



Increase Production
Speeds and Performance
of Precast Concrete

Precast Concrete with BarChip Fibre Reinforcement

At BarChip, we believe the future of concrete reinforcement exists in materials;

- That eliminate corrosion.
- Are environmentally friendly.
- Reduce construction time.
- Are safe and easy to use.
- Enable 100+ year design life.

We're making this vision possible with our BarChip synthetic fibre concrete reinforcement.

Join thousands of companies already using the macro synthetic fibre concrete reinforcement system and make the change to a better reinforcement today.

BarChip
Synthetic Reinforcing Fibre

Replacing Steel
Reinforcement in Concrete.



BarChip Inc.
The Synthetic Fibre Experts

When performance matters, choose BarChip fibre concrete.

www.barchip.com

Increase Production Speeds and Reduce Manufacturing Costs



EPC's BarChip structural synthetic fibres are engineered copolymer fibres used as concrete crack control and structural reinforcement in concrete.

The system works by distributing tens of thousands of high tensile fibres throughout the concrete mix (pictured right). Because fibres are mixed throughout the entire element they begin reinforcing at the exact point of stress and improve the overall ductility and durability of the structure.



Manufacturers Benefits

- Automated in-process batching of fibre alleviates the need to install individual wire fabric by hand.
- A safer working environment as it negates the need for workers to be near machinery and the need for lifting and bending of steel reinforcement.
- No requirements for stocks of steel mesh of varying sizes, making purchasing easier and increasing lay down areas.
- Increased output and reduced manufacturing costs.

Contractor Benefits

- Homogenous reinforcement that extends to the edges of the precast item, reducing spalling and impact damage.
- Reduced weight in some precast items.
- No corrosion of reinforcement.
- Reduced breakage during usage and storage.
- Precast Items can be cut on site in order to suit site obstructions.
- No possible puncture injuries during installation.
- 70% lower carbon footprint vs steel mesh.

Standards and Codes

Where appropriate, BarChip designs to the relevant international codes and guidelines, however custom and one-off designs such as electrical cabinets (pictured over page) are common in precast construction. These designs are not governed by standards but by performance. In cases like these BarChip is able to provide complete design solutions that optimise your fibre dose rate and ensure you have the best product at the lowest possible price.



Triple stack 6 and 8 foot diameter manholes

REINFORCED WITH **BarChip**

Delivered Precast Results:



100%

Reduction in Corrosion



70%

Reduction in Carbon Footprint



50%

Increase in Precast Production Speeds



40%

Reduction in Precast Concrete Costs

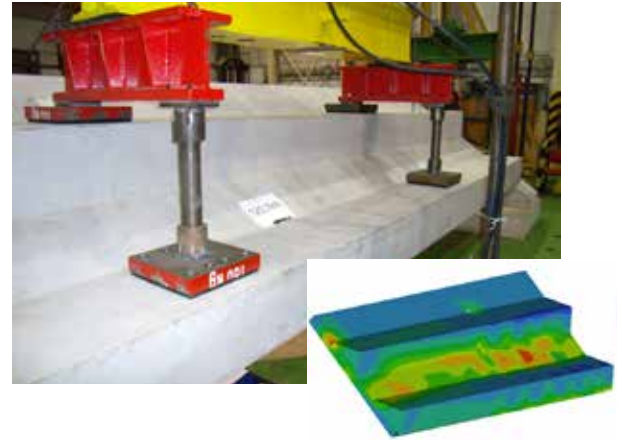
Proven Performance in Precast Concrete



The **22,000 seat Debrecen Football Stadium, Hungary**, built in 2013 faced a very tight budget and construction schedule. The stadium was built using more than 400 precast seating elements (pictured right).

The original base of the elements consisted of a 22 cm thick slab, however the weight and cost proved unworkable. By using pre-stressed strands in combination with BarChip synthetic fibre reinforcement the design thickness was reduced to 12 cm.

The University of Budapest conducted testing on 11 types of fibre reinforcement in accordance with RILEM TC 162-TDF and JSCE SF-4. At the end of testing BarChip structural synthetic fibres delivered a performance level approximately twice that of the next best fibre and was subsequently specified on the project.



Complicated steel cage structures are eliminated from BarChip concrete elements.

Molloy Precast Water Transfer D-Tanks, Ireland, are 2.84 m square by 2.6 m high with a capacity of 15,000 L and dry weight of 10,000 kg without the lid. The tanks are subjected to very high stresses and repetitive loadings as they would be filled and emptied every 15 minutes. Engineer Shane Fox of Molloy Precast explains;

“For these projects we wanted to offer real value for money to both the user and the government...and we knew that steel would not be the ideal solution, as corrosion would eventually occur and reduce the life span.

BarChip not only provided the answers we were looking for in terms of calculations but its design service was able to suggest improvements that made the tanks better.

BarChip 48 structural fibres were used to replace steel reinforcement. BarChip designs allowed the SCC mix to flow unhindered into the mould, allowed for a lighter overall structure and shortened the overall production cycle time”.



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