

Macrosol X Structural Synthetic Fibres

TECHNICAL DATA SHEET

CX 50/40 SS

Macrosol X – 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 λ : 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: C = Collated
- Shape of fibre: X = X 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 44 000 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

$L - 40$ mm

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

Table 3: Tensile strength (R/m) – N/mm²

N – 400 N/mm²

3.4 Factor λ (Aspect Ratio):

$L/d - 40 \text{ mm} / .8 = 50$

3.5 Melting point (°C)

150 °C to 170 °C

3.6 Fibre density (g/cm³)

0.88 – 0.92

3.7 Colour

Translucent

3.8 Elongation at yield (%)

Between 15 and 25%