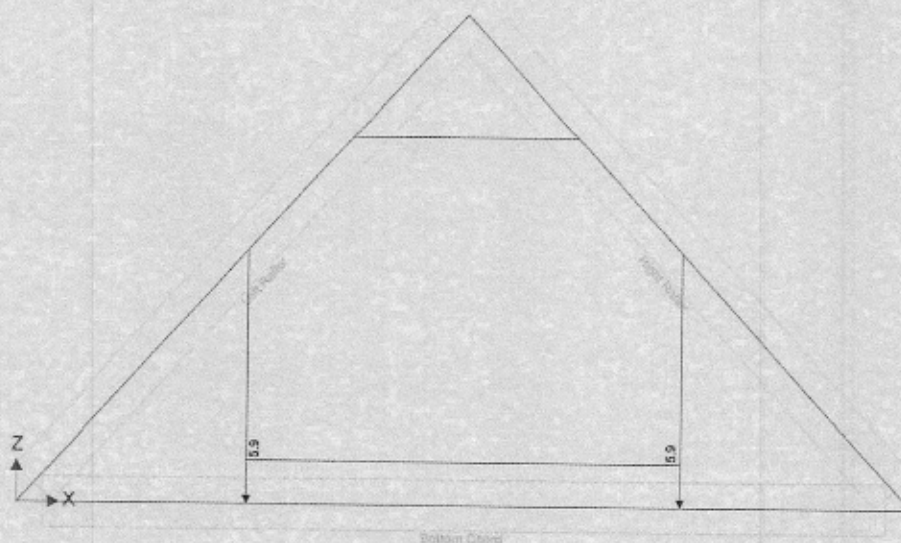
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Floor DL - Loading



Floor LL - Loading





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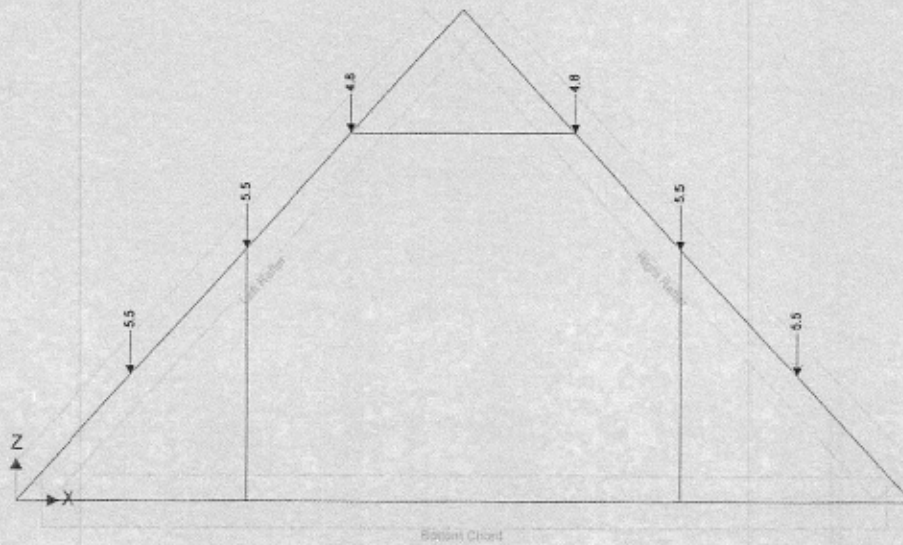
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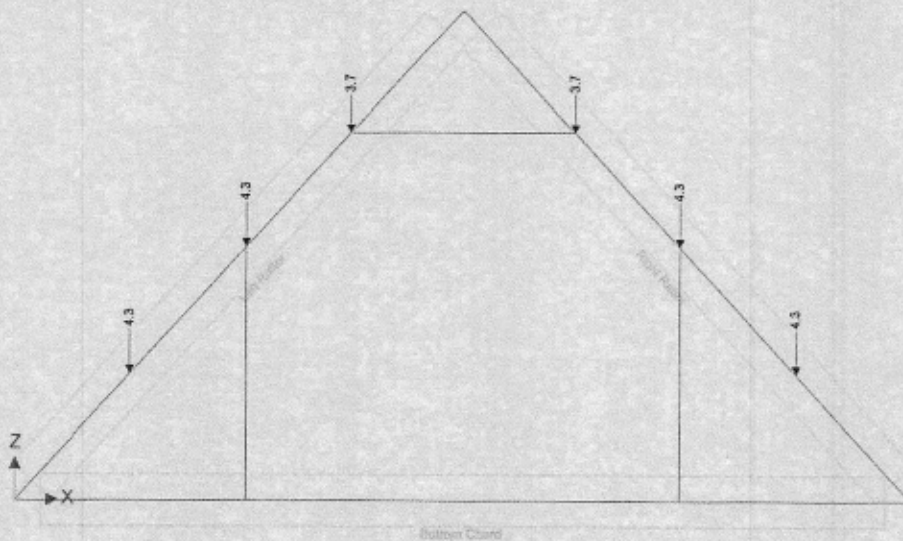
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Roof DL - Loading



