

# STELLARIA.

TECHNICAL RESOURCE DOCUMENTATION



## Cost Comparison - Porotherm vs Concrete Masonry

<b>Description</b>	Cost Comparison – Porotherm vs Concrete Masonry
<b>Issue Date</b>	2022
<b>Revision</b>	V1.0

## Porotherm versus Concrete Masonry

### Concrete Masonry inc Dense Concrete

### Porotherm

	Concrete Masonry inc Dense Concrete	Porotherm
<b>Speed of laying</b>	The laying speed of Porotherm is up to 4 times that of traditional masonry.	
<b>Programme Benefits</b>	10mm vertical and perpendicular bed joints. Height capability restricted by the need to back up with facing brick and insulation after 1.2m.	1mm beds, no mortar in vertical joints, blocks interlock mechanically. Storey height capability without the need to back up allows the external envelope to be removed from the critical path. Reduced time to a water-tight shell. Quicker availability for finishing trades.
<b>Mortar</b>	A material cost to the project. Once the wet bed joints are laid the mortar is slow to set with full strength reached at circa 48hrs.	Supplied with blocks free of charge. Circa 95% less water built in. Once applied to the blocks, the bed joint mortar begins to set within 30 minutes. Significant strength is gained after a matter of hours with full strength reached at circa 24 hours.
<b>Safety</b>	Dense concrete blocks are not designed for single hand handling, weighing up to 19kg. The application of mortar introduces the risk of dermal burns etc. Dense concrete walls with wet mortar beds are not stable when unsupported.	Porotherm blocks are typically lighter in weight than concrete blocks, with the PTH-100 block weighing only 6.4kg. Porotherm blocks have rounded ends and no sharp corners. Using the roller to apply the bed joint mortar reduces the risk of skin contact thus reducing dermal burns etc. The walling system is stable and rigid with storey height achievable in a working day.
<b>Strength</b>	Dense blocks are manufactured to a range of compressive strengths.	Core Range compressive strengths typically $\geq 10$ N/mm <sup>2</sup> hence reduced requirement to keep multiple block types on-site also reducing the risk of the wrong block being used in the wrong location. Reduces storage requirements on tight sites.
<b>Movement joints</b>	Typically, 3 and 6m centres.	Typically, 20m centres.
<b>Waste</b>	Typical industry guidelines suggest 40% waste against mortar and 15% waste against block.	Minimum waste on mortar, typically 2% block wastage.
<b>Efficiency</b>	Dense concrete blocks provide less thermal resistance.	The blockwork typically has enhanced Psi values