

**Straight steel wire fibres**

AS-10-03

**1 General**

**1.1 Description: see fig. 1.**

Straight steel wire fibres are fibres intended for concrete and mortar reinforcement and other composite materials.

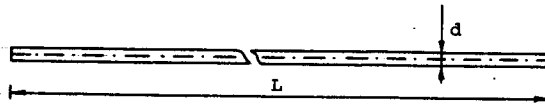


Fig. 1

**1.2 Coatings**

- bright (metallic coatings may be met, such as copper, only applied as lubricant for wire drawing).

**1.3 Concept and terms**

- $L$  : the nominal length in mm;
- $d$  : the nominal wire diameter in mm.

Factor  $\lambda$ : the length-to-wire diameter ratio ( $L/d$ ). This parameter is important to the properties of the concrete or the mortar for which straight steel wire fibres are used.

Date: Mar. 1997  
Edition : white

Replaces edition  
of :

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## 2 Raw material

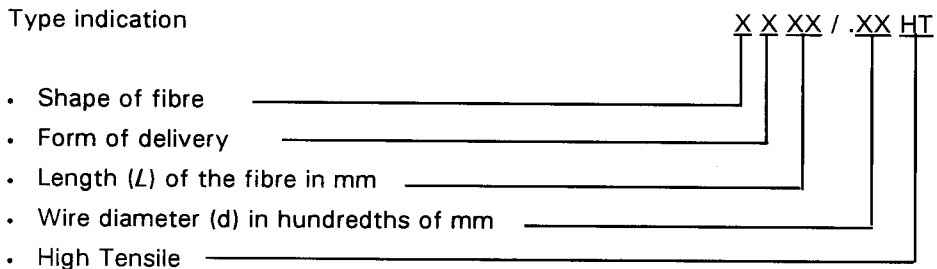
Chemical composition of the wire rod: see table 1.

Table 1: Chemical composition of the wire rod - %						
C	Si	Mn	P	S	Cr	Al
0.69 - 0.76	0.15 - 0.30	0.40 - 0.60	≤ 0.025	≤ 0.025	≤ 0.08	≤ 0.003

(1) In accordance with EN 10016-2 - C72D.

## 3 Types

Type indication



Explanation of used symbols:

- Shape of fibre:  
O = straight fibre.
- Form of delivery:  
L = loose fibres.
- Wire diameter (*d*) in hundredths of mm without mentioning the 0 before the decimal point (.).  
e.g. .20 = 0.20 mm.

3.1 **Standard types:** see Bekaert spec. AS-10-04.

## 4 Properties

4.1 **Nominal wire diameters (*d*) and tolerance:** see table 2.

Table 2 : Nominal wire diameters ( <i>d</i> ) and tolerance	
<i>d</i> - mm <sup>(1)</sup>	Tolerance - mm
0.10 ≤ <i>d</i> ≤ 0.30	± 0.02 mm

(1) The final product of the types with an other nominal diameter than 0.16 mm contains 2 to 3 % of fibres with a diameter of 0.16 mm.

**4.2 Nominal length ( $L$ ) and tolerance:** see table 3.

Table 3: Nominal length ( $L$ ) and tolerance	
$L$ - mm	Tolerance - mm
$6 \leq L < 19$	$\pm 2$ <sup>(1)</sup>
$19 \leq L \leq 25$	$\pm 2$

(1) with 95 % of the fibres  $\pm 1$  mm.

**4.3 Factor  $\lambda$ :** see Bekaert spec. AS-10-04.

**4.4 Tensile strength ( $R_m$ ):** see table 4.

Table 4: Tensile strength ( $R_m$ ) - N/mm <sup>2</sup>	
$d$ - mm	$R_m$
$0.10 \leq d \leq 0.18$	min. 2000
0.20	min. 2600
$0.22 \leq d \leq 0.30$	min. 2000

**5 Standard form of delivery:** see Bekaert spec. AS-10-04.

**6 Identification**

**6.1 Cardboard boxes**

On each box is mentioned:

- type of fibre e.g. OL 13/.16;
- production number, serial number and/or date.

**6.2 Forwarding unit**

Pallets, crates and big units are provided with a label stating:

- the type of fibre;
- the nettweight;
- production number, serial number and/or date.