

DEM Design. Engineering. Manufacture.

“Supporting the Steel Framing Industry”

www.lightgaugesteel.co.uk

Light Gauge Steel Portal Frame Load Span Tables



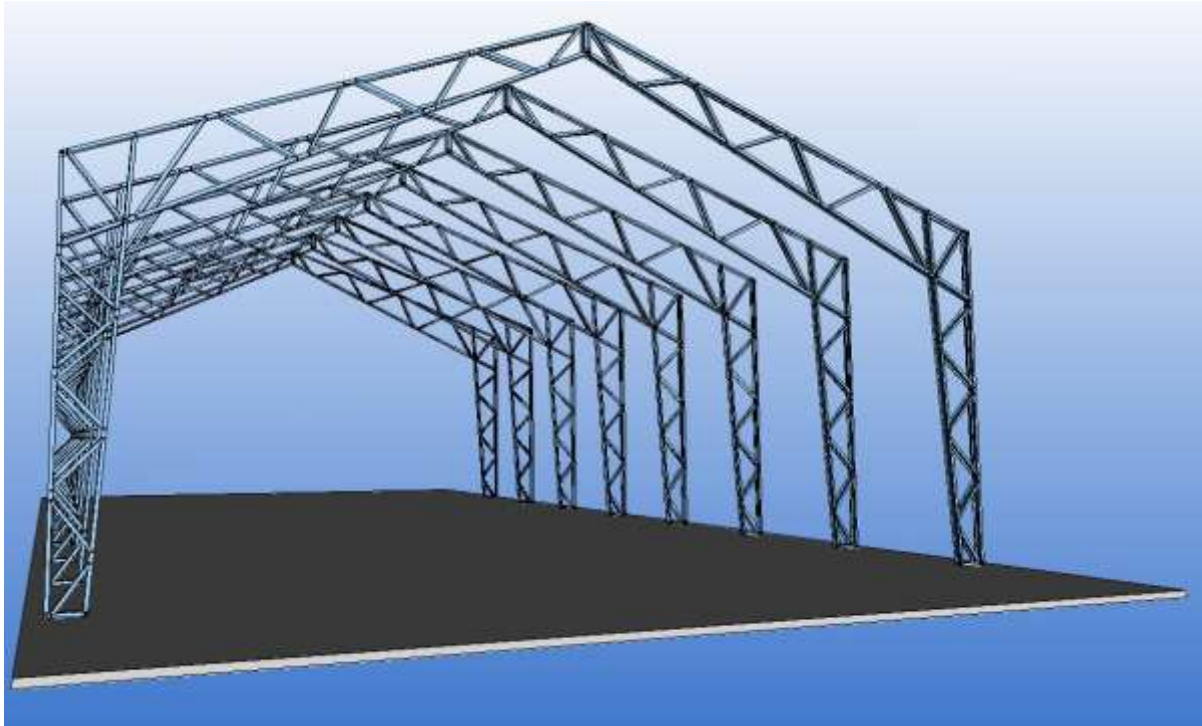
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OVERVIEW

The essence of the designs is that rather than use solid hot rolled sections rafters are assembled from sections of light gauge steel into lattice trusses or 'scissor frames' as shown in the image below.



Designs have been run for various span and eaves combinations and the resulting span, bay spacing and weights per square meter for plan footprint of building are tabulated below.

	Span (m)	Length (m)	Bay Centres (m)	Weight (Kg)	Steel Kg / m ²
15m span, 6m Eaves	15	116	5.7	300.4	3.5
20m span, 6m Eaves	20	160	4.5	414.4	4.6
15m span, 8m Eaves	15	135	3.9	349.7	6.0
20m span, 8m Eaves	20	154	4.1	398.9	4.9
25m span, 8m Eaves	25	170	4	440.3	4.4
30m span. 8m Eaves	30	238	3.8	616.4	5.4

Table above is based on the standard Howick 100 x 1.6 g profile as an example ONLY. Other profiles will work. Please contact Steve Napper at Stephen Napper Associates Ltd (steve@mmcengineer.com) for project specific details and to discuss your requirements.

Localised reinforcement in the form of additional members, using the Howick four profile compound are required in some instances around the eaves and numerous diagonal to chord connections need additional fixings, or 'plating' to reinforce the connections. It should also be noted that dimensions stated are external, and that column depths can be deeper than traditional forms of construction. DEM have developed these solutions over the last few years to offer the most economic solution. This solution in one form or another can be found as far apart as Brazil, Afghanistan and Russia – DEM are awaiting photo's for case studies at the time of writing. Please contact DEM for details of the frames or to discuss your project specific requirements.

The above table is based upon BRITISH STANDARDS, though similar results can be obtained using the Euro Codes (EC's) and are readily available from Stephen Napper Associates Ltd. The practice is also working on American and New Zealand Standards designs for their multinational clients.

DEM

Design. Engineering. Manufacture.

DEM is the combination of the knowledge of three well established companies that are working together to make the transition to Light Gauge Steel Construction easier to handle.

Stephen Napper Associates Ltd

Stephen Napper Associates Ltd is a leading Structural and Civil Engineering Consultancy with a specialty in light gauge steel. The practice is at the cutting edge of Light Steel Framing design, with over ten years experience in the area, as well as other MMC methods. Stephen Napper Associates Ltd, with the SCI, has developed designs to the new Eurocodes (EC3, came into effect March 2010) to gain the most competitive advantage they can for you, our client. They are also working with the SCI on CE Marking for our clients – a legal requirement in October 2013.

Howick Ltd.

Howick have been building rollforming equipment for over 30 Years. Their focused Framing Machines are designed to quickly produce accurate load bearing frames that allow the production of multi storey structures. Howick offer customised tooling to suit your specific needs where required.

Vertex

Vertex is the leading building design software company that allows full design of all components from the foundation to the walls, floors and roof design. Design is made easy with various automated features as well as a library of building components that allow the designer a high degree of flexibility to take both the exterior and interior to a fully finished state including furnishings. Vertex then has an automated and custom link to the Howick Rollforming machine to turn accurate building design into accurate production.



What can DEM do for you?

We don't propose we do all the work for you but we do make three of the largest components of your business easier. We do this by offering our knowledge in each of our specialist areas.

The three main Questions we do answer are.

How do I take those initial plans from concept to production ready designs?

How do I make sure the designs meet the required standards and codes?

How do I produce the framing components and what equipment do I need?



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