Roof LL - Loading





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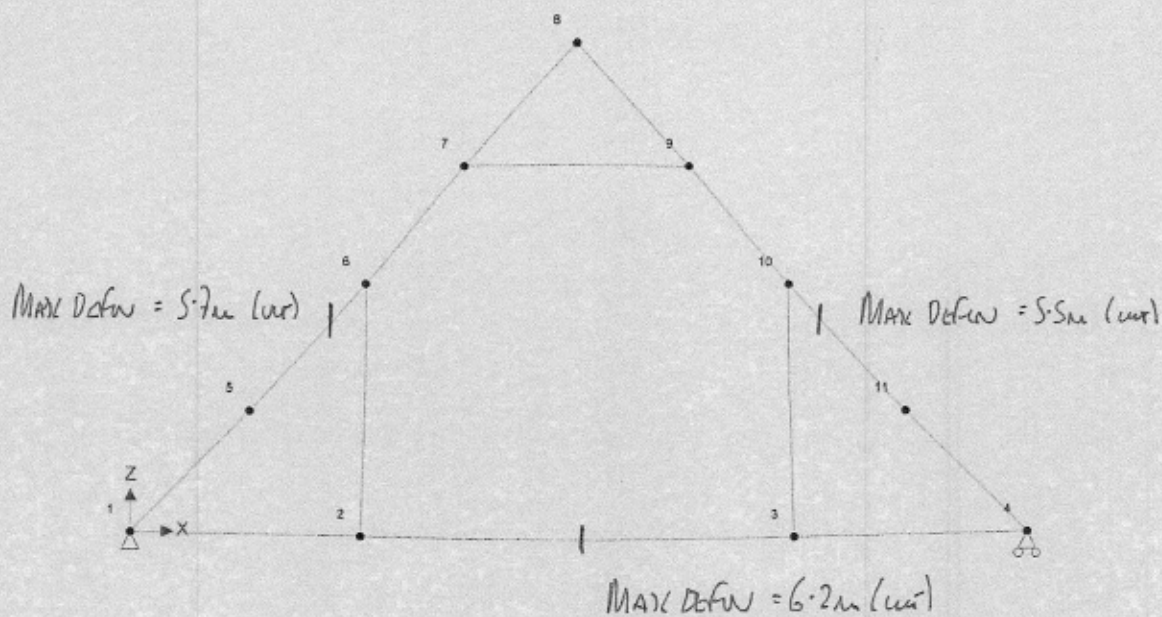
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Results

Deflection

Total Ult Load - Deflected geometry @ 10x





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Member results

Load combination: Total Ult Load

Bottom chord deflection = 6.2mm (ult) 4.1mm (SWS)

*S800/360
= 16.1mm ∴ ok*

Member		Position (m)	Deflection (mm)		Axial deflection (mm)	
Bottom Chord	Max	2.9	6.2			
	Min	5.8	0			
	Max	5.8			0.3	
	Min	0			0	
		0	0		0	
		5.8	0		0.3	
Left Rafter	Max	1.753	5.7			
	Min	0	0			
	Max	0			0	
	Min	3.239			-0.4	
		0	0		0	
		4.319	0.5		-0.3	
Right Rafter	Max	2.566	5.5			
	Min	4.319	-0.2			
	Max	1.08			0.6	
	Min	4.319			0.2	
		0	0.3		0.5	
		4.319	-0.2		0.2	

Nodal deflections

Load combination: Total Ult Load

Node	Deflection		Rotation (°)	Co-ordinate system
	X (mm)	Z (mm)		
1	0	0	0.17209	
2	0.1	3.8	0.15288	
3	0.2	3.8	-0.15288	
4	0.3	0	-0.17209	
5	3.4	3.3	0.18435	
6	3.7	3.7	-0.11542	
7	0.2	0.7	-0.14719	
8	0.1	0.6	0	
9	0.1	0.7	0.14719	
10	-3.4	3.7	0.11542	
11	-3.1	3.3	-0.18435	

Total base reactions

Load case/combination	Force	
	FX (kN)	FZ (kN)
Total Ult Load	0	80.7



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Element end forces

Load combination: Total Ult Load

Element	Length (m)	Nodes Start/End	Axial force (kN)	Shear force (kN)	Moment (kNm)
1	1.5	1	31.9	3.6	-3.4
		2	-31.9	-4	-2.3
2	2.8	2	27.4	-11	0.2
		3	-27.4	-11	-0.2
3	1.5	3	31.9	-4	2.3
		4	-31.9	3.6	3.4
4	1.117	1	-54	-5.9	3.4
		5	53.9	5.8	3.1
5	1.117	5	-46.6	0.8	-3.1
		6	46.5	-0.9	2.2
6	1.005	6	-25	14.3	-7.5
		7	24.9	-14.4	-6.9
7	1.08	7	5.7	-6.5	4.9
		8	-5.8	6.4	2.1
8	1.08	8	5.8	6.4	-2.1
		9	-5.7	-6.5	-4.9
9	1.005	9	-24.9	-14.4	6.9
		10	25	14.3	7.5
10	1.117	10	-46.5	-0.9	-2.2
		11	46.6	0.8	3.1
11	1.117	11	-53.9	5.8	-3.1
		4	54	-5.9	-3.4
12	1.655	6	15.2	-4.5	5.3
		2	-14.9	4.5	2.1
13	1.45	7	-36.1	-0.1	2.1
		9	36.1	-0.1	-2.1
14	1.655	10	15.2	4.5	-5.3
		3	-14.9	-4.5	-2.1

