Light Frame Steel vs Bricks

Reinforced **concrete** has a **compressive strength** in the region of 4,000 psi, **and steel** in the region of 25,000 psi. But in a typical **concrete** structure, the **compressive** load is borne by the bulk concrete, not the steel. When the **concrete** fails it crumbles, and material is forced out.

RhinoWall

Drywalling versus Brick: the differences

USAGE	RHINOWALL SYSTEMS	BRICK WALL
	Durable, tolerant and suitable of internal walls Generally non load bearing	Durable, tolerant and suitable for external walls Load bearing
Fire protection	Designed to provide ½ - 2 hours fire resistance	Provides 1 hour fire resistance
Wall surface	Smooth and crack free	Rough and cracks easily
Thermal conductivity/ Energy efficiency	Four times less heat convection, K = 0.17 W/mK	High heat convection, K = 0.69 W/mK
Flexibility of installation	No beam system required	Requires beam system to support
Weight	32kgm^2 84% lighter	200kgm^2
Modification	Can be installed in any area inside a building Load bearing systems available	Must consider the load bearing capacity of the structure
Renovations	Highly flexible and easy to renovate	Difficult, messy
Quality of materials	Standard quality supply of system from single source – tested systems	Difficult to control. Various sources of supply
Quality of wall after installation	Standard installation. Easy to control	Depending on labour skills and experience
Sound insulation	Designed to provide 45 – 63dB and can be enhanced further without greatly increasing weight and thickness of wall	35dB – 49dB
Ease of installation	Dry system. Easy preparation and keeps site clean - less dust on site and a safer site	Requires the addition of clean water to prepare it for use
Services	Services can be easily installed – dedicated systems – advanced planning	Requires careful advance planning – in some cases chasing and re-plastering
Labour/training	Easy to learn – RhinoWall (Gyproc) provides training	Special training over a long period
Plastering	Accurate building methodology. Boards are lightly skimmed – giving perfectly level and smooth finish. Accurate costing – minimal wastage	Dependant on level and square of brickwork. The intensity of correcting this is questionable. Cost of plastering will vary – high wastage
Ease of repairing	Gypsum board is compatible with RhinoLite skimming compound	Re-plastering requires preparation and success is questionable
Crane time saving/coverage of material when lifted into high rise buildings	1000kg/l tonn plasterboard = 31m^2 coverage 6x times crane time saving	1000kg/l tonn bricks = 5m^2 coverage
Internal and external corners	Mechanically attached metal corner bead – level and square and offers protection. Hidden with RhinoLite	Dependant on plaster skills
Project management Change in schedule of works	Envelope of building to be closed when building with RhinoWall	Envelope of building can be exposed while building internal walls
Load bearing characteristics	Load bearing studs and tracks to be planned when building with RhinoWall	Dependant on brick type – most are load bearing and heavy objects can be hung
Resistance to water	No plastering. Gypseal coating – then the same ceramic tiling membrane and latex based sealer in showers – prior to tiling. Can only be used internally	Will required to be plastered and then sealed with ceramic tiling membrane and latex based sealer in showers – prior to tiling