



Textile Reinforced Concrete (TRC) is a composite material consisting of a fine-grained self-compacting concrete matrix reinforced by textile fabrics (AR-glass or carbon fibers). The main advantages of TRC are increased durability and reduced environmental impact. Since corrosion of the reinforcement is no longer a problem, much thinner and lighter elements can be designed reducing the consumption of raw materials. The material is developed by **CBI** and **Strangbetong**.

Name of product	Textile Reinforced Concrete (TRC)		
Function of product	Outer/Inner layer of sandwich facade elements		
Form	Bulk material (fluid/solid)		
Raw Material	Cement, Sand, Water, Fly-ash, Slag, Silica fume, Superplasticizer		
Properties			
Property	Unit	Value	Test methods/standardisation
Chemical/physical properties			
Bulk density	kg/m ³	2350	EN 12390-7
Structures and construction			
Dimensions of product	m		Customised dimensions
Mechanical properties			
Compressive strength	N/mm ²	> 70	EN 12390-3 (concrete only)
Modulus of elasticity	kN/mm ²	> 35	EN 12390-13 (concrete only)
Flexural strength	N/mm ²		
Tensile strength	N/mm ²	> 3	RILEM TC 162-TDF (concrete only)
Shrinkage	mm/m	1.1	"mechanical strain gauge" (concrete only)
Thermal properties			
Thermal conductivity	W/(m·K)	0.60	EN 12667 (concrete only)
Specific heat capacity	J/(g·K)		
Hygrothermal properties			
Water vapour diffusion resistance factor			
Moisture buffer value	kg/(m ² ·%RH)		
Water vapour permeability	kg/(m·s·Pa)		
Acoustic properties			
Sound absorption coefficient	%		
Sound reduction index	dB		
Fire Safety			
Reaction to fire			Spalling controlled using PP fibers
Resistance to fire	Minutes		
Environmental properties			
Non renewable energy	MJ/kg	1.31	(concrete only)
GHG emissions	kg CO ₂ eq	0.18	per kg (concrete only)
TVOC (SVOC)	µg/m ³		
Radon	Bq/m ³		
Photocatalytic capacity			Possibility for surface functionalization