← Bottom Chord check
($M_{max} = 7.4 \text{ kNm}$
- SEE FOLLOWING SKETCH)

← Rafters check



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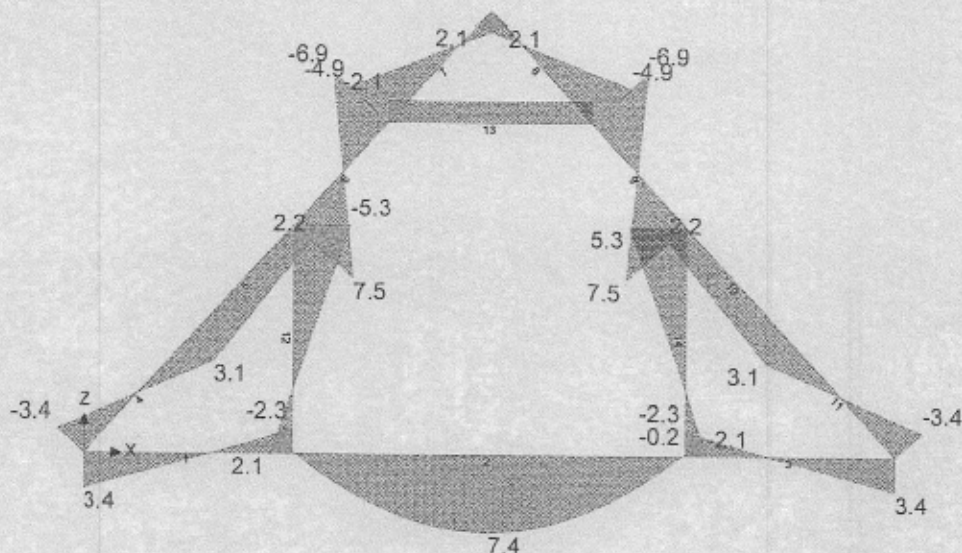
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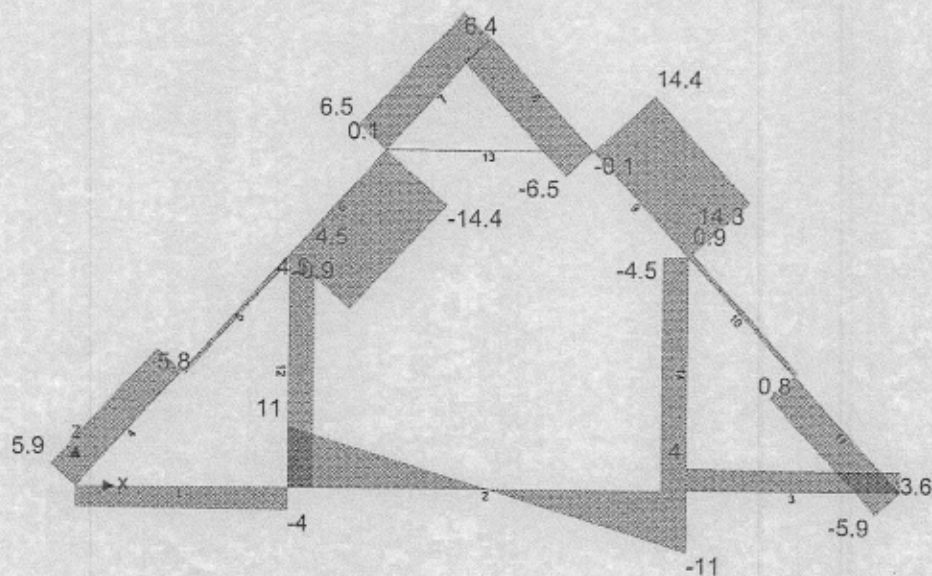
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Element forces

All combinations - Moment envelope (kNm)



All combinations - Shear envelope (kN)





