

TECHNICAL DATA SHEET

info@deffner-johann.de | +49 (0)9723 9350-0

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Premix for structural reinforcement of basically dry masonries

PARTICULAR FEATURES

Premix suitable for consolidating injections of dry masonries, off the ground, without mosaics or frescoes, characterized by a mechanical resistance as good as that of the walls where it is applied. The product offers an excellent steam permeability and a high volumetric stability. LEDAN D3 can be injected without preliminary water saturation of the walls.

COMPOSITION OF THE FORMULA

Made of special portland hydraulic binders at high resistance to sulphates, chemically stable and with a very low content of soluble salts, hydraulic and air-hardening limes, pozzolana, plus a special combination of hyper-fluidifying additives and injecting agents. The special formula, produced in planetary dispersion 1/10.000 for not less than 10 minutes, results in a homogenous grey premix.

FIELDS OF APPLICATION

Cavities filling, structural reinforcement, cracks sealing. To obtain injecting mixtures with customized chemical physical characteristics with the addition of impalpable aggregates. To reinforce large masonries with costs cut.

PREPARATION'S INSTRUCTIONS

LEDAN D3 is a premix ready-to-use with the addition of water only. Mix vigorously LEDAN D3 with low salinity water for about 4 minutes. Inject the product preferably within 30 minutes from the preparation.

RECOMENDED DOSES

USE	LEDAN D3	WATER
STRUCTURAL CONSOLIDATION	10 Kg	16 lt

INSTRUCTIONS FOR USE

- 1) Stop properly the possible spill of the product from the plaster with appropriate LEDAN RALAC grouting mortar.
 - 2) Carry out the drilling of the walls to be reinforced using a drilling grid with a mesh not exceeding 25cm and making holes with a diameter of minimum 15mm.
 - 3) Clean thoroughly the holes with air.
 - 4) Inject with no stop pressure machines.
- If the drilling and cleaning operations are carried out properly, the LEDAN D3, even without preliminary wetting of the wall and the application of a very low pressure, will flow inside the masonry, spreading evenly. In case it doesn't happen, check again the potential receptivity of the holes made.

LIMITS OF USE

LEDAN TC1 is a lime based compound, therefore avoid application in extreme cold conditions (minimum temperature below 5° C) or extremely hot (maximum temperature above 35° C).

● Grouting mortar

● EQUIPMENTS FOR USE

The application of the LEDAN D3 is possible with metering screw, compressed air or pistons systems, both manual or electric. It is anyway suggested to use equipments that allow to let into the masonry a large quantity of product, not requiring charging stops.

PHYSICAL - CHEMICAL FEATURES					
SPECIFIC WEIGHT	0,78 Kg/Dm ³	MEDIUM	ADHESION	0,17 N/mm ²	MEDIUM
INITIAL SETTING	6 HOURS	MEDIUM	EXUDATION	NONE	EXCELLENT
FINAL SETTING	12 HