



Technical data sheet

Material

DRYNEX is the first restoring plaster composed by Allumina and nano-binders in the world. According to its physical and chemical behavior toward moisture, **DRYNEX** is completely different from any other material operating on the market.

For further information, please look at the brochure on www.trimaterials.com.

General Information

Granulometry:	0 - 1 mm	
Quantity of water needed for the mixture:	Mix 19-22% of H ₂ O for 3 minutes. Add 4% di H ₂ O and mix for 90 seconds.	
Binder:	Hydraulic - it allows the use in internal/external environments	
Packaging:	25 Kg paper bag / even on 1000 Kg pellet	
Application:	By hand	
Application temperature:	5 - 30 °C	
Yield:	18 Kg _{powder} /m ³	Values referred to 1 cm in thickness
Lowest thickness:	2 cm	
Setting time:	26 min	Values referred to a temperature of 20 °C and a moisture of 50% UNI EN 196/3
Hardening time:	< 48 min	

Fields of application

- Refurbishment of old wet masonries also salty ones (external/internal and underground environments included)
- **DRYNEX** is also used in historical-artistic buildings such as churches, historical palaces and so on.
- Suitable supports: solid, perforated, new and old brick masonries; poroton, stone, mixed and rubble walls; concrete and steel reinforced concrete by paying attention to process the oxidized rebar before the usage
- No suitable supports: gypsum, tuff, weak and dusty supports and other ones not before mentioned.



GP: mortar for internal/external - plaster for general purposes



DRYNEX is an official brand TRI Tecnologia e Ricerca Italiana

TRI Via Malta 12/O, 25124 Brescia, Phone +39 030 2451034, Fax +39 030 2450862, Mail: info@trimaterials.com

	Standard	MU	Value	Observations
Atmosphere pressure H ₂ O absorption	UNI 7699	[%]	4,5 (mass); 8,9 (volume)	
Porosity		[%]	29,5	Performed with mercury porosimetry
Rising damp coefficient	UNI-EN 1015-18	[Kg/(m ² h ^{1/2})]	0,014	
Adherence onto support	UNI-EN 1015-12	[N/mm ²]	0,7	Tested on solid brick and concrete
Young modulus	UNI 6556	[N/mm ²]	29500	
Hardened mortar flexural strength	UNI EN 1015-11	[N/mm ²]	8,91	
Hardened mortar compressive strength	UNI EN 1015-11	[N/mm ²]	60	
Solidity	UNI EN 1015-2	[mm]	175	even confirmed by the standard UNI EN 1015-3 (Flow table test)
Specific surface	NORMAL 4/80	[m ² /g]	13,70	
Pores average diameter	NORMAL 4/80	[micron]	52	
Stability	UNI EN 196/3	[mm]	1,5	Le Chatelier's mould
Setting time	UNI EN 1015/9	[min]	26	
Linear thermal expansion coefficient	UNI EN 1770	[micron/(m°C)]	10,5	Test executed with cycles from -20°C up to +60°C
Wet mortar density	UNI EN 1015-10	[Kg/m ³]	1850-1900	
Dry mortar density	UNI EN 1015-10	[Kg/m ³]	1700-1750	
Thermal conductivity coefficient	UNI EN 12667:2002	[kcal/(mh°C)]	1,3	
Maximum working temperature*	Experimental	[°C]	1610	University of Brescia
Compressive strength*		200[°C]	52,91	
		600[°C]	49,51	
		1000[°C]	43,67	
		1600[°C]	23,80	
Flexural strength*		200[°C]	8,84	
		600[°C]	7,38	
		1000[°C]	4,57	
		1600[°C]	6,95	

* - Test based on UNI EN 1015-11, carried out at Brescia University



Application

Essential tools

In addition to classic tools for the application of any civil plaster, the intention is to emphasize the following:

- use **very solid** 50 litres **plastic barrels** in order to realize the mixtures. Concrete mixer cannot be used because of too fast **DRYNEK** hardening times;
- use **a powerful variable speed mixer** in order to knead **DRYNEK** with water which must be potable. The use of basic manual drills is not recommended;
- the **tip of the mixer** must be in the shape of an **ogive** and not in a spiral one;
- always use a **classic scale** (at least 30 kilos) with precision of 1 kilo, otherwise use a **gradable container** of 7 litres in order to measure water.

The precision of the water used for the mixture is decisive for the quality of the work.

CAUTION : Incorrect percentages of the water make the product inapplicable.

Preparation of the support

N.B. Suitable supports: solid, perforated, new and old brick masonries; proton, stone, mixed and rubble walls; concrete and steel reinforced concrete by paying attention to process the oxidized rebar before the usage.

- clean the masonry from any cladding until the arrival to the bearing structure (concrete, bricks, stones);
- when the wall is completely clean, scrape it off by using iron or sorghum brushes in order to remove all the inconsistent parts as much as possible.
- later, dunk the masonry until it is totally wet. It **is very important to employ the material on the wet support** to guarantee the adhesion on building surface;
- wherever possible, use a pressure washer to clean and eliminate the inconsistent elements on the surface that must be plastered..



DRYNEK is an official brand TRI Tecnologia e Ricerca Italiana

TRI Via Malta 12/O, 25124 Brescia, Phone +39 030 2451034, Fax +39 030 2450862, Mail: info@trimaterials.com

Implementation

Layer	Thickness	Water	Mixing time
1 st layer (rough coating)	0,3 cm	5,50 L/bag (22%)	3 minutes
		1 L/bag (4%)	60 seconds (pause)
			90 seconds
2 nd layer (pointing)	1,5 cm	4,75 L/bag (19%)	3 minutes
		1 L/bag (4%)	60 seconds (pause)
			90 seconds
3 rd layer (finishing)	0,2 cm	5,50 L/bag (22%)	3 minutes
		1 L/bag (4%)	60 seconds (pause)
			90 seconds

Mixture:

- use a variable quantity of water from 5,75 to 6,50 litres depending on the need (look at the table above);
- insert almost all of the water for the mixture and blend strongly (at the beginning the mixture will appear hard and lack of water);
- place an entire **DRYNEK** bag in a solid barrel (mixing one bag at once is recommended) ;
- follow the mixture timetable described in the table above;
- **CAUTION:** apply quickly the product as soon as the mixture is ready. Fast hardening times - from 35 up to 45 minutes depending on the environmental temperature.

Application:

- when the material has been mixed, apply a layer of rough coating on the wet masonry of about 3 mm thickness;
- when the layer of rough coat has been finished, apply immediately the layer of plaster that must not be less than 1,5 cm in thickness. It can be obtained in the next 1-3 applications depending on the mixture hardening.

DRYNEK is a monolayer plaster. It can be finished by following the water percentages shown in the table above and using a sponge-trowel for the coating of the final layer.

Finishes