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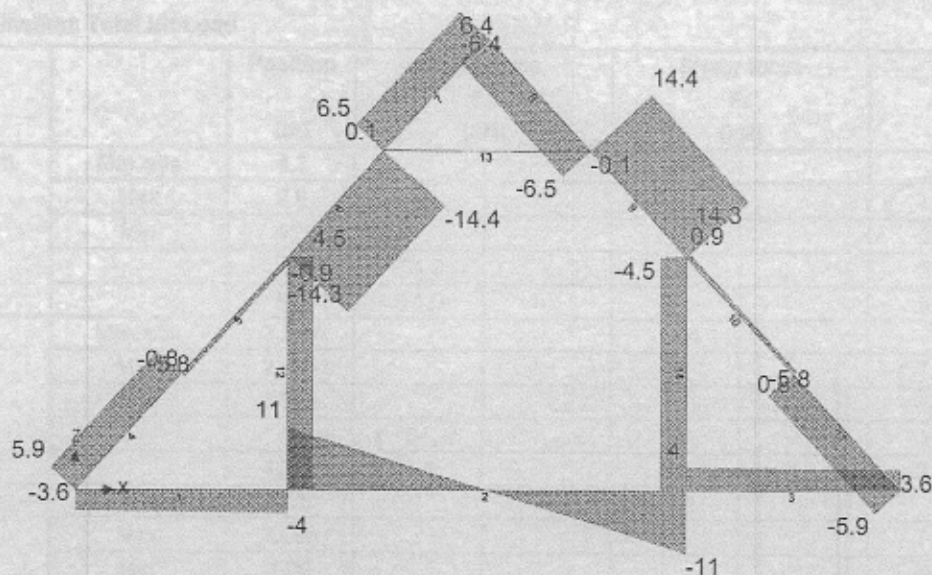
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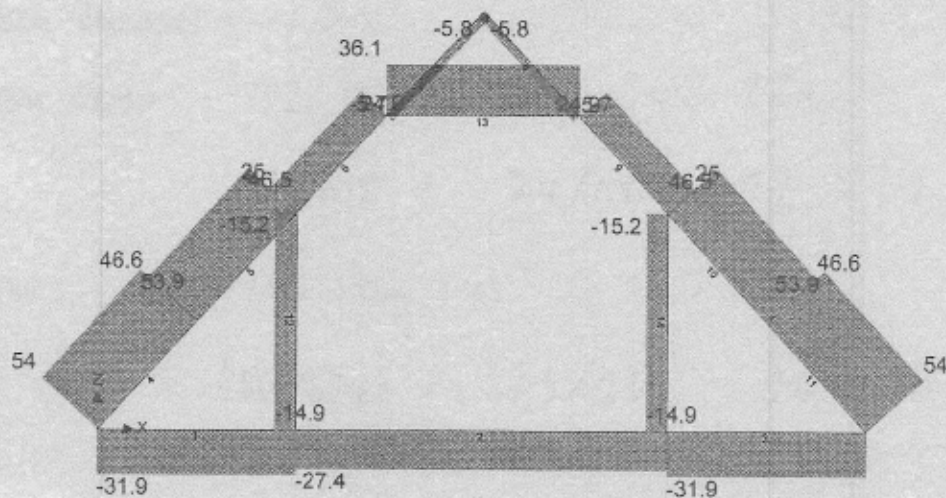
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Total Ult Load - Shear (kN)



Total Ult Load - Axial force (kN)





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West Sussex

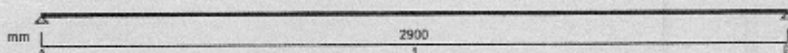
Project 50 SEA LANE, FERRING			Job no. 13110	
Calcs for FLOOR JOISTS			Start page no./Revision 20	
Calcs by MWP	Calcs date 07/10/2014	Checked by PSC	Checked date OCT '14	Approved by Approved date

TIMBER JOIST DESIGN (BS5268-2:2002)

TEDDS calculation version 1.1.02

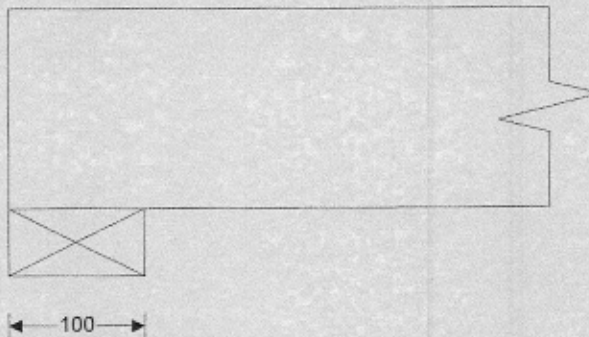
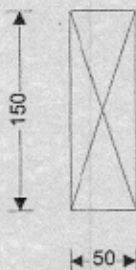
Joist details

Joist breadth $b = 50 \text{ mm}$
Joist depth $h = 150 \text{ mm}$
Joist spacing $s = 400 \text{ mm}$
Timber strength class **C24**
Service class of timber **1**



Span details

Number of spans $N_{\text{span}} = 1$
Length of bearing $L_b = 100 \text{ mm}$
Effective length of span $L_{s1} = 2900 \text{ mm}$



Section properties

Second moment of area $I = b \times h^3 / 12 = 14062500 \text{ mm}^4$
Section modulus $Z = b \times h^2 / 6 = 187500 \text{ mm}^3$

Loading details

Joist self weight $F_{\text{swt}} = b \times h \times \rho_{\text{char}} \times g_{\text{acc}} = 0.03 \text{ kN/m}$
Dead load $F_{d\_udl} = 0.50 \text{ kN/m}^2$
Imposed UDL(Long term) $F_{l\_udl} = 1.50 \text{ kN/m}^2$
Imposed point load (Medium term) $F_{l\_pt} = 1.40 \text{ kN}$

Modification factors

Service class for bending parallel to grain $K_{2m} = 1.00$
Service class for compression $K_{2c} = 1.00$
Service class for shear parallel to grain $K_{2s} = 1.00$

