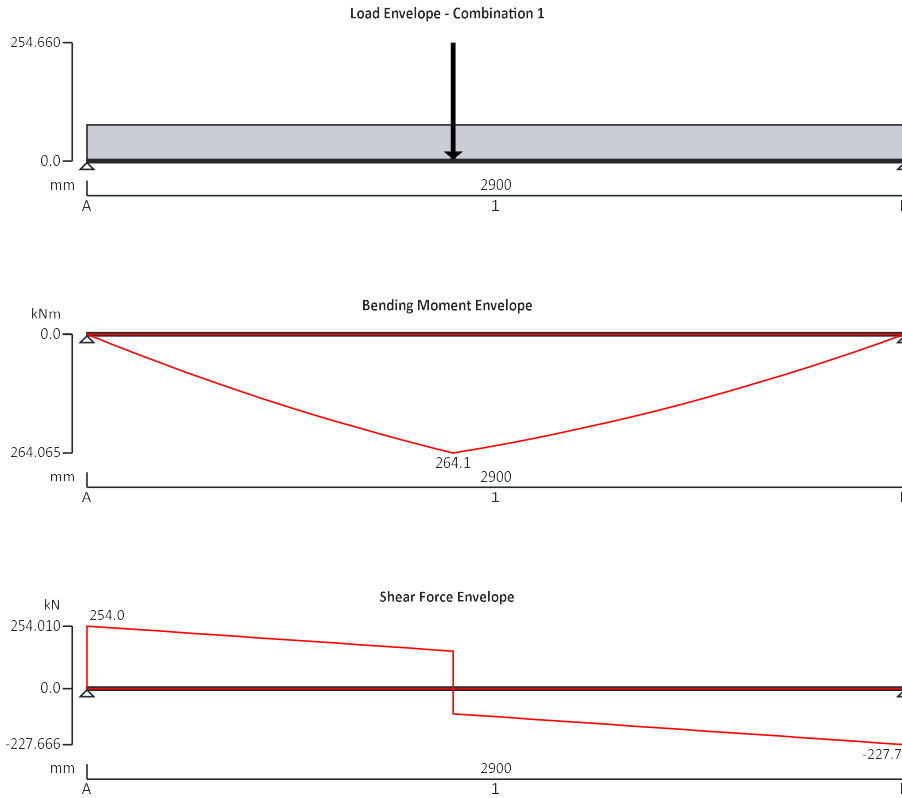


Hemsley Consulting Ltd Unit 18, Park Farm Hundred Acre Lane, Wivelsfield Green West Sussex, RH17 7RU	Project				Job no.	
	Farmhouse				Start page no./Revision	
	Calcs for				1	
		Beam 38				
Calcs by	Calcs date	Checked by	Checked date	Approved by	Approved date	
TJH	12/06/2023					

STEEL BEAM ANALYSIS & DESIGN (BS5950)

In accordance with BS5950-1:2000 incorporating Corrigendum No.1

TEDDS calculation version 3.0.08



Support conditions

Support A

Vertically restrained

Rotationally free

Support B

Vertically restrained

Rotationally free

Applied loading

Beam loads

Floor 1 - Dead full UDL 22 kN/m

Imposed full UDL 6.6 kN/m

Floor 2 - Dead full UDL 16.3 kN/m

Imposed full UDL 4.9 kN/m

Wall - Dead full UDL 3.6 kN/m

Beam 24 & 31 - Dead point load 181.9 kN at 1300 mm

Dead self weight of beam \times 1

Analysis results

Maximum moment;

$M_{max} = 264.1$ kNm;

$M_{min} = 0$ kNm

Maximum shear;

$V_{max} = 254$ kN;

$V_{min} = -227.7$ kN

Deflection;

$\delta_{max} = 4.8$ mm;

$\delta_{min} = 0$ mm

Maximum reaction at support A;

$R_{A_{max}} = 254$ kN;

$R_{A_{min}} = 254$ kN

Unfactored dead load reaction at support A;

$R_{A_{Dead}} = 162.4$ kN

Unfactored imposed load reaction at support A;

$R_{A_{Imposed}} = 16.7$ kN

Maximum reaction at support B;

$R_{B_{max}} = 227.7$ kN;

$R_{B_{min}} = 227.7$ kN

Unfactored dead load reaction at support B;

$R_{B_{Dead}} = 143.6$ kN

Unfactored imposed load reaction at support B;

$R_{B_{Imposed}} = 16.7$ kN

Section details

Section type;

UC 254x254x89 (BS4-1)

Steel grade;

S275