SUPERLATEX

Polymeric additive for mortar and concrete

Description
SUPERLATEX is a formulation consisting an aqueous emulsion of a flexible copolymer, emulsifiers, stabilizers and additives. SUPERLATEX, once added to a sand/cement mortar, greatly increases its anchoring capability, flexibility and waterproofness.

Where to Use
As a binder for:
- concrete slabs to be anchored to the bottom;
- cold shuts;
- new plaster on old walls;
- new plaster on concrete surfaces;
- installation of covers and thresholds made of marble, granite, etc..

As a substantial modifier of Portland cement mortars to make:
- repair mortar for maintenance patching;
- mortar for the restoration of deteriorated concrete;
- thin mortar for highly adhering skim coating;
- plasters with very low water absorption rate;
- coves at corners to allow subsequent waterproofing treatments

As an additive on osmotic concrete to reduce its drying speed and increase its flexibility.

Application
Taking into consideration that, to achieve good results, film formation should be carefully avoided, working with SUPERLATEX must be carried out "wet on wet".
SUPERLATEX is applied in different ways depending on the type of intervention required, e.g.:
Adhesive for anchoring screeds and cold shuts
- soak until fully saturated;
- apply a first coat of SUPERLATEX diluted with two parts water;
- add to the SUPERLATEX and water solution, prepared according to the previously explained procedure, cement and water until a grout is obtained for scratch rendering the surface.;
- apply the grout with a flat brush or a scrubbing brush to the area to be treated a few minutes before casting.

Plaster adhesive
- make the surface wet;
- apply a first coat of SUPERLATEX diluted with three parts water;
- add to the solution of SUPERLATEX and water (prepared as mentioned above) sand and cement to obtain a grout for the surface scratch coat.

Installation of covers and marble thresholds
- soak the surface;
- apply a first coat of SUPERLATEX diluted with one part water;
- add to the solution of SUPERLATEX and water (prepared as mentioned above) sand and cement to achieve a mixture suitable for making the mortar bed for the chosen material.

Repair mortar for maintenance patching, mortar for repairs of deteriorated concrete and thin mortar for highly adhering skm coating
- soak until fully saturated;
- apply a coat of SUPERLATEX diluted with three parts water;
- prepare a mortar with sand and cement using, instead of water, the solution of diluted SUPERLATEX, you previously used as a primer.

Renders with very low water absorption
- soak the surface;
- apply a first coat of SUPERLATEX diluted with two parts water;
- add to the solution of SUPERLATEX and water (prepared as mentioned above) one part cement and three parts sand.

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At angles coves for subsequent waterproofing treatments

- soak the surface with a coat of SUPERLATEX diluted with three parts water;
- prepare a mortar with one part cement and three parts sand by using, instead of water, the solution of SUPERLATEX and water, prepared as above mentioned. The same mixture can be used to cover any cut tie rods on concrete walls before waterproofing.

Materials and Mixing

Sand: must be washed and free of excessive fines.
Cement: SUPERLATEX is compatible with all types, including those resistant to sulphates Type II and V.
Water: the strong plasticizing effect of SUPERLATEX noticeably reduces the amount of water needed for the required workability.
Mixing: mixing shall preferably be carried out in a cement mixer. Manual mixing shall be allowed only when the total weight of the dough is less than 25 kg. First load the mixer with the required amount of cement and sand and mix for 1 minute, then introduce the solution of SUPERLATEX and water you already prepared.

Warnings and Special Instructions

- Do not use lime in the mix.
- There are certain rare types of "salted" sands with high salt content that may not be compatible with SUPERLATEX.
- Do not apply at temperatures close to 0°C.
- Avoid direct contact with copper and manganese.
- Shake the packaging before use.

Specifications

bulk density, UNI 8310	g/cm^3	1.00 ± 0.05
pH, UNI 8311	---	10
apparent dynamic viscosity, ISO 3219	mPa·s	60
application temperature	°C	from +5 to +35
resistance to freeze-thaw cycles	cycles	> 50
adhesion, ASTM 4541	MPa	> 1.5

Comparison of cementitious mortars

(Dry mix: 3 parts sand and 1 part Portland cement II/A - L R 32.5) **prepared without additives** ("WHITE") **and with SUPERLATEX diluted with 2 parts water** ("SUPERLATEX") by mixing for 90 seconds with a type Hobart laboratory mixer (1):

	WHITE	SUPERLATEX
setting time [minutes], UNI EN 196-3	180 ÷ 240	300 ÷ 360
compressive strength after 7 days [MPa], UNI EN 196-1	4.0	6.5
flexural strength after 7 days [MPa], EN 196-1	1.5	2.8
estimated static elastic modulus [MPa]	9100	11500
water absorption after 24 hours [%]	100.0	9.8
water absorption after 7 days [%]	100.0	35.8

Note: testing methods are in accordance with the standards referred to on the table.
(1): it was experimentally verified that 90 seconds of mixing with a Hobart type mixer (according to UNI EN 196-1) correspond to approx. 5 minutes of mixing with a 200 liters tank concrete mixer.

Packaging and Storage

NORDLATEX is available in 1 - 5 and 25 liters containers. Labels are affixed on each pack and give directions for use and product name.
Store in a covered place at room temperature between +4 and +30°C. Stable for over two years.