 Tedds' Philip Goacher Associates 122a Newland Road Worthing West Sussex	Project		50 SEA LANE, FERRING		Job no.		13110
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	MWP	07/10/2014	PSG	07/11/14			

Service class for modulus of elasticity

$$K_{2e} = 1.00$$

Section depth factor

$$K_7 = 1.08$$

Load sharing factor

$$K_8 = 1.10$$

Consider long term loads

Load duration factor

$$K_3 = 1.00$$

Maximum bending moment

$$M = 0.868 \text{ kNm}$$

Maximum shear force

$$V = 1.197 \text{ kN}$$

Maximum support reaction

$$R = 1.197 \text{ kN}$$

Maximum deflection

$$\delta = 5.213 \text{ mm}$$

Check bending stress

Bending stress

$$\sigma_m = 7.500 \text{ N/mm}^2$$

Permissible bending stress

$$\sigma_{m\_adm} = \sigma_m \times K_{2m} \times K_3 \times K_7 \times K_8 = 8.904 \text{ N/mm}^2$$

Applied bending stress

$$\sigma_{m\_max} = M / Z = 4.630 \text{ N/mm}^2$$

PASS - Applied bending stress within permissible limits

Check shear stress

Shear stress

$$\tau = 0.710 \text{ N/mm}^2$$

Permissible shear stress

$$\tau_{adm} = \tau \times K_{2s} \times K_3 \times K_8 = 0.781 \text{ N/mm}^2$$

Applied shear stress

$$\tau_{max} = 3 \times V / (2 \times b \times h) = 0.239 \text{ N/mm}^2$$

PASS - Applied shear stress within permissible limits

Check bearing stress

Compression perpendicular to grain (no wane)

$$\sigma_{cp1} = 2.400 \text{ N/mm}^2$$

Permissible bearing stress

$$\sigma_{c\_adm} = \sigma_{cp1} \times K_{2c} \times K_3 \times K_8 = 2.640 \text{ N/mm}^2$$

Applied bearing stress

$$\sigma_{c\_max} = R / (b \times L_b) = 0.239 \text{ N/mm}^2$$

PASS - Applied bearing stress within permissible limits

Check deflection

Permissible deflection

$$\delta_{adm} = \min(L_{s1} \times 0.003, 14 \text{ mm}) = 8.700 \text{ mm}$$

Bending deflection (based on E_{mean})

$$\delta_{bending} = 5.007 \text{ mm}$$

Shear deflection

$$\delta_{shear} = 0.206 \text{ mm}$$

Total deflection

$$\delta = \delta_{bending} + \delta_{shear} = 5.213 \text{ mm}$$

PASS - Actual deflection within permissible limits

Consider medium term loads

Load duration factor

$$K_3 = 1.25$$

Maximum bending moment

$$M = 1.252 \text{ kNm}$$

Maximum shear force

$$V = 1.727 \text{ kN}$$

Maximum support reaction

$$R = 1.727 \text{ kN}$$

Maximum deflection

$$\delta = 6.349 \text{ mm}$$

Check bending stress

Bending stress

$$\sigma_m = 7.500 \text{ N/mm}^2$$

Permissible bending stress

$$\sigma_{m\_adm} = \sigma_m \times K_{2m} \times K_3 \times K_7 \times K_8 = 11.130 \text{ N/mm}^2$$

Applied bending stress

$$\sigma_{m\_max} = M / Z = 6.679 \text{ N/mm}^2$$

PASS - Applied bending stress within permissible limits

Check shear stress

Shear stress

$$\tau = 0.710 \text{ N/mm}^2$$

 Tedds Philip Goacher Associates 122a Newland Road Worthing West Sussex	Project 50 SEA LANE, FERRING			Job no. 13110	
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	Calcs by MWP	Calcs date 07/10/2014	Checked by PSG	Checked date 06/11/14	Approved by Approved date

Permissible shear stress

$$\tau_{adm} = \tau \times K_{2s} \times K_3 \times K_8 = 0.976 \text{ N/mm}^2$$

Applied shear stress

$$\tau_{max} = 3 \times V / (2 \times b \times h) = 0.345 \text{ N/mm}^2$$

PASS - Applied shear stress within permissible limits

Check bearing stress

Compression perpendicular to grain (no wane)

$$\sigma_{cp1} = 2.400 \text{ N/mm}^2$$

Permissible bearing stress

$$\sigma_{c\_adm} = \sigma_{cp1} \times K_{2c} \times K_3 \times K_8 = 3.300 \text{ N/mm}^2$$

