

Jointly developed at the NTU-JTC Industrial Infrastructure Innovation Centren (I3C) and Prostruct Consulting, FasRaP is a Fibre Reinforced Polymer that is a 1-part reinforcing glass fibre roll pre-saturated with a tacky resin system that can be applied onto structural elements like a “double-sided tape”.

Blast mitigation

Blast Test

Peak Applied Pressure 1964 kPa

Positive Impulse Phase 892 kPa.ms

The blast test was concluded without any deformation to the FasRaP FRP on the front and back of the brick wall.



Control Brick wall



Wall with FasRaP (side view)



Wall With FasRaP (Front view)

Brick wall (1,800mm X 2,400mm) reinforced with 6 layers of FasRaP and 500mm overlay at both top and bottom was subjected to 2000 kPa blast load. This was done with 20 kg of TNT charge equivalent at a standoff distance of 4.5 m between the wall and charge.



Wall 4.5m away from blast

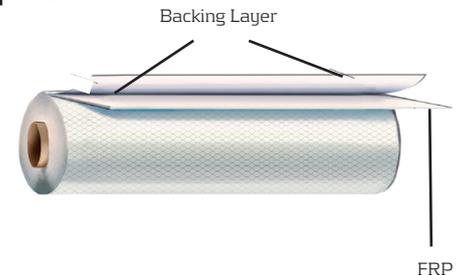


Load Bearing Test

Advantages

Fast curing resin system achieves full strength within 3 hours under suitable conditions.

- 1) Up to 30% cost savings in manpower and time
- 2) Factory controlled quality, unlike conventional skill-dependent methods
- 3) Easy on-site application and does not require on-site equipment



Applications

- 1) Reinforcement of old structures
- 2) Blast Protection of critical infrastructure

Technical Specifications	
Ultimate Tensile Strength(UTS)	750 MPa
Ultimate Elongation	2.4%
Tensile Modulus	35 GPa
Laminate Thickness	1.2 mm
Pull-off strength	5-5.8 MPa (Mode F/G failure)

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