BarChip® Synthetic Reinforcing Fibre

Batching and Mixing

for Barchip Structural Synthetic Fibre

epc Elasto Plastic Concrete

Adding Barchip fibre at the slump stand.

Adding Barchip fibre at a dedicated loading stand.

Adding Barchip fibre directly into load chute.

Adding Barchip "Bag and All" Before Loading Concrete

Batching Procedure

1 Determine the correct number of Barchip bags per batch.

2 Add Barchip bags to the empty agitator.

3 Add initial batch water.

4 Mix for one minute before adding dry materials.

5 Add dry materials and mix for five minutes.

Barchip is specified at a dose rate in kilograms per cubic metre according to project requirements.

Prior to batching determine the correct number of Barchip bags per batch. Check dose rate per cubic metre, number of cubic metres in the batch and the correct number of bags for the kilograms required.

Barchip is packaged in a water soluble paper bag.

It is recommended that Barchip (bag and all) is added from an approved loading platform to the empty concrete agitator before water and dry materials.

The bags should then be mixed with initial batch water for at least one minute to dissolve the bag and release the fibres.

After completing the batching process, mix for five minutes until all ingredients are blended into a homogenous mixture.

General Notes:

Slump

The concrete slump can be expected to decrease by 10 to 50mm depending on the amount of fibres dosed. Final slump should be checked and adjusted if necessary.

Packaging

Barchip Macro is packaged in a 3 kg bag. Barchip Shogun and Barchip Xtreme are packaged in 5 kg bags.

Automated Delivery System

Barchip is available in bulka bags containing a "puck" version suitable for use in automated delivery systems.

These systems can be integrated into the batch plant for computerised trouble free dispensing.

Macro 3 kgs

Shogun 5 kgs

Xtreme 5 kgs

Non-Preferred Batching Method

In the case of adding Barchip fibres after batching the concrete, the following procedure must be followed:

1 Ensure the slump is 80mm or greater.

2 Ensure the agitator is revolving at an appropriate mixing speed.

3 Add Barchip "bag and all" to the mix.

4 Ensure each bag is allowed to mix for 30 seconds before the next bag is added.

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BarChip® Synthetic Reinforcing Fibre

Finishing Guide

Product: BARCHIP Structural Synthetic Fibre

Receiving

Placing

Batching

Dependent on mix design some slump loss may be encountered with the addition of Barchip fibres. With higher slump concrete it is important that the mix is cohesive and the fibre homogenously mixed through the concrete. Note that high slump concretes can segregate causing fibres to appear on the surface, this should be avoided as it will make finishing difficult.

Barchip reinforced concrete is transported and placed in the same way as plain concrete either by chute, wheelbarrow or pump and consolidated with vibration to remove any entrapped air captured during the delivery and placement process.

For more detailed information on adding Barchip fibres to concrete refer to Barchip Technical Procedures-Mixing and Batching.

Placing

When preparing for finishing Barchip fibre reinforced concrete, some modification to the usual process is required to gain the full benefit of this reinforcement system.
As Barchip fibres are homogenously mixed throughout the concrete you will observe some fibres at the surface after striking off and levelling. It is important these fibres be incorporated back into the slab surface as they act as the front guard against cracks initiating at the surface.

These fibres can be easily bedded down with the use of a magnesium or timber bull float/roller/ tamper or similar tool to incorporate them into the surface paste. These tools are normally employed to remove surface imperfections left after the levelling process and prior to commencing finishing operations and this function will not be impeded by the addition of Barchip fibres.

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Finishing Guide
Product: BARCHIP Structural Synthetic Fibre

Finishing

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Finishing

When finishing Barchip reinforced concrete the blades of finishing tools (automatic or hand held) must be kept flatter for longer than is the normal practice with plain concrete to prevent fibre pullout. This will help embed the surface fibres as opposed to pulling them out of the surface with the trailing edge of a trowel which is applied with too much striking angle.

When using power trowels the blades should be kept flat for the first two passes and these passes should be at right angles to each other. The finisher will find this 'flat' technique will provide them with adequate surface paste when at the final finishing stage (when the blades start 'ringing' against the crisp concrete) and will be able to achieve any desired finish from non-slip to high burnish using normal techniques and timing.

This technique when mastered will produce a fibre free surface and has been employed for many years on both steel and synthetic fibre enhanced concretes.

Curing

Proper curing of concrete is essential when seeking the optimum performance outcomes. Curing means protecting the concrete from both rapid drying out and rapid cooling. This can be achieved with ponding of water or the application of a number of propriety systems including covers and applied compounds. If concrete is not properly cured, then uncontrolled cracks may form even when carefully detailed joints are provided.

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