Applied bearing stress

$$\sigma_{c\_max} = R / (b \times L_b) = 0.345 \text{ N/mm}^2$$

PASS - Applied bearing stress within permissible limits

Check deflection

Permissible deflection

$$\delta_{adm} = \min(L_{s1} \times 0.003, 14 \text{ mm}) = 8.700 \text{ mm}$$

Bending deflection (based on E_{mean})

$$\delta_{bending} = 6.053 \text{ mm}$$

Shear deflection

$$\delta_{shear} = 0.297 \text{ mm}$$

Total deflection

$$\delta = \delta_{bending} + \delta_{shear} = 6.349 \text{ mm}$$

PASS - Actual deflection within permissible limits

PHILIP GOACHER ASSOCIATES

CONSULTING CIVIL AND STRUCTURAL ENGINEERS

PARK HOUSE 122a NEWLAND ROAD WORTHING

WEST SUSSEX BN11 1LB

TEL: (01903) 217723 FAX: (01903) 821987

JOB TITLE

50 SEA LANE, FORRING

Designed by

MWP

Checked by

PSG

Date

OCT '14

Job no

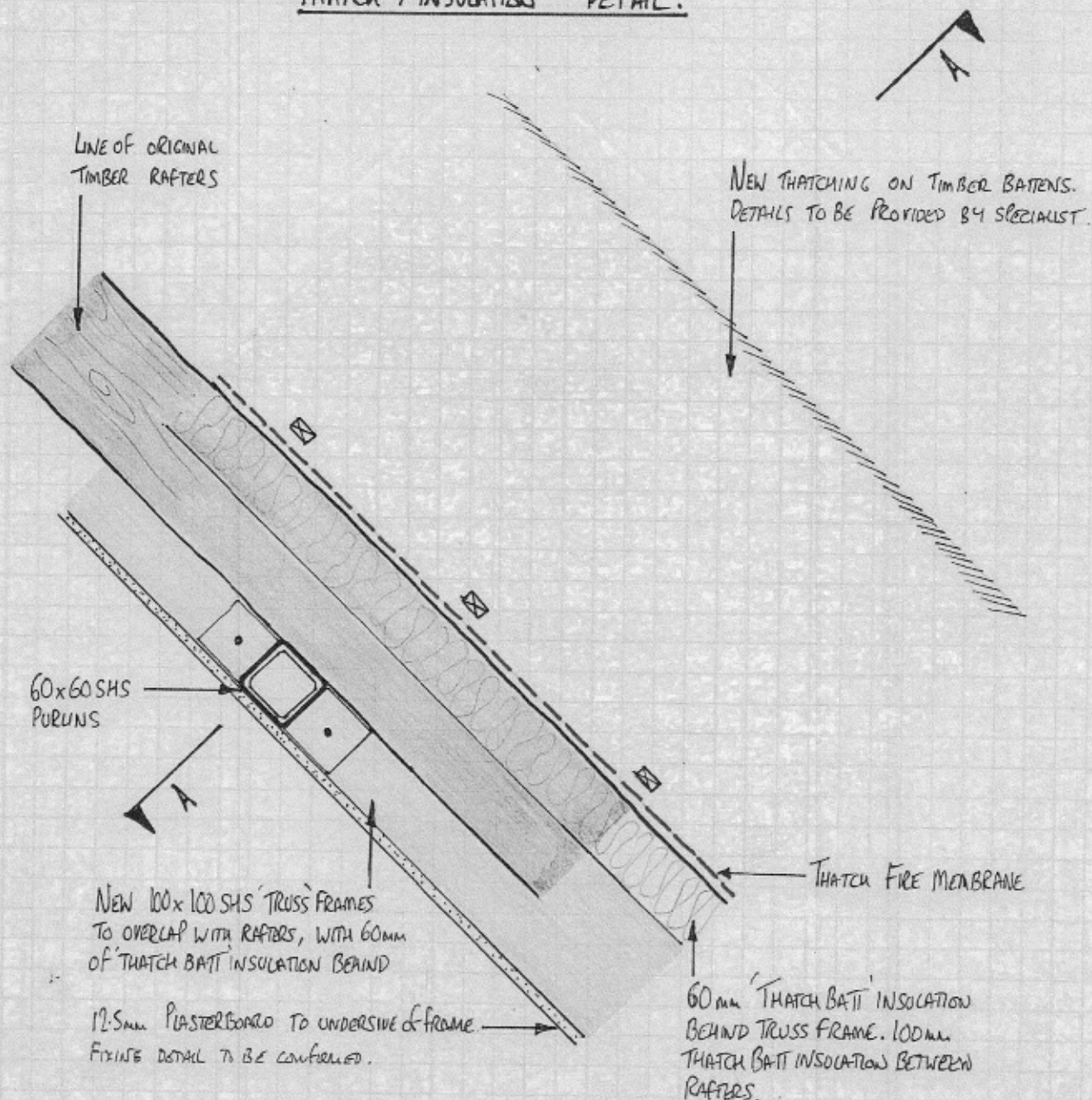
13110

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CALCULATIONS

THATCH / INSULATION DETAIL.



