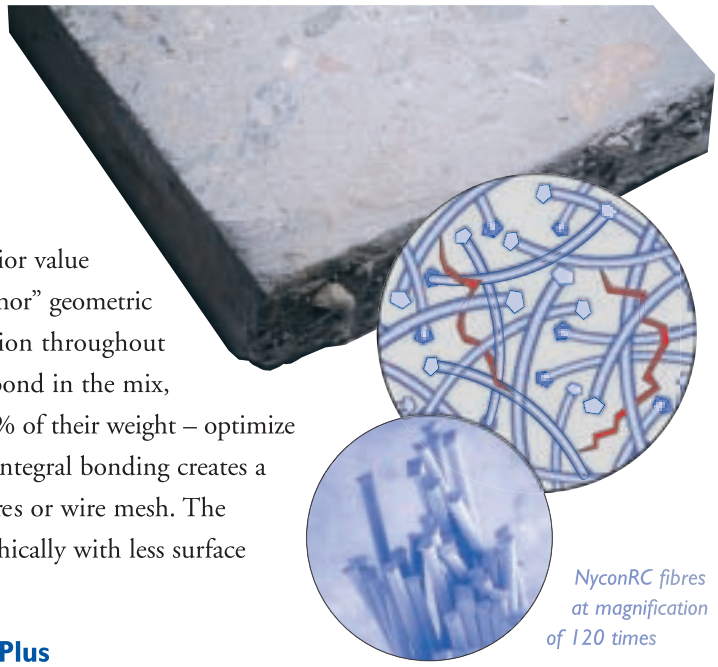
NyconRC® fibres…the best reinforcement for enhanced concrete performance.

If concrete function, long life cycle, and low maintenance are key performance specifications, you need to consider NyconRC fibres. Nycon-reinforced concrete withstands those invisible forces – the pushes, pulls, twists, bends, and chemical fizzes – that cause deterioration. It has greater integrity, streamlines building practices, and enhances the entire construction value chain.

Tough Plus

Plain concrete is brittle with low tensile strength and strain capacity. Weather-tolerant and UV-stable, NyconRC fibres are a proactive countermeasure against shrinkage cracking. They are a corrosion-free, toughening mechanism that enables concrete to withstand much greater stress when exposed to environmental and mechanical changes. Because they inhibit micro-cracks and other concrete birth defects, RC fibres allow concrete to sustain extraordinary impact load in the pre- and post-crack stages. The increased ductility that results creates a tougher composite material with a prolonged service life.



NyconRC fibres at magnification of 120 times

Smart Technology Plus

The reinforcing technology of NyconRC fibres delivers superior value to designers, contractors, and owners alike. A unique "end-anchor" geometric fibre design provides a greater surface area for better dispersion throughout the concrete matrix. The design strengthens the mechanical bond in the mix, while the hydrophilic, absorptive properties of the fibres – 4.5% of their weight – optimize the interfacial bond between the fibres and the mortar. This integral bonding creates a level of adhesion that is unattainable with non-absorptive fibres or wire mesh. The result is a homogeneous composite mix that behaves monolithically with less surface bleed water and settlement cracking.

Appearance Plus

Unlike other rigid polymers, NyconRC fibres flex and do not affect mix workability – it can be readily floated, finished, broomed, colorized, or patterned to produce a smooth, hairless surface suitable for architectural finishes and decorative applications.

Assurance Plus

With 46 million fibres per 0.6kg , NyconRC is mix-ready for better concrete management and quality control. The fibres are packaged in degradable bags and they can be introduced to the mix at the batch plant, on the truck, or at the job-site.

Value-Add Plus

NyconRC fibres are increasingly used in higher doses for specialized applications where maximum energy absorption and minimum failure are essential; for example, airplane hangars, industrial slabs, bridge decks, pre-cast architectural walls, floors and roofs, cellular concrete, autoclave and thin-sheet applications, and ultra-thin whitetopping.

Benefits of RC-Fibred Concrete

- Easier pumpability, no equipment clogging
- Less bleed water and plastic settlement
- Faster, easier finishing
- Superior freeze-thaw durability
- Significantly less shrinkage cracking
- Higher resistance to fatigue, corrosion, and abrasion
- Enhanced capacity for energy and impact absorption
- Greater toughness and ductility
- Extremely low permeability
- Smooth, hairless, more aesthetic surface… without the labor, waste, liability, and storage problems of wire mesh
- Decreased spalling and oxidation

Types of Construction Suitable for RC-Fibred Concrete

- Slabs-on-Grade
- Decorative Concrete
- Precast and Pre-stressed Products
- Whitetopping
- Concrete Pipe
- Shotcrete
- Earth Stabilization
- Repair and Retro Upgrade

Applications

- Commercial, industrial, residential buildings and floorings
- Academic, healthcare, correctional and other institutional facilities
- Highways, bridge deck overlays, tunnels, airport runways, taxiways
- Wastewater treatment, sewage, nuclear and hydroelectric plants
- Septic tanks, burial vaults, barriers
- Parking facilities, tilt-up and cast-in-place retaining walls
- Driveways, pools, pool decks, patios, decorative curbing
- Port and marine structures, water conduits, pools, sea walls
- Linings and pavements for mines and tunnels
- Blast-resistant structures

Engineered for Performance, NyconRC Fibres Are ISO-Compliant

Filament Diameter	23 microns	Water Absorption	4.5%
Fibre Length	19mm	Matrix Bonding	Excellent
Specific Gravity	1.16	Alkali Resistance	Excellent
Tensile Strength	896 MPa	UV Resistance	Excellent
Youngs Modulus	5.17 GPa	Concrete Surface	Non-hairy
Toughness	103 MPa	Polarity	Anti-magnetic
Melting Point	225° C	Air Entrainment	No substantial effect
Color	White	Fibre Orientation	Multi-dimensional fibre network
Fibre Count	46M per 0.6kg	Acid Resistance	Excellent
Ultimate Elongation	20%	Admixture Compatibility	Excellent

"We found that NyconRC-reinforced concrete did not crack, while a slab heavily reinforced with steel bar in the identical environment had severe plastic cracking. The fibres stopped the cracking while the bars merely held the cracked concrete together."

- U-Cart Mini-Mix Concrete
Darwin, Australia

"Nycon RC Nylon fibre is easy to work with; the fibre doesn't float to the surface or impede the quality of finish required and integrity of the concrete. Having worked with other fibres over the years, I now only use Nycon RC Nylon fibres in my jobs. Adding Nycon RC Nylon fibre gives me peace of mind knowing the fibre minimises shrinkage with increased impact resistance. I do not place and finish any concrete without adding Nycon RC to my jobs."

- Joe Bagnara, PSI Pavements
Adelaide, Australia

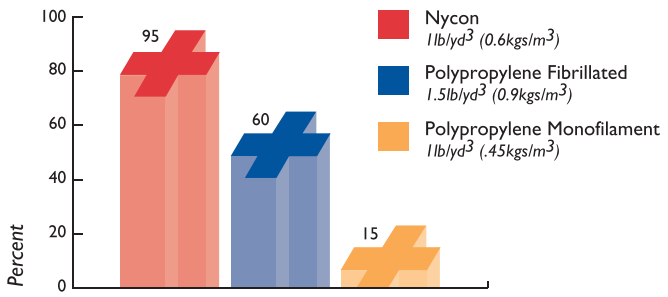
"True Line Kerbing Pty Ltd have used INCONMAT NyconRC fibres in a number of concrete floor, footpath and kerbing applications and have found the product to be exceptional. The surface finish was of the highest quality and compared to other synthetic fibres the workability is far superior. We will continue to use INCONMAT NyconRC fibres in all our concrete projects and would recommend its use in any concrete application."

- True Line Kerbing
Adelaide, Australia

"Ocean Marine Group utilizes a number of products supplied by INCONMAT for all Marine Asset repair and maintenance works. The quality and functionality of these materials have surpassed expectation. We will continue to use these products in all future specifications to assist asset longevity, as expected by our clients"

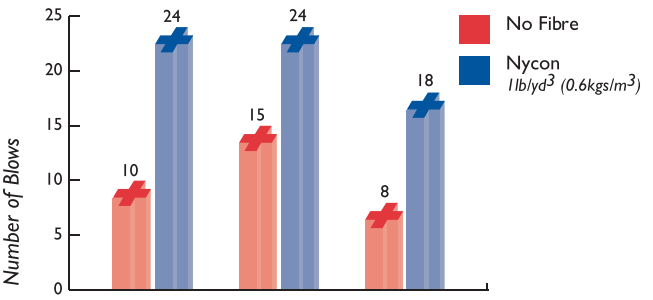
- Ocean Marine Group
National

Percent of Crack Reduction

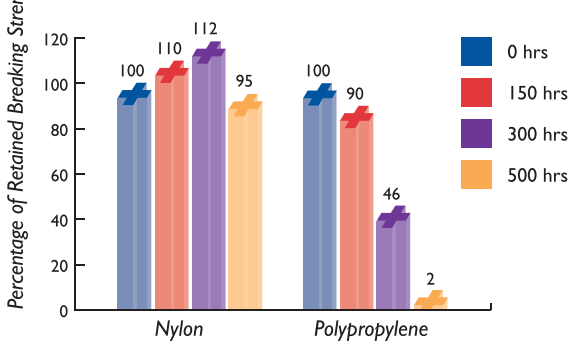


Impact Strength

Number of Blows to Failure at 28 Days



Durability in UV Light



NyconRC fibres conform to the following industry criteria:

- *American Society for Testing and Materials (ASTM) C1116, Section 4.1.3, Note 3.*
- *International Code Council Acceptance Criteria 32, Sections 4.1.1 and 4.1.2.*

Spec Data and three-part Manu Specs are available to design professionals.

ASK YOUR BUILDER TO USE NYCONRC

inconmat

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