

Loading Guide:

Typical House Loadings

The logo for Evolution features the word "evolution" in a bold, lowercase, grey sans-serif font. To the right of the text is a large, red, curved swoosh that starts thin and tapers to a point, resembling a stylized 'e' or a dynamic arrow.

evolution

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Note

This guide is indicative only and was prepared for the purpose of giving pre-design structural element sizing information and as an educational tool. Evolution does not burden accountability for the misuse of misinterpretation of the information presented herein with.

Loading Guide: *Typical House Loadings*

1.0 – Modern house loads

Roof Loads:

Example	=	Attic space below (roof).		
Description	=	Concrete tiles on battens on counter battens on 3 layers of felt on plywood sheeting on rafters.		
Loads	=	Tiles	=	0.55 kN/m ²
		Battens/ Counters	=	0.05 kN/m ²
		Felt	=	0.11 kN/m ²
		Sheeting	=	0.05 kN/m ²
		Rafters*	=	0.07 kN/m ²
		TOTAL	=	0.83 kN/m ²
*	=	Assume 125mm x 50mm @ 600mm c/c		

Weight = $\left(\frac{bd}{5} \times 000.7\right)$

Ceiling Loads:

Example	=	Ceiling.		
Description	=	Insulation, plasterboard and services on joists.		
Loads	=	Plasterboard (12mm)	=	0.13 kN/m ²
		Joists (100mm x 50mm @ 600mm c/c)	=	0.06 kN/m ²
		Services	=	0.10 kN/m ²
		Insulation (18mm)	=	0.06 kN/m ²
		TOTAL	=	0.35 kN/m ²

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Floor Loads:

Example = Upper floor.

Description = Timber boards on joists with ceiling and services hung under joists.

Loads	= Timber boarding	=	0.07	kN/m ²
	Joists	=	0.12	kN/m ²
	(150mm x 50mm @ 450mm c/c)			
	Ceiling (plasterboard)	=	0.13	kN/m ²
	Services	=	0.10	kN/m ²
	Total	=	0.42	kN/m ²

Example = Ground floor.

Description = Timber boards on joists with under hanging services.

Loads	= Timber boarding	=	0.07	kN/m ²
	Joists	=	0.12	kN/m ²
	(150mm x 50mm @ 450mm c/c)			
	Services	=	0.05	kN/m ²
	TOTAL	=	0.24	kN/m ²

Wall Loads:

Construction	Load <i>(kN/m²/mm [thickness])</i>
Brick	0.021
Block	0.013
Additions	
Plaster (per side)	0.22
Roughcast (per side)	0.40
Timber stud (with plasterboard either side)	0.25

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Note: If the position of the internal stud is unknown, conservatively assume a load of 1.0 kN/m² onto floor.

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2.0 – Older house loads

Roof Loads:

Example	=	Attic space below (roof).		
Description	=	Concrete tiles on battens on counter battens on 3 layers of felt on plywood sheeting on rafters.		
Loads	=	Tiles	=	0.55 kN/m ²
		Battens/ Counters	=	0.05 kN/m ²
		Felt	=	0.11 kN/m ²
		Sheeting	=	0.05 kN/m ²
		Rafters*	=	0.07 kN/m ²
		TOTAL	=	0.83 kN/m ²

* = Assume 125mm x 50mm @ 600mm c/c

Weight =

$$\left(\frac{bd}{5} \times 000.7 \right)$$

Ceiling Loads:

Example	=	Ceiling.		
Description	=	Lath and plaster on joists with under hanging services and ash deafening.		
Loads	=	Plasterboard (12mm)	=	0.13 kN/m ²
		Joists (100mm x 50mm @ 600mm c/c)	=	0.06 kN/m ²
		Services	=	0.10 kN/m ²
		Insulation (18mm)	=	0.06 kN/m ²
		TOTAL	=	0.35 kN/m ²

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Floor Loads:

Example	=	Upper floor.
Description	=	Timber boards on joists with ceiling and services hung under joists.
Loads	=	Timber boarding = 0.07 kN/m ²
		Joists = 0.12 kN/m ² (150mm x 50mm @ 450mm c/c)
		Ceiling (plasterboard) = 0.13 kN/m ²
		Services = 0.10 kN/m ²
		TOTAL = 0.42 kN/m²

Example	=	Ground floor.
Description	=	Timber boards on joists with under hanging services.
Loads	=	Timber boarding = 0.07 kN/m ²
		Joists = 0.12 kN/m ² (150mm x 50mm @ 450mm c/c)
		Services = 0.05 kN/m ²
		TOTAL = 0.24 kN/m²

Wall Loads:

Construction	Load <i>(kN/m²/mm [thickness])</i>
Brick	0.021
Block	0.013
Additions	
Plaster (per side)	0.22
Roughcast (per side)	0.40
Timber stud (with plasterboard either side)	0.25

Note: If the position of the internal stud is unknown, conservatively assume a load of 1.0 kN/m² onto floor.

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3.0 – Tenement building loads

Roof Loads: As per modern house loads.

Ceiling Loads: As per older house loads

Floor Loads:

Example	=	Upper floor.		
Loads	=	Timber boarding	=	0.07 kN/m ²
		Joists (300mm x 50mm @ 450mm c/c)	=	0.23 kN/m ²
		Ash deafening	=	0.10 kN/m ²
		Services	=	0.10 kN/m ²
		Lath and plaster	=	0.45 kN/m ²
		TOTAL	=	0.95 kN/m ²

Example	=	Ground floor.		
Loads	=	Timber boarding	=	0.07 kN/m ²
		Joists (150mm x 50mm @ 450mm c/c)	=	0.12 kN/m ²
		Services	=	0.10 kN/m
		TOTAL	=	0.29 kN/m ²

Wall Loads: As per older house loads.