NOTE: STEEL TO HAVE 30mm FIRE PROTECTION PROVIDED.
DETAILS TO BE MADE IN CONSTRUCTION WITH 13110/10

PHILIP GOACHER ASSOCIATES

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PARK HOUSE 122a NEWLAND ROAD WORTHING

WEST SUSSEX BN11 1LB

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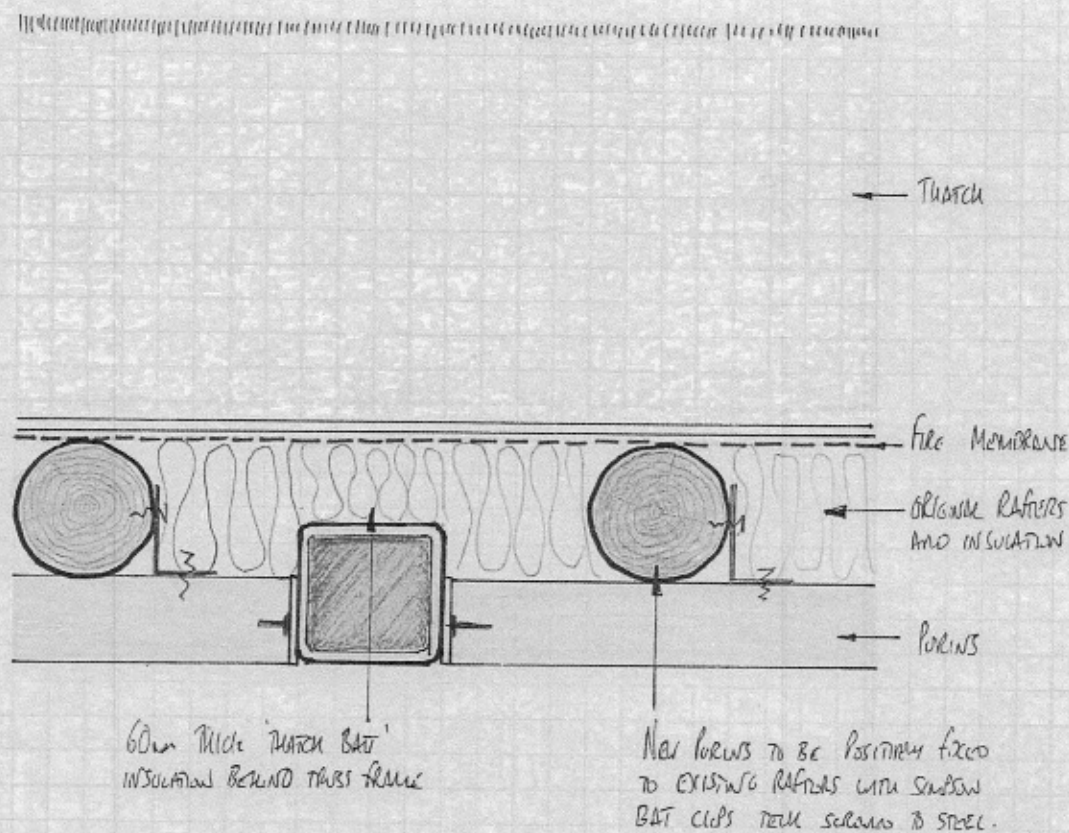
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CALCULATIONSTHATCH / INSULATION DETAIL

SECTION A-A.



Note: STEELWORK TO HAVE 30MIN FIRE PROTECTION.
DETAIL TO BE READ IN CONJUNCTION WITH 13110/10.

Upgrading Internal Doors to 30 Minute Fire Resistance

Opaque White Finish



FlameProof Fire Door Kit (Paint) is an Intumescent Basecoat Paint and Fire Retardant Topcoat to upgrade existing well constructed, solid (or sturdy) wooden interior doors to 30 minute fire resistance. No special application skills are required to use our product and each kit comes with a Fire Certificate of Supply to certify the level of protection.

Our system consists of a single pack, water based intumescent base coat and solvent based fire retardant topcoat, available in an eggshell or gloss finish. FlameProof Fire Door Kit (Paint) can be applied to bare timber or previously painted doors as long as the existing coating is prepared thoroughly (see data sheet for full preparation details).

EACH KIT INCLUDES:

- FlameProof Intumescent Basecoat
- FlameProof White Topcoat in either Eggshell or Gloss (can be mixed to any RAL or BS colour upon request – please contact us)
- 1.5" Professional Paint Brush
- Pair of Disposable Gloves
- Mixing Stick
- Application Notes
- Product Data Sheets
- Certificate Application Form

Please refer the below information to the appropriate authority for approval before proceeding.

UPGRADING DOORS TO 30 MINUTES FIRE RESISTANCE

Most modern normal internal doors cannot be upgraded to achieve 30 minute Fire Resistance. Issues include often having a hollow core, being very thin and lightweight or liable to warping shortly after installation. No door answering such a description can be upgraded and should be replaced with a new Fire Door where one is required.

While we recommend the installation of custom-built fire doors, there can be reasons not to do so. FlameProof Fire Door Kit (Paint) is capable of upgrading doors that can afford to lose 2mm to charring:

- (1) Solid, joint-free doors with compressed core and reasonable thickness (6mm+) veneer faces bonded to either side. These can be flush doors or pressed to create a moulded look.
- (2) Well seasoned or old, sturdy doors with 35mm+ thick frames and panels 10mm+ thick.
- (3) Certain other doors not prone to premature collapse.

NOTE: Well seasoned or old, sturdy doors with panels 6mm thick can be upgraded if additional "sacrificial" ply panels 6mm thick are fitted in panel recesses, held in place by the doors beading.