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Description
SUPERLATEX is a formula made by a watery solution and by a flexible co polymer, emulsifiers, stabilizers and additives. When added to sand and cement mortars SUPERLATEX increases considerably their adhesive capacity, flexibility and water resistance.

Uses
As an adhesive for
- concrete screeds to be attached to a base;
- screed completion;
- new plaster on old walls;
- new plaster on concrete;
- laying covers and doorsteps in marble, granite, etc.

As a substantial modifier of Portland cement mortars when you need to apply:
- mortar for fillings
- mortar on damaged concrete;
- fine mortar for highly adhesive rendering;
- very low water absorption plaster;
- corner peeling for water sealing treatment.

As am additive on porous concrete to reduce drying time and increase flexibility.

Application
Skin formation must be avoided and SUPERLATEX application of further covering takes place working on a wet coating.
Use of SUPERLATEX is different on different applications.

- *As a gluing agent to stabilize concrete screeds:*
  - wet well l until saturation;
  - apply a first coat of SUPERLATEX diluted with two parts of water;
  - add a solution of SUPERLATEX and water thus prepared to the cement until you obtain a useable grout.
  - apply grout with a large brush or broom on the area to be treated and just before laying the concrete.
- *As a gluing agent for plasters:*
  - wet surface;
  - apply a first coat of SUPERLATEX diluted with three parts of water;
  - add a solution of SUPERLATEX and water thus prepared to the sand and cement until you obtain a useable grout to be rendered onto the surface.
- *Lay of covering and doorsteps in marble, granite, etc.*
  - wet surface;
  - apply a first coat of SUPERLATEX diluted with one parts of water;
  - add a solution of SUPERLATEX and water thus prepared to the sand and cement until you obtain a useable paste to lay the selected material.
- *As mortar for repairs, renovation, on damaged concrete and fine mortars for fine rendering with high adhesion:*
  - wet well until saturation;
  - -apply a coat of SUPERLATEX diluted with three parts of water;
  - prepare a mortar with sand and cement using, instead of water, diluted SUPERLATEX , as previously used as a primer.
- *As very low water absorption plasters;*
  - wet surface;
  - apply a first coat of SUPERLATEX diluted with two parts of water;
  - add a solution of SUPERLATEX and water thus prepared to one part of cement and three parts of sand.
- *On corner peeling for water sealing treatment.*
  - apply a priming coat of SUPERLATEX diluted with three parts of water;

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- prepare a mortar with one part of cement and three parts of sand using, instead of water, the mixture of water and SUPERLATEX prepared as primer..
  This mixture is also useable as rod cover on exposed metal within the concrete, before water proofing treatment.

Materials and mixing
Sand: should be washed and be dust free.
Cement: SUPERLATEX i compatible with all cements, including those resistant to sulphates Types II and V.
Water the string plasticizing effect of SUPERLATEX reduces considerably the amount of water needed for the desired workability.
Mixing: mixing should take place preferably in a concrete mixer.
Manual mixing is acceptable only when total mix mass in less that 25 kg. Load into the mixer the quantity of sand and cement needed, mix for at least 1 minute then add a solution of SUPERLATEX and water already prepared.

Warnings and special instructions
- Do not add lime to the mix.
- There many salty sands with a high content of salt that may not be compatible with SUPERLATEX
- Do not apply at temperatures close to 0°C.
- Avoid direct contact with copper and manganese
- Agitate container before use.

Specifications

volume mass UNI 8310	g/cm^3	1,00 ± 0,05
pH, UNI 8311	---	10
apparent dynamic viscosity ISO 3219	mPa·s	60
application temperature	°C	from 5 to 35
resistance to frost-defrost cycles	cycles	> 50
adhesion as per ASTM 4541	MPa	> 1,5

Comparison between concrete mortars (dry mix: 3 parts sand and 1 parts Portland cement II/A – L 32,5 R) **without additives** ("WHITE) **containing SUPERLATEX prepared by mixing 2 parts of water** ("SUPERLATEX") in a lab Hobart type mixer for 90 seconds.

	WHITE	SUPERLATEX
setting time (minutes) UNI EN 196-3	180÷240	300÷360
resistance to compression after 7 days [MPa], UNI EN 196-1 UNI EN 196-1	4,0	6,5
resistance to flexion 7 days [MPa], UNI EN 196-1 {MPa],UNI EN 196-1	1,5	2,8
estimated elastic and static module [Mpa]	9100	11500
water absorption after 24 hours	100,0	9,8
water absorption after 7 days	100,0	35,8

Note: test method refers to the regulation reported alongside.

(1): it has been checked in testes that 90 seconds in a Hobart mixer (conform to UNI EN 196-1) correspond to mixing in a normal cement mixer with a capacity of 200 liters for about 5 minutes .

Containers and shelving
SUPERLATEX is available in containers of 1, 5, and 25 litres. Each container has a label showing the product name and application advice.

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Store in a covered area at a temperature between +4 and +30°C. Stable for over two years.

Legal notice
Tips on how to use our products match the current state of our knowledge and do not imply any assumption of responsibility or/and liability for the final result of works**.** Therefore, customers are not exempt from the responsibility to verify the suitability of products for use and final aims through preliminary tests. The website www.nordresine.com contains the latest revision of this datasheet.

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