and the second of 3kN located 1000mm from the right hand end. Check to see that the lintel is safe.

L = 2.1m w = 110mm
a_1 = 0.6m h = 506mm
a_2 = 1.1m P_1 = 2kN
b_1 = 1.0m P_2 = 3kN
b_2 = 1.5m W = 1.06kN/m*

*The mass of brickwork applies a force of about 19kN/m³; therefore:–
W = 19 X 0.11 X 0.506 = 1.06kN/m

Check for maximum bending moment

$$= \frac{1.06 \times 2.1}{8} + \frac{2 \times 0.6 \times 1.5}{2.1} + \frac{3 \times 1 \times 1.1}{2.1} = 2.7\text{kN/m}$$

Table 1 shows the moment capacity of this lintel to be 8.45kN/m.
It is therefore OK.

Check for maximum shear

$$\text{Shear at X} = \frac{2 \times 1.5}{2.1} + \frac{3 \times 1}{2.1} + \frac{1.06 \times 2.1}{2} = 3.97\text{kN}$$

$$\text{Shear at Y} = \frac{3 \times 1.1}{2.1} + \frac{2 \times 1.5}{2.1} + \frac{1.06 \times 2.1}{2} = 4.11\text{kN}$$

Both are less than the shear capacity of the lintel – 8.36kN – given in Table 1. It is therefore OK for shear.
The experienced designer will observe that shear at Y will be bigger than at X and will therefore not need to check both.

Table 1
PERMISSIBLE LOADS INCLUDING SELF WEIGHT ON BEAMS 110mm IN THICKNESS

Uniformly distributed loads (kN/m)
Span (mm)

No. of Courses of Brickwork / Depth to (m) Steel	d	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	Mc Moment Capacity (kN/m)	V Shear Capacity (kN)
3	0.167	5.3	3.2	2.1	1.4	1.0	0.7	0.5	0.3	0.2	0.1	0.0	3.16	3.1
4	0.252	11.0	6.8	4.5	3.2	2.3	1.7	1.2	0.9	0.7	0.5	0.3	4.89	4.8
5	0.338	18.2	11.3	7.6	5.4	4.0	3.0	2.2	1.7	1.3	1.0	0.8	6.66	6.5
6	0.424	26.6	16.7	11.3	8.1	6.0	4.5	3.5	2.7	2.1	1.7	1.3	8.45	8.3
7	0.509	36.1	22.7	15.4	11.1	8.2	6.3	4.9	3.8	3.0	2.4	1.9	10.23	10.1
8	0.595	46.7	29.5	20.1	14.4	10.7	8.2	6.4	5.1	4.1	3.3	2.7	12.04	11.9
9	0.681	58.3	36.8	25.1	18.1	13.5	10.4	8.1	6.5	5.2	4.2	3.5	13.85	13.2
10	0.767	70.8	44.8	30.6	22.1	16.5	12.7	10.0	8.0	6.5	5.3	4.3	15.67	15.5

Table 2
HESBIA LINTELS FOR OPENINGS IN WALLS SUPPORTING TILED ROOFS
See Note 1

REQUIRED NUMBER OF COURSES (including the one below the tension bar)							
Span (mm)	Wall Thickness	Distance between walls = Span of roof (m) = A or C or A+C					See Note 2
		3.0	4.0	5.0	6.0	7.0	8.0
1800	90	3	3	3	3	3	4
	110	3	3	3	3	3	4
2100	90	3	3	3	4	4	4
	110	3	3	3	4	4	4
2400	90	3	4	4	4	4	4
	110	3	3	3	4	4	4
2700	90	4	4	4	4	5	5
	110	4	4	4	4	4	4
3000	90	5	5	5	5	5	5
	110	4	4	4	4	5	5
3300	110	5	5	5	5	6	6
3600	110	5	5	6	6	6	7

Table 3
HESBIA LINTELS FOR OPENINGS IN WALLS SUPPORTING 125mm CONCRETE SLABS See Note 1

REQUIRED NUMBER OF COURSES (including the one below the tension bar)							
Span (mm)	Wall Thickness	Distance between walls = Span of roof (m) = A or C or A+C					See Note 2
		3.0	4.0	5.0	6.0	7.0	8.0
1200	90	5	6	7	7		
	110	4	5	6	7		
1500	90	5	7	8	9		
	110	5	6	8	9		
1800	90	6	8	9			
	110	6	7	9	10		
2100	90	7	9				
	110	7	8	10			
2400	90	8					
	110	8	9	11			
2700	90	9					
	110	9					
3000	110	9					

Values in this shaded area must be calculated

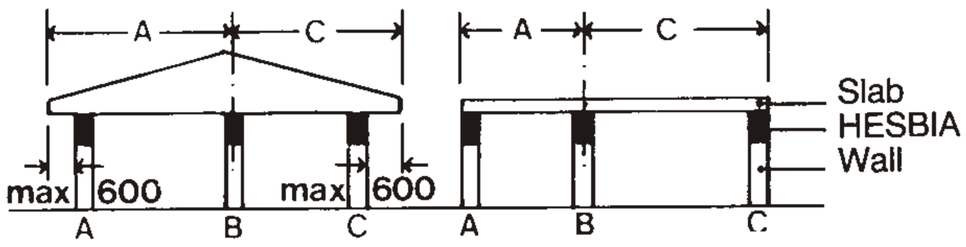
Notes to Tables 1 and 2

1. The roof loads are taken from the SAA Loading Code: AS1170 – Part 1, as follows:
   (a) – Roof framing and 10mm fibrous plaster 8.30kg/m²
   – Terra cotta roof tiles 58.60kg/m²
   – Concrete roof tiles 53.70kg/m²

   Total load – say 0.66kPa

   NO PERMANENT LIVE LOAD ALLOWED FOR

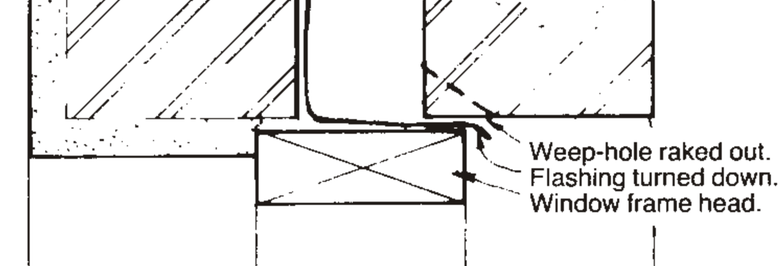
   (b) – The dead-load from the slab is based on a concrete density of 2400kg/m³.
   – The live-load is taken as 2.0kPa.
2. The distance between walls: – the span of the roof or suspended floor slab, shown in the following diagram:



is determined as follows: Wall A – distance = A
Wall C – distance = C
Wall B – distance = A + C

HEAD FLASHINGS FOR WINDOW AND DOOR OPENINGS

It is important that cavity flashings do not penetrate through the thickness of a HESBIA lintel. The method shown in the accompanying detail will act to divert any water running down the inside face of the external leaf and will be satisfactory in all but very severe conditions of exposure where workmanship is poor and the cavity has been bridged.
If either of these conditions is likely to prevail, it is permissable to build the flashing material into the inner leaf for a maximum distance of 10mm.



BRUNSWICK SALES 03 9870 6400
info@brunswicksales.com.au

PATENT APPROVED No 535657