If your doors are in a category which could be upgraded, contact our Technical Department to discuss. Once a specification has been agreed, we will put it in writing for you to submit to your Authority, along with this explanatory Technical Note, prior to purchase and commencement of work.

A manufacturers Fire Certificate will be issued for agreed projects upon notification of completion.

OFFICIAL FIRE PROTECTION STOCKIST

Northspeed House | Moorview | Holbeck | Leeds | LS11 9NF

T: +44 (0)1132 455 450 F: +44(0)1132 452 649

E: sales@rawlinspaints.com W: www.rawlinspaints.com

JUSTIFICATION

As doors vary so greatly and the great majority are unsuitable for upgrading, it is neither meaningful or realistic to carry out an official, relevant Fire Door Fire Test. None exists in the industry.

FlameProof Fire Door Kit (Paint's) uniquely effective formula resulted in the UK's only successful official UKAS / NAMAS Fire Test Laboratory Fire Resistance Test to 60 minutes on softwood, with timber lost to charring restricted to 7-10mm at 60 minutes (unprotected softwood chars approx. 50mm in 60mins).

The system was also demonstrated by the Megastructures TV programme documentary "Building from Disaster" documentary restricting charring to 2mm, retaining integrity and insulation throughout a 45 minute maximum severity burn (more severe than BS476 part 22), while identical, unprotected panels burnt in parallel were shown to burn through completely within 6 minutes. (A link to the original filming is available).

Rawlins Paints Limited Technical Department assess doors as suitable based upon the customers description, which features on the Fire Certificate issued, so this information should be checked for accuracy.

We require that in a potential fire the door should be capable of losing 2mm, plus a further 2mm additional safety factor, to charring, without risk of splitting or cracking of the thinnest areas (usually the panels) or other premature failure, while maintaining insulation.

WHICH SIDE TO PROTECT?

FlameProof Fire Door Kit (Paint) system should be applied to the room side of doors, to protect corridors and stairways from fire within a room. In some circumstances, it may also be required on the corridor side, so please check with your Authority.

APPLICATION

30 Minutes Fire Resistance Specification

- Apply 4 coats of FlameProof Intumescent Paint @ 7m² per litre / per coat.
- Then apply 2 coats of FlameProof Fire Retardant Topcoat @ 8m² per litre / per coat

We recommend Astroflame - Astrostrip Intumescent Fire & Smoke Seals are fitted around the door edges or in door casings.

COVERAGE - (coverage is based on using the FULL pack)

1 x FlameProof Fire Door Kit (Paint) will protect 2 doors + surrounds (on both sides) or 4 doors on one side only + surrounds.

FINISH

FlameProof Fire Door Kit (Paint) packs are available in White Eggshell or Gloss Finishes.

Please note: Our coverage guide is based on a standard average door side plus surround/architrave totalling no more than 1.8m². If your door sizes exceed these measurements, please contact us and we will advise a new coverage rate to suit your doors.

Please Download and Read all product data sheets and application notes before using this kit.

WARNING

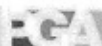
To avoid all-too-common costly (for the customer) "misunderstandings", both in this and other dealings with fire coatings suppliers, customers should obtain written confirmation, in advance, that the manufacturer will issue a Fire Certificate for the customer's particular, specific detail, for the building or project in question. Confirmation that their testing was in a NAMAS / UKAS Fire Test Lab, was reasonably relevant and not perverse (and actually passed) is advised!

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E: sales@rawlinspaints.com W: www.rawlinspaints.com



PHILIP GOACHER ASSOCIATES

Consulting Civil and Structural Engineers

Park House • 122A Newland Road • Worthing • West Sussex • BN11 1LB
Tel: 01903 217723 • fax: 01903 821987 • email: mail@pgoacher.co.uk
www.pgoacher.co.uk

DESIGNER RISK ASSESSMENT

Project Title 50 SEA LANE, FERRING	Project No. 13110	Sheet No. DRA01
	Engineer: MWP	Checked by: PSG
	Date: Oct' '14	Date: Oct '14
Client Mr O'Dor & Ms Sloan		

The following specific risks have been identified:

Ref	Risk	Action
1	Installation of heavy beams.	Mechanical aids should be employed when installing beams. Beam can be spliced, Structural Engineer to be consulted if required.
2	Temporary support.	The contractor is to provide all necessary temporary propping to safely undertake the work and maintain structural stability.

Notes:

- The works are to be carried out by an experienced competent contractor capable of managing general construction hazards.
- The following list is limited to specific risks associated with the structural design and is to be read in conjunction with other relevant designer risk assessments.
- The following list is not necessarily exhaustive and the contractor should carry out their own assessment of potential risks.
- Comment is made in the Risk Assessment for future demolition and use of the building as a work place only if it is considered to be out of the ordinary.
- The Client, designers and contractor shall be mindful of their Health and Safety obligations under the CDM (2007) Regulations.

Check list: (Delete if not applicable or considered a general site risk)

Temp. stability / propping	Access	Risks to General Public	Asbestos	Confined spaces	Future maintenance
Hidden / buried services	Material handling	Hot works	Working at height	COSHH	Dismantling / demolition