

Product Data Sheet

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SikaFiber® Force XR-50 mm

SikaFiber® Force XR - 50 mm (Formerly Novocon XR)**Steel Fibres**

Description	SikaFiber® Force XR fibres are low carbon, cold-drawn, continuously deformed steel wire fibres designed for the creation of steel fibre-reinforced concrete for shotcrete, precast and cast-in-place concrete.	
Where to Use	SikaFiber® Force XR steel fibres can be used in a variety of concrete applications, such as: <ul style="list-style-type: none"> ■ Industrial and commercial slab-on-grade; ■ Pre-cast concrete elements; ■ Shotcrete; ■ Composite metal decks; ■ Pavement, foundations, etc. 	
Advantages	<ul style="list-style-type: none"> ■ Improve the tensile strength of concrete; ■ Help control plastic shrinkage-cracking in concrete; ■ Help reduce or eliminate need for conventional reinforcement; ■ Provide three-dimensional reinforcement; ■ Improve fatigue strength and modulus of elasticity; ■ Easy to use and work with. 	
Standards	SikaFiber® Force XR meet the material requirements of ASTM A820 Type V Fibres. Furthermore, they are UL classified for use as an alternate to or in addition to Welded Wire Fabric used in Floor-Ceiling D700, D800, D900 Series Designs. SikaFiber® Force XR fibres may also be used in Design numbers G256 and G514.	
	Typical Data	
	Packaging	25 kg/bag 40 bags/box/pallet
	Fibre Length	50 mm (also available in 38 mm)
	Fibre Diameter	1.14 mm
	Aspect Ratio	44
	Tensile Strength	966 to 1242 MPa
	Deformation	Continuously deformed circular segment
	Shelf Life and Storage	5 years if stored in original and unopened packaging and in dry conditions. Protect product from the moisture and rain.

How to Use**Dosage**

While the application rate for SikaFiber® Force XR fibres will vary depending on the application, mix design and the specific performance/toughness requirements of each project, the typical dosage varies between 15 kg per cubic meter and 60 kg per cubic meter of concrete.

Mixing

Into the Weigh Hopper: Add SikaFiber® Force XR fibres directly into the hopper, preferably between the addition of the sand and the coarse aggregate.

Into the Mixer: Add SikaFiber® Force XR fibres into the running mixer after adding the aggregates. Do not place SikaFiber® Force XR fibres as the first component. Fibres can be introduced via the moving conveyor belt or by the automated dosing system together with sand and aggregate, or directly into freshly mixed concrete.

Into the Ready-Mix Truck: Introduce SikaFiber® Force XR fibres by hand or automated system with the sand or stone, or directly into the running mixing drum. Fibres can also be discharged into freshly-mixed concrete. After fibre introduction, keep mixing at full speed for at least 4 to 5 minutes to allow fibres to be evenly distributed throughout the entire mix. If the fibres are introduced via degradable bags, allow an extra 5 minutes of mixing after the addition of the last bag and check distribution visually. Mix for an additional 30 to 60 seconds if needed to achieve a uniform distribution of the fibres. The maximum speed of fibre addition is 60 kg per minute.



Construction

Tooling and Finishing

When concrete is pumped, keep discharge chute approximately 30 to 50 cm (12 to 20 inches) above the pump hopper grate to minimize the risk of constricting flow through the grate. The addition of SikaFiber® Force XR fibres at the normal recommended dosage rate does not require any mix design or application changes. If additional workability is required, a Sika mid-range or high-range water-reducer may be used, though not essential. Fibre-reinforced concrete can be finished by most finishing techniques. SikaFiber® Force XR can be used in power- or hand- trowelled concrete. In some cases, an extra bull float process is advised as well as lowering the angle of the power float blades to help minimize the exposure of fibres on the surface.

Clean Up

Use personal protective equipment (chemical resistant goggles/gloves/clothing). Ventilate area. In absence of adequate ventilation, use properly-fitted NIOSH respirator. Without direct contact, remove spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the **most recent Safety Data Sheet** containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelf life. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.



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