



## Product Description

Cemwall™ is a proprietary system which uses pre-manufactured forms to construct solid concrete, efficient, economical, low maintenance, and beautiful residential and commercial buildings that are well insulated, energy efficient and impervious to fire, pests and weather.

Cemwall Systems designs, engineers, manufactures and delivers to your site a complete, customized construction package for residential construction, commercial construction, foundations, retaining walls, liquid containment tanks, storage enclosures, fencing, privacy or noise abatement, mechanical enclosures, security enclosures - anything that can be constructed conventionally can be constructed cleaner, greener, quicker, better, and in most cases less expensive with Cemwall™.

## Technical Data

Physical Properties	Results	Standards
<b>Flexural Strength</b>		
a. Flexural Strength (Along the fiber)	14.0 N/mm <sup>2</sup>	ASTM C1185
b. Flexural Strength (Across the fiber)	8.1 N/mm <sup>2</sup>	
<b>Modulus of Elasticity</b>		
a. Modulus of Elasticity (Along the fiber)	8726.3N/mm <sup>2</sup>	ASTM C1185
b. Modulus of Elasticity (Across the fiber)	6557.2 N/mm <sup>2</sup>	
Adhesion / Lamina (Bond) Strength, average	15N/mm <sup>2</sup>	ASTM D 1037
<b>Screw Withdrawal Strength</b>		
a. Perpendicular to the Surface (Dry Condition)	1243.2N	ASTM D 1037
b. Parallel to the Surface (Dry Condition)	791.2N	
Compressive Strength, average	2.6N/mm <sup>2</sup>	ASTM D 1037
Apparent Density	1355.8 kg/m <sup>3</sup>	ASTM C1185

Moisture Resistance Properties	Results	Standards
Moisture Content	6-8%	ASTM C1185
Impact Strength	156000 N mm	ASTM C1185
Thermal Conductivity	0.14 w/m*k	ASTM C518
<b>Moisture Movement</b>		
a. Length	-0.02%	ASTM C1185
b. Width	-0.02%	
Water Absorption, average	31.30%	ASTM C1185
Water Tightness	No water droplets at underside of sample	ASTM C1185

Durability	RESULTS	STANDARDS
Water Impermeability	No drops after 24 hrs	ISO 8336 (Part E)
Frost Resistance (Freeze / Thaw Tests)	Passes in 25 cycles	ISO 8336 (Part E)
Warm Water	Passes in 25 cycles	ISO 8336 (Part E)
Soak Dry	Passes in 25 cycles	ISO 8336 (Part E)
Heat Rain	Passes in 25 cycles	ISO 8336 (Part E)

Fire Resistance Properties	RESULTS	STANDARDS
<b>(a) Surface Burning Characteristics</b>		
Time to Ignition (in seconds)	No Ignition	ASTM E84
Flame Spread Index	0	0 is the best possible result
Smoke Developed Index	0	
<b>(b) Resistance to Fire</b>		
Combustibility	Non-Combustible	BS 476 Part 4
Ignitability	Class "P" - Not easily ignited	Part 5
Fire Propagation Index	< 3	Part 6 (Limit < 12)
Surface Spread of Flame	Class - 1	Part 7 (Class 1-4=excellent)
Specific Optical Density of Smoke	< 5	ASTM E 662
UK Building Regulations	Class "0"	

Concrete Type	FIRE RESISTANCE RATINGS - Florida Building Code				
	Minimum Slab Thickness (inches)				
	Fire Resistance Rating Of:				
	1 Hour	1.5 Hour	2 Hour	3 Hour	4 Hour
Siliceous	3.5	4.3	5	6.2	7
Carbonate	3.2	4	4.6	5.7	6.6
Sand-Lightweight	2.7	3.3	3.8	4.6	5.4
Lightweight	2.5	3.1	3.6	4.4	5.1

\* Cemwall Panels are engineered to accept 3000 - 6000 psi concrete mix designs.

\*\* The performance of a Cemwall Panel is the same as that of any formed or poured in place concrete structure except for spalling, which Cemwall Panels are designed to prevent.