

# SikaFiber® Force-850 *(Formerly Novamesh 850)*

## Steel and Synthetic Reinforcing Fibre Blend

**Description** SikaFiber® Force-850 is a blend of Type V steel fibres and micro-synthetic polypropylene fibres. The combination of the two fibre type provides a complete reinforcement system against plastic shrinkage cracking and provides post first crack toughness reinforcement. The result is more durable concrete with a higher life expectancy.

**Where to Use** SikaFiber® Force-850 fibres reinforce concrete thanks to a multi-dimensional network of fibres. SikaFiber® Force-850 can be used in most types of concrete: its primary applications include industrial and warehouse-floor slabs and precast elements like septic tanks, burial vaults, utility vaults, etc. SikaFiber® Force-850 can also be used on elevated decks where composite steel decking is used, parking areas, service ramps, ingress and egress roadways, water diversion channels and for slope stabilization.

- Advantages**
- Provides temperature-shrinkage cracking reinforcement equivalent to welded wire fabric;
  - Improves post first-crack reinforcement;
  - Improves impact- shatter- and abrasion-resistance of concrete;
  - Reduces the formation of plastic and drying shrinkage cracking in concrete;
  - Provides multi-dimensional reinforcement;
  - Improves tensile and flexural strength of concrete;
  - Enhances durability, and improves fatigue strength and toughness of concrete.

**Standards** The steel fibres in SikaFiber® Force-850 meet the requirements of ASTM C1116, Section 4.1.1. and ASTM A820, Type V. The microsynthetic polypropylene fibres meet the requirements of ASTM C1116, Section 4.1.3, Type III and Note 2; it is also listed in ICC ES ESR-1699 and meets the requirements of ICC ES AC32, Sections 3.1.1. and 3.1.2.

**Typical Data**

<b>Packaging</b>	10,900 g/bag 72 bags/pallet
<b>Steel Fibres:</b>	
<b>Fibre Type</b>	ASTM A820, Type V
<b>Fibre Length</b>	38 mm
<b>Specific Gravity</b>	7.85
<b>Polypropylene Fibres:</b>	
<b>Fibre Type</b>	ASTM C116 Type III Monofilament Polypropylene
<b>Fibre Length</b>	Graded
<b>Specific Gravity</b>	0.91
<b>Shelf Life and Storage</b>	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-850 fibres will vary depending on the application, mix design and the specific requirements of each project, the typical dosage varies between 14.5 kg per cubic meter to 29 kg per cubic meter of concrete. Each 10,900 g bag contains 10.3 kg of Type V Steel fibres and 0.60 kg of micro-synthetic polypropylene fibres.

**Mixing** The SikaFiber® Force-850 fibres can be added to the mixer before, during or after batching the other concrete materials and mixed at high speed for four to five minutes. Additional mixing does not adversely affect the distribution or overall performance of SikaFiber® Force-850. The addition of SikaFiber® Force-850 at the recommended dosage rates to a given mix may decrease the slump; however, additional water should not be added. Only a water-reducing admixture should be used to adjust concrete to the desired workability required for placement.



# Construction

## Tooling and Finishing

The addition of SikaFiber® Force-850 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 is recommended instead of extra mixing water. Fibre-reinforced concrete can be finished by most finishing techniques. SikaFiber® Force-850 does not affect the finishing characteristics of concrete. SikaFiber® Force-850 can be used in power- or hand- trowelled concrete, and with coloured and broom-finished concrete.

## 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](http://www.sika.ca).



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