

European Owens Corning Fibreglas SPRL, 1170 Brüssel, Belgium

# Alkali resistant glass fibers for concrete industrial flooring

The Anti-Crak® alkali resistant glass fibers from Owens Corning are specifically designed for the reinforcement of concrete and cement flooring and rendering applications. Its ability to outperform traditional fiber reinforcements such as polypropylene and steel has made it the choice of Italian flooring technology and materials specialist, Vinella S.r.l. Putignano-based Vinella has, over its 40-year history, realized more than 4 million square meters of concrete flooring.

Anti-Crak HP fibers do not corrode, are fire and acid resistant and, of course, the alkalis that are present in concrete. Compared to other fibers it is characterized by:

- Effectiveness of fibers in controlling shrinkage cracking in both the plastic and thermo-igrometric phases
- Improved, highly uniform dispersal within the concrete matrix to provide tridimensional reinforcement
- The possibility of a higher rate of additions without adversely affecting workability
- Resistance to fiber-bundle breakdown during mixing, allowing higher dosages and improved long-term properties of the concrete
- Virtual absence of reinforcement protrusions from flooring surfaces for better esthetics.

"The flooring market is becoming more sensitive to the issue of quality and is demanding ever higher levels of performance," says General Manager, Costantino Vinella. "Reinforcement fibers, typically steel and

polypropylene, were introduced to achieve performance improvement but we have had to look again at how further enhancements can be provided. The route we have taken is adoption of a new technology, that of glass fiber reinforcement, specifically Owens Corning's Anti-Crak HP fibers, which bring a next-step in performance."

Anti-Crak HP fibers have been specifically developed for the reinforcement of concrete structures under load and present a highly competitive performance profile compared with alternative reinforcements. They offer a tensile strength up to four times greater than steel and a modulus up to 10 times higher than that of polypropylene for effective, long-term reinforcement. Moreover, they have the same density as concrete and exhibit no tendency to float as can lighter polypropylene or sink like heavier steel fibers, thereby making them homogeneous with the matrix to give it better physical and mechanical performance, as well as improved flooring-surface appearance.

According to Costantino Vinella: "Using Anti-Crak HP fiber reinforcements we have

obtained outstanding results in flooring quality and durability, impact performance and resistance to damage."

"Anti-Crak HP fibers are safe, easy to handle and deliver a highly versatile reinforcement solution," explains Andrea Brucato, Sales Manager OCV™ Reinforcements Italy. "Simply by adjusting addition levels it can bring the same excellent control of early plastic shrinkage and long-term durability properties to floor screeds, ready mix concrete, pre-cast concrete, dry mix and renders, as well as sprayed concrete applications." ■

## FURTHER INFORMATION

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Owens Corning Alkali Resistant glass fibers deliver superior performance reinforcement for concrete industrial flooring.



Anti-Crak HP fibers from Owens Corning eliminate the problem of poor fiber dispersal in concrete mixes to give a higher performing impact resistant surface.