

Steel and Synthetic fibres?!

Macro synthetic fibres become effective at crack widths that are wider in comparison to steel fibres at the same volume fraction and it is well documented that they creep under sustained load / stress.

BOSFA supply a range of steel and synthetic fibres to markets throughout Australasia. However, at this stage we are very careful not to market macro synthetic fibres into structural applications (where post crack strengths are used in design) and where tight crack control is required, such as ground supported slabs. Applications that are well suited for macro synthetics would be where crack control, fire and long term performance aren't a design consideration, such as temporary shotcrete linings in mines.

We currently recommend steel fibres for applications such as permanent tunnel linings, pre-cast elements, slab on grade etc, all of which have generic and comprehensive design rules developed specifically for steel fibre reinforced concrete.

It's our view that until the effects of creep are fully understood and specific design rules for macro synthetic are developed, concrete companies, engineers and contractors alike should treat their use in the general applications mentioned above with caution.



