



# PAVILAND® FIBRA MACRO CO-PO

Fibra Macro CO-PO

## DESCRIPTION

Paviland Fibra Macro CO-PO is a 54 cm long fibre, made of 100% virgin Copolymer-Polypropylene, specially designed for the structural reinforcement of concrete. Its structure made of twisted mono filament fibres, offers maximum durability without the risk of corrosion.

## ADVANTAGES AND USES

- No surface sharp ends after the incorporation of the wearing course (Paviland Industrial / Industrial CR / Industrial MT) and polishing.
- Double mesh or steel fibres are not required to provide the structural resistance to bending of the concrete.
- Optimizes application times and therefore labour costs. It does not damage any equipment or tools when applying it.
- Specially recommended for concretes exposed to saline environments. Increases the lifespan of concrete.
- It reduces the number of cracks caused by thermal shrinkage supporting concrete structures exposed to freeze-thaw cycles.
- It improves the concrete properties thanks to the distribution of the fibre within the concrete.
- It improves the resistance of concrete against breakage, impact and abrasion.
- Recommended to be added in precast elements concrete, coastal and marine structures, industrial pavements and tunnels.

## APPLICATION PROCEDURE

- Add directly to the concrete while mixing in a concrete mixer or to the aggregate conveyor belt in the plant.
- The dosage varies between 2.5 and 5 Kg/m<sup>3</sup> of concrete, depending on the project requirement.
- Increase the fluidity of the cone between 4 and 6 cm with regards to the desired final cone, using fluidifier additives and / or superplasticizers.
- It is recommended to add the fibre little by little (from 5 to 5 kg), kneading for at least 2 minutes each time the product is added and performing a final 3-minute kneading.

## RECOMMENDATIONS

- It is compatible with any additive for concrete.
- Consult the Technical Department for any application not specified in this Technical Data Sheet.
- For all information regarding safety in handling, transport, storage, and use of the product check the label and the updated version of the product Safety Data Sheet.
- It is advisable to carry out contraction joints during the first 24 hours to avoid the appearance of cracks.
- The material is provided in polythene bags which are not water-soluble and therefore, they should not be added to the concrete.

## PACKAGING AND STORAGE

5 Kg Polythene bags.

Storage in its original closed container, sheltered from open air and humidity.

# FLOORING

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### TECHNICAL DATA

(Statistic result are obtained under standard conditions)

|                                    |                                                                |
|------------------------------------|----------------------------------------------------------------|
| Material                           | 100 % copolymer - polypropylene                                |
| Length                             | 54 mm (2% de tolerance)                                        |
| Norm                               | EN 14889-2 TIPO II, ASTM C1116 TIPO III, ASTM D7508, ICC AC383 |
| Equivalent diameter                | 0,48 – 0,50 mm (5 % of minimal tolerance)                      |
| Width/length ratio                 | 112                                                            |
| Colour                             | Grey                                                           |
| Specific weight                    | 0,91 gr/cm <sup>3</sup>                                        |
| Elastic module                     | 7,2 – 8,5 GPa                                                  |
| Resistance to breakage by traction | 560 – 650 MPa                                                  |
| Number of filaments                | > 200.000/Kg                                                   |
| Corrosion                          | Non-existent                                                   |
| Chemical resistance                | Resistance to acids and alkali                                 |
| Magnetism                          | Non-magnetic                                                   |
| Melting point                      | 165 °C                                                         |
| Fire point                         | > 360 °C                                                       |
| Water absorption                   | No, hydrophobic                                                |
| Memory effect                      | No                                                             |

#### Residual resistance

| 2 Kg/m <sup>3</sup> | Residual resistance (MPa) depending on crack opening (mm) |        |        |        |
|---------------------|-----------------------------------------------------------|--------|--------|--------|
|                     | 0,5 mm                                                    | 1,5 mm | 2,5 mm | 3,5 mm |
| C25/30              | 0,49                                                      | 0,67   | 0,84   | 0,93   |
| C35/40              | 0,80                                                      | 1,06   | 1,35   | 1,53   |

| 3 Kg/m <sup>3</sup> | Residual resistance (Mpa) depending on crack opening (mm) |        |        |        |
|---------------------|-----------------------------------------------------------|--------|--------|--------|
|                     | 0,5 mm                                                    | 1,5 mm | 2,5 mm | 3,5 mm |
| C25/30              | 1,51                                                      | 1,55   | 1,62   | 1,54   |
| C35/40              | 1,58                                                      | 1,60   | 1,65   | 1,57   |

| 5 Kg/m <sup>3</sup> | Residual resistance (Mpa) depending on crack opening (mm) |        |        |        |
|---------------------|-----------------------------------------------------------|--------|--------|--------|
|                     | 0,5 mm                                                    | 1,5 mm | 2,5 mm | 3,5 mm |
| C25/30              | 2,07                                                      | 2,48   | 2,61   | 2,66   |
| C35/40              | 2,23                                                      | 2,95   | 3,05   | 3,00   |

Rev. 2023\_09 - This revision cancels all previous ones. Please, obtain the latest version from our web site - [www.grupopuma.com](http://www.grupopuma.com) - (+34) 957 76 40 40

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