

Sinta™ F

Fibre reinforcement

Product Description

Sinta™ F are synthetic fibres for concrete, manufactured from 100% virgin polypropylene in collated, fibrillated form. Designed specifically for use in concrete, they are alkali-resistant, non-absorptive and completely non-corrosive. Their use provides secondary reinforcement and protects concrete from stresses which cause cracking while it is most vulnerable during the first 24 hours after placement. Sinta F comply with ASTM Designation C 1116 Standard Specification for Fibre-Reinforced Concrete and Shotcrete, Type III Synthetic Fibre-Reinforced Concrete or Shotcrete. They are available in 20mm length.

Applications

Sinta F may be used in any application where decreased cracking and improved durability are desired. Specifically such applications include but are not limited to, slabs on grade, elevated slabs, pavements, overlays, sloped walls, pools, shotcrete, stucco, precast and prestressed concrete products. As secondary reinforcement for crack protection and control Sinta F are a superior alternative to, and can eliminate the need for welded wire fabric. Sinta F are not recommended to increase joint spacing or as a substitute for any reinforcement required by the Model Building Codes and Standards.

Advantages

Sinta F uniformly distribute multi-dimensionally throughout the concrete mixture. The small fibrillated fibres mechanically lock in the fresh concrete matrix providing reinforcement for the mixture while its tensile strength is the weakest. This reinforcement reduces the formation of all types of early cracking. This cracking caused by plastic shrinkage, settlement, and other internal stresses would otherwise permanently weaken the resulting concretes. The concrete permeability is decreased, while the surface characteristics, impact, and toughness properties are improved. Together these effects work synergistically to produce a long-term, better quality, more durable and serviceable concrete.

Typical Properties

Specific Gravity	0.91
Absorption	None
Modulus of Elasticity	3,445MPa (500 ksi)
Melt Point	160°C
Alkali, Acid and Salt Resistance	High

Compatibility with Other Admixtures

Sinta F are compatible with all admixtures from GCP Applied Technologies. Their action in concrete is purely mechanical and will not affect the hydration process. Each admixture should be added separately.

Packaging

Sinta F are available in convenient Concrete-Ready™ Bags which are added, unopened, to the truck drum or central mixer. The specially designed cellulose fibre bag disintegrates and disperses its contents, 900g of Sinta F, throughout the mix.

Architects' Specifications

Sinta F shall be 20mm collated, fibrillated polypropylene fibres as supplied by GCP Applied Technologies. Required dosage rate shall be as specified by the design engineer or architect. Sinta F shall be used in strict accordance with the supplier's recommendations and within time as specified in ASTM C 94. The fibres shall comply with ASTM Designation C 1116 Type III 4.1.3 and with applicable building codes. Certification of compliance shall be made available on request. Standard ACI 302 procedures for placing, finishing and curing shall be followed when using Sinta F.



Mixing Requirements and Addition Rates

Sinta F may be added to concrete at any point during the batching or mixing process. Sinta F may be added to the aggregate during weighing or charging, or to the central mixer or truck before, during, or after charging. The load must be mixed at high speed for 5 minutes, or 70 revolutions, after the addition of Sinta F to ensure uniform distribution. The standard range of addition for Sinta F is 450 to 1,800g / m³ of concrete. Typically, 900g / m³ of Sinta F provides excellent results. Higher addition rates may be used to produce concrete when special properties are required.

References

Building Codes:

BOCA National Building Codes, SBCCI Standard Building Code, ICBO Uniform Building Code and all supplements as adopted by the Council of American Building Officials

Fire Classifications:

Underwriters' Laboratories (U.L.) on Series D700 and D800 metal deck assemblies

American Concrete Institute (ACI):

ACI 544 "State of the Art Report of Fibre-Reinforced Concrete"

ACI 302 "Guide for Concrete Floor and Slab Construction"

American Society of Testing and Materials (ASTM):

ASTM C 1116 "Standard Specification for Fibre-Reinforced Concrete and Shotcrete"

ASTM C 94 "Standard Specification for Ready-Mixed Concrete"

th.gcpat.com | Thailand customer service: 66 2 030 9700

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.

Sinta and Concrete-Ready are trademarks, 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 2017 GCP Applied Technologies, Inc. All rights reserved.

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

GCP Applied Technologies Holdings (Thailand) Limited., 848 Moo 2, Bangpoo Industrial Estate (North), Phraksa Mai, Muang Samutprakarn, Samutprakarn 10280, Thailand

This document is only current as of the last updated date stated below and is valid only for use in Thailand. 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.th.gcpat.com. 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: 2022-01-28

th.gcpat.com/solutions/products/sinta-f-fibers-sinta-m-fibers-sinta-fds/sinta-f