

STRUX[®] BT50

Synthetic Macro Fibre Reinforcement

Product Description

STRUX[®]BT50 synthetic macro fiber reinforcement is a high strength, high modulus synthetic macro reinforcement that imparts toughness, impact and fatigue properties to concrete.

STRUX[®]BT50 is a patented engineered design providing superior post-crack control performance with a broad range of applications. STRUX[®]BT50 reinforced concrete reliably achieves residual strength values in excess of 145 psi for every 4.5 lbs/ yd³ (1 MPa for every 2.7 kg/m³). STRUX[®]BT50 fibers are 2 in. (50 mm) in length with an aspect ratio of 75 and are primarily designed to replace steel fibers, welded wire fabric, light rebar and other select secondary reinforcement in slab-on-ground flooring. STRUX[®]BT50 is a userfriendly fiber reinforcement which is easier and safer to use, compared to other types of reinforcement.

Product Advantages

STRUX[®]BT50 has been designed to provide:

- Unique packaging provides superior dispersion
- No corrosion issue
- Enhances safety by eliminating handling of steel fibers, welded wire fabric or rebar
- Eliminates proper reinforcement positioning concerns.
- Provides superior crack control due to the geometry and elastic modulus
- Non corroding
- Controls both plastic and drying shrinkage
- Increased crack resistance, ductility and energy absorption or toughness
- Improved impact resistance

Method of Use

STRUX[®]BT50 is engineered for ease of use, excellent dispersion and finishability in slab-on-ground flooring applications. STRUX[®]BT50 can be used in commercial, industrial and manufacturing floors, along with other select flat and form work applications. STRUX[®]BT50 is also ideal for use in precast tunnel segments and other select precast applications, pavements and soil stabilization projects, shotcrete and blast resistance. Please consult your GCP Applied Technologies sales representative to discuss your specific application.

Advantages

STRUX[®]BT50 enhances safety during installation by eliminating the risk for potential injury caused by handling and placement commonly associated with steel fibres or welded wire fabrics. Additionally, STRUX[®]BT50 does not corrode.

The geometry, strength and the elastic modulus of STRUX[®]BT50 were optimized to provide superior crack control. STRUX[®]BT50 fibres are uniformly built into the concrete, eliminating a concern over proper positioning of reinforcement. Also, STRUX[®]BT50 controls plastic shrinkage cracking and cracking due to drying shrinkage of the concrete.

Addition Rates

STRUX[®]BT50 addition rates are dependent on the specific application and desired properties and will typically vary between 7 to 15 lbs/yd³ (4.0 to 9.0 kg/m³).

Mix Design and Mixing Requirements

The utilization of fibers generally requires the use of a superplasticizer such as ADVA[®] to restore the required workability to fiber reinforced concrete. STRUX[®]BT50 may be added to concrete at any point during the batching or mixing process. STRUX[®]BT50 should be added at a maximum rate of one bag every 30 seconds. After fiber addition the concrete should be mixed at the recommended mixing speed for a minimum of 70 revolutions to ensure adequate fiber dispersion.

Compatibility with other Admixtures

STRUX[®]BT50 is fully compatible with the complete line of GCP admixtures. STRUX[®]BT50 action in concrete is mechanical and will not affect the cement hydration process. Slight mix design modifications including increases in fine aggregate contents and high range water-reducer dosage rates may be required when incorporating STRUX[®]BT50 into a mix design. Each additional 3–4 lbs/yd³ (1.8–2.4 kg/m³) of STRUX[®]BT50 may reduce the slump of the concrete approximately 1 in. (25 mm).

Up front addition of STRUX[®]BT50 into empty drums prior to batching provides optimal STRUX[®]BT50 dispersion in the concrete mixture. However, STRUX[®]BT50 may be added to the concrete at any point during the batching or mixing process. STRUX[®]BT50 should be mixed a minimum of 70 revolutions as specified in ASTM C94.

Please consult with your GCP representative and refer to Technical Bulletin TB-1205 for further detail.

Packaging and Dispensing

STRUX[®]BT50 is available in 10 lb (4.5 kg) bags.

STRUX[®] BT50 Properties

Specific gravity	0.91
Absorption	None
Modulus of elasticity	1,000 kai (7 Gpa)
Tensile strength	80 kai (550 MPa)
Melting point	320°F (160°C)

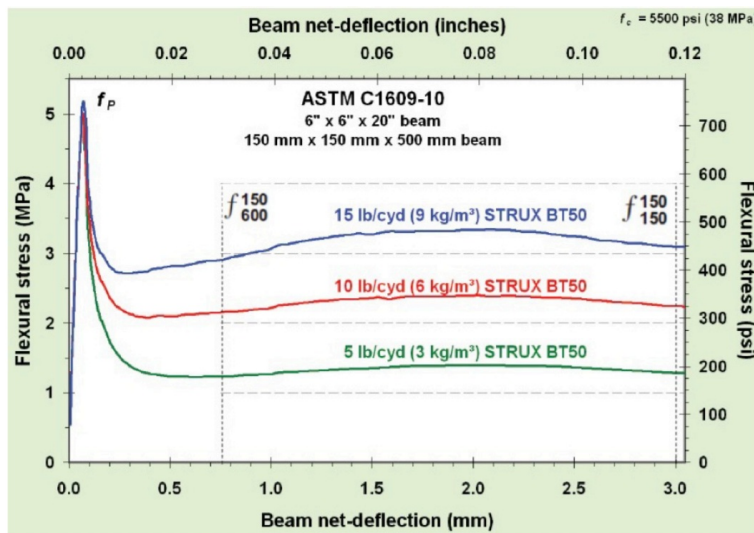
Ignition point 1,050 °F (570 °C)

Alkali, acid & salt High

Technical Service

The Technical Service Department of GCP is available to assist you in the correct and best use of our products. These resources and advice are at your disposal entirely without obligation. Please contact:

GCP Emirates Chemicals LLC
 Festival Tower, Suite 1701
 Dubai Festival City
 P.O. Box 5006
 Dubai, United Arab Emirates
 Tel: +971 4 2329901
 Fax: +971 4 2329940
 Email: meinfo@GCP.com



gcpat.ae | United Arab Emirates customer service: +971 4 5139560

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

STRUX is a trademark, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2018 GCP Applied Technologies Inc. All rights reserved.

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

P. O. Box 5006, Office 2104, 21 Floor, The Exchange Tower, Opp. JW Marriott Marquis Hotel, Business Bay, Dubai – United Arab Emirates

This document is only current as of the last updated date stated below and is valid only for use in the UAE. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.ae. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2025-05-15

gcpat.ae/solutions/products/strux-bt50