

*High setting normal setting thixotropic mortar for cortical recovery interventions*



**OLY GROUT MONO N** is a mortar with normal setting anti-shrinkage, ready to use, thixotropic, with added synthetic fibers. It has high mechanical resistance to both short and long curing, strong adhesion to concrete, high resistance to sulphates and excellent durability even in highly aggressive conditions (marine areas, de-icing salts, acid rain). It is CE marked as R4 on the basis of UNI EN 1504-3 and for protection systems of reinforcement rods (according to 1504-7). Among the advantages: it is highly performing (final mechanical development required for R4 mortars within the first 7 days); it constitutes a 3 in 1 system (passive reinforcement, restores and shaves at the same time allowing to close the intervention in one working day and with a single pass); it is versatile, being suitable for both structural (cortical) and non-structural (smoothing) restorations; it is easy to apply given excellent machinability and ease of application (manual or mechanized).

**OLY GROUT MONO N** is used for consolidation, restoration and smoothing of reinforced concrete works (pillars, beams, cornices, balcony fronts, bridges and road and railway viaducts, canals, dams, tunnels).

Properties	Typical value
Appearance	Powder
Colour	Grey and White
Specific apparent weight UNI 9446	1,40 ± 0,1 g/cm <sup>3</sup>
Mixing water	5-5,25 liters
Hazard classification 1999/45 / EC and 67/548 / EEC	Stinging
Particle size range UNI EN 1015-1	0,1 – 0,5 mm
Apparent density of fresh mortar UNI EN 1015-6	2050 ± 30 Kg/m <sup>3</sup>
Consistency of the mixture UNI 7044/72	40-50%
Initial setting time UNI EN 196-3	250 ± 30 minutes
Setting time UNI EN 196-3	400 ± 30 minutes
Minimum application temperature	+5°C
pH of the mixture	12 ± 0,5
Dangerous substances	According to DM 10/05/2004

Properties	EN 1504-3 limits for R4 mortars	Typical value
Compressive strength after 28 days UNI EN 12190 [MPa]	At 28 days, with seasoning at +21°C ≥ 45	at +5°C 1 day ≥ 8 7 days ≥ 25 14 days ≥ 35 28 days ≥ 45
Flexural tensile strength UNI EN 196/1 [MPa]	No request	at +5°C 1 day ≥ 2 7 days ≥ 4 14 days ≥ 5 28 days ≥ 6
Compression secant elastic module EN 13412 [GPa]	≥ 20	≥ 20
Chloride content EN 1015-17 [%]	≤ 0,05	≤ 0,05
Adhesion to concrete (UNI EN 1542) [MPa]	≥ 2	≥ 2
Adhesion to concrete (UNI EN 1542) after dry cycles EN 13687-4 [MPa]	≥ 2	≥ 2
Adhesion to concrete (UNI EN 1542) after storm cycles EN 13687-2 [MPa]	≥ 2	≥ 2
Resistance to accelerated carbonation, UNI EN 13295	Carbonation depth, $d_k < \text{Reference concrete type MC 0.45 a/c}$	Specification passed
Impermeability to water (capillary absorption coefficient, UNI EN 13057) [Kg/m <sup>2</sup> ·h <sup>1/2</sup> ]	≤ 0,5	<0,5
Reaction to fire	-	A1

Properties	EN 1504-7 limits	Typical value
Corrosion protection test (UNI EN 15183) after 10 condensation cycles with water, 10 sulfur dioxide cycles according to EN ISO 6988, 5 days of salt spray according to EN 60068-2-11	After the series of cycles, the coated steel bars must be free of corrosion. The penetration of rust at the end of the uncoated steel plate must be <1 mm	Specification passed
Resistance to the unthreading of the treated bars (UNI EN 15184), load relative to a movement of 0,1 mm	Load equal to at least 80% of that determined on uncoated reinforcement	Specification passed
Determination of glass transition temperatures (UNI EN 12614)	At least 10°K above the maximum operating temperature	NPD

### *Instruction for correct installation*

The substrate must be perfectly clean, compact, free of dust, grease, paints, etc. Carefully remove degraded and inconsistent concrete by hammering until a compact substrate is found. The surface tensile strength of the “Pull off” concrete must not be less than 1.5 MPa, as indicated by the quality control procedures of the substrate according to EN 1504-10. If the substrate has lower mechanical characteristics, the designer will evaluate the measures to be taken to protect against the poor characteristics of the original material (consult the Technical Office). The metal reinforcements in sight must be freed of the concrete in contact with them by using a needle gun and sandblasted. Saturate the area to be treated and eliminate any stagnant water when casting. The product can be used ready to use with the simple addition of drinking water for each pack, of the quantity indicated in the table. Mix the product for max. 2 minutes with a cement mixer or, in the case of small doughs, with a drill and whisk. Introduce the 3/4 of necessary water and, continuously, the product and the remaining water until the desired consistency is obtained. Apply by trowel or spray with suitable plastering machines. If a continuous coating is required with the **OLY GROUT MONO N**, it is essential to bush-hammer the total surface, place a suitable galvanized electro-welded metal mesh connected and anchored to the support, and apply the mortar with a thickness that creates a concrete cover of at least 2 cm.

### *Consumption*

17 Kg/m<sup>2</sup>/cm

## *Package*

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Multilayer paper bag of 25 Kg.  
Pallet 60x25 – 1500 Kg.

## *Storage, use and safety precautions*

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The product fears humidity, store in tightly closed containers, in a sheltered and dry place. In these conditions its stability is 12 months.

## *Certifications*

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All the products *OLYMPUS-FRP* are certified by our producers.

It is possible to receive the certificate of origin of the materials and the certificate of characterization of mechanical properties.

## *Warnings*

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Given the possibility that different supplies of the same raw materials have slightly discordant colors, between one production batch and the other there may be small chromatic variations that do not in any way affect the technical performance of the products supplied. Do not mix the product by adding water once it has set. Do not dilute excessively to avoid that the product loses its chemical-physical and mechanical properties becoming crumbly. Do not add cement, aggregates, additives or other mortars. Check the integrity of the package before use and do not use the product with lumps. Use all the material once the package has been opened. Do not perform applications on sunny surfaces, with temperatures lower than + 2 ° C or higher than + 35 ° C. The technical characteristics and methods of application indicated by us in this bulletin are based on our current knowledge and experience, but cannot imply any guarantee on our part on the final result of the product applied. The customer is required to verify that the product is suitable for the intended use and to ensure that the technical bulletin is valid and not passed by subsequent updates.

### **Product for professional use**

Rev. 001-20

*For information, technical assistance and more system for structural reinforcement system, visit the website:*

***[www.olympus-frp.com](http://www.olympus-frp.com)***

*E-mail:*

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