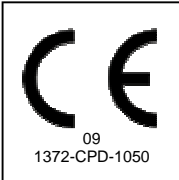


## WIRAND® FIBRE FS3N

### DESCRIPTION:

Cold drawn steel wire fibre WIRAND® FS3N, for structural concrete reinforcement.

### NOMINAL DIMENSIONS



- Diameter D: 0.75 mm
- Length L: 33 mm
- Aspect ratio L/D: 44
- Number of fibres/kg: 8600

### MECHANICAL PROPERTIES

$R_m$  (Tensile strength of the wire): 1230 MPa  
 $\Delta L$  (ultimate strain): < 4%

### SHAPE

The double end hooks of WIRAND® FS3N fibres ensure perfect anchorage in concrete.

Effect on strength of concrete: 25kg/m<sup>3</sup> to obtain 1.5N/mm<sup>2</sup> at CMOD=0.5mm and 1.0N/mm<sup>2</sup> at CMOD=3.5mm.

Effect on consistency with 25kg/m<sup>3</sup> of fibre: vebe time: 8 s

### REFERENCE STANDARDS

- EN 14889-1: 2006 - Fibres for concrete — Part 1: Steel fibres — Definition, specifications and conformity;
- UNI EN 14845-2:2007 - Test method for fibres concrete—Part II: Effect on concrete;
- UNI 11037: 2003 – Fibre d'acciaio da impiegare nel confezionamento di conglomerato cementizio rinforzato;
- UNI 11039: 2003 – Steel fibre-reinforced concrete—Part 1: definitions, classifications, specifics and conformity; Part II: Test method used to determine the early crack strength and ductility indexes;
- ASTM A820: 2001 - "Standard Specification for Steel Fibers for Fiber-Reinforced Concrete;
- CNR – DT 204/2006 – Istruzioni per la progettazione, l'Esecuzione ed il Controllo di Strutture di Calcestruzzo Fibrorinforzato;
- RILEM, 2001 - "Test and design methods for steel fibre reinforced: uniaxial tension test for steel fibre reinforced concrete", RILEM TC 162-TDF Recommendations, Materials and Structures.

### PACKAGING

WIRAND® FS3N fibre are delivered in big bags of 600, 750, 950 kg or in carton boxes of 20 kg.

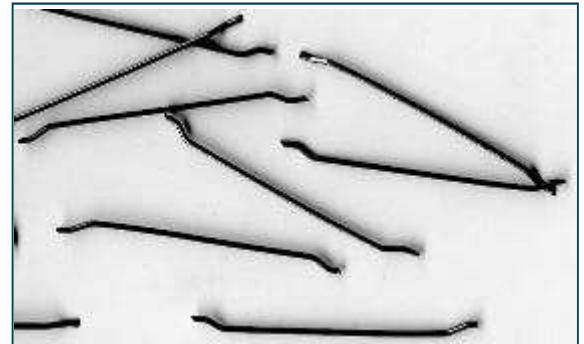


Figure 1

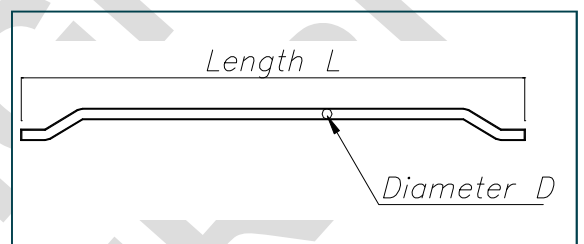


Figure 2



Figure 3



The producer, for his optimisation and improving process of the product's technical characteristics, has the faculty to modify the standards and the characteristics of the product without any pre-advice. All the information are given in base to our experience; in any case no responsibility for an incorrect use could be referred to the producer or one of his distributors.

### Maccaferri (Malaysia) Sdn. Bhd.

Unit 511, Block G, Phileo Damansara 1,  
 No.9, Jalan 16/11, Off Jalan Damansara,  
 46350 Petaling Jaya, Selangor, Malaysia.  
 Tel: (60-3) 7955 7800 Fax: (60-3) 7955 7801  
 Email: mm@maccaferri-asia.com  
 Website: www.maccaferri.com.my

Bureau Veritas Certified Quality System Company  
 with SINCERT's and UKAS' s accreditation.