

# Macrosol R Structural Synthetic Fibres

## TECHNICAL DATA SHEET

LR 65540 SS

### Macrosol R – Polypropylene fibres for concrete and mortar reinforcement

#### 1. General

##### 1.1 Description:

Macrosol fibres are extruded from a natural virgin Polypropylene homo polymer, formed into a waved profile for concrete and mortar reinforcement and other composite materials

##### 1.2 Qualities

Standard quality

- Polypropylene compound

##### 1.3 Coatings (If Applicable)

##### 1.4 Concept and terms

$L$  : the nominal length in mm,

$d_e$  : the nominal diameter in mm,

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

#### 2. Explanation of used symbols

- Form of delivery: L = Loose
- Shape of fibre: R = Round Corrugated Shaped anchorage
- Performance class: is approximately the ( $L/d$ ) = 50
- Length of the fibre: indicative length of the fibre in mm = 40 mm
- Fibre Type: SS = Structural Synthetic fibre

##### 2.1 No of fibres per kg

Approximately 35 000 per kg (Calculated)

#### 3. Properties based on ASTM Requirements

##### 3.1 Nominal fibre diameter ( $d$ ): See table 1

Table 1: Nominal fibre diameter ( $d$ ) and tolerance

$d_e - 0.8$  mm

##### 3.2 Nominal length ( $L$ ): See table 2

Table 2: Nominal length ( $L$ ) and tolerance

$L - 50$  mm

##### 3.3 Tensile strength ( $R/m$ ): See table 3

Table 3: Tensile strength ( $R/m$ ) – N/mm<sup>2</sup>

N – 400 N/mm<sup>2</sup>

##### 3.4 Factor $\lambda$ (Aspect Ratio):

$L/d - 50 \text{ mm} / .8 = 65$

##### 3.5 Melting point (°C)

150 °C to 170 °C

##### 3.6 Fibre density (g/cm<sup>3</sup>)

0.88 – 0.92

##### 3.7 Colour

Translucent or Black

##### 3.8 Elongation at yield (%)

Between 15 and 25%