

# Adfil® Strux 3040

Synthetic Macro Fiber

## DESCRIPTION

Adfil®Strux 3040 synthetic macro fibers are high strength, high modulus synthetic reinforcement that is evenly distributed throughout the concrete matrix. The macro fibers add toughness, impact, and fatigue resistance to concrete and improve residual strength and durability. Unlike traditional microfiber reinforcement, Adfil®Strux 3040 macro fibers are specifically engineered to provide post-crack control performance. Reinforced concrete with Adfil®Strux 3040 macro fibers has been shown to reliably achieve residual flexural strength values in excess of 1 MPa (150 psi) at dosages that can easily be batched and finished. Adfil®Strux 3040 macro fibers are 40 mm (1.57 in.) in length with an aspect ratio of 30 and have specifically been designed to replace welded wire reinforcement, steel fibers, and light rebar reinforcement.

Adfil®Strux 3040 macro fibers are a finisher-friendly fiber reinforcement, which are easier and safer to use, compared to other types of reinforcement. Adfil®Strux 3040 macro fibers may be used in a variety of ready mix, precast and shotcrete applications including slab-on-ground flooring, overlays, pavements, bridge decks, composite steel floor deck assemblies, mass concrete, thin-walled precast elements (septic tanks, vaults, walls, etc.), tunnel linings, pool construction and slope stabilization.

## ADVANTAGES

- Can be used to completely or partially replace light rebar, welded wire reinforcement, and steel fibers.
- Saves money through reduction or elimination of steel labor and material movement and storage costs, and fewer construction days.
- Enhances jobsite safety by eliminating handling of steel fibers, welded wire reinforcement, and rebar.
- Enhances jobsite safety by eliminating tripping hazards commonly associated with welded wire reinforcement and rebar.
- Eliminates concerns of proper positioning of reinforcement.
- Provides superior crack control due to the geometry, elastic modulus, and corrosion resistant properties (non-ferric). Due to unique fiber design and uniform three dimensional dispersion, both plastic and drying shrinkage cracking is reduced, improving the ductility and durability of the concrete.
- Ease of pumping, passes easily through pump grates.
- May be used to provide effective crack width control.
- Reduces shotcrete rebound and improves cohesion

## Method of Use

### Dosage

- Adfil®Strux 3040 macro-fiber addition rates are dependent on the specific application and desired properties, and will typically vary between 3 to 8 lb./yd 3 (1.8 to 4.8 kg/m3 ). Please consult your sales representative for proper addition rate of Adfil®Strux 3040 macro fibers for your application. Always consult local building codes.

The information contained in this technical data sheet is given to the best of our knowledge and the result from extensive testing - which were conducted in order to remain as objective as possible. However, it cannot, in any case, be considered as a warranty involving our liability in case of misuse or any different use of our products, other than those from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users.

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- Slab-on-Ground using the STRUX App available for both Android and Apple OS.
- The addition rate of Adfil®Strux 3040 macro fibers as an alternative to specified steel reinforcement for temperature and shrinkage can be easily calculated using the STRUX® App available for both Android and Apple OS. Refer to the Uses section of this document for Code Compliance and UL/ULC Classification requirements.

## Additional Usage Recommendations

- **Slab-on-Ground:** Adfil®Strux 3040 macro fibers are specially designed for ease of use, rapid dispersion, good finishability, and improved pumpability in slab-on-ground flooring and pavements. They may be used in commercial, industrial and residential floors, as well as other flat work and formwork applications.
- **Traditional light steel reinforced elements:** Adfil®Strux 3040 macro fibers can be used as a suitable alternative to welded wire reinforcement or light reinforcing steel specified for temperature and shrinkage reinforcement.
- **Precast and Prestressed concrete:** Adfil®Strux 3040 macro fibers can be used as a replacement for secondary reinforcements of normal and lightweight precast concrete elements and structures. (e.g. staircases, cellars, manholes, pits, septic tanks, vaults, walls etc.)
- **Composite Steel Floor Deck for Normal and Lightweight Concrete:** Adfil®Strux 3040 macro fibers can be used as a suitable alternative to welded wire reinforcement or light reinforcing steel specified for temperature and shrinkage reinforcement for composite steel floor deck assemblies. Adfil®Strux 3040 macro fibers comply with American National Standards Institute/ Steel Deck Institute (ANSI/SDI C-1.0) design code provisions for minimum reinforcing at the minimum addition rate of 4 lb./yd<sup>3</sup> (2.4 kg/m<sup>3</sup>). Adfil®Strux 3040 macro fibers are UL (U.S.) and ULC (Canada) classified with fire ratings up to two hours for D700, F700, D800, F800, D900 and F900 series except for 909, at a maximum addition rate of 8 lb./yd<sup>3</sup> (5.8 kg/m<sup>3</sup>). To view UL and ULC Classification go online to [www.ul.com](http://www.ul.com), file #R13667.

## CHARACTERISTICS

<b>Product Nature</b>	Polypropylene fibers
<b>Apparent density</b>	0,914
<b>Fiber length</b>	40 mm
<b>Ignition Point</b>	360 °C
<b>Tensile strength</b>	620 MPa
<b>Elasticity module</b>	10 GPa
<b>Melting Point</b>	165 °C

## PACKAGING

- 2.3 kg bag
- 1,8kg Bag (4 lb)

## PRECAUTIONS

- Read and understand the product label and Safety Data Sheet (SDS).
- All users should acquaint themselves with this information prior to working with the products and follow the precautionary statements.
- Keep in a temperate climate
- Ensure enough mixing time after fibers have been introduced into the mixer

## SAFETY

Prior to any use, please read carefully the Safety Data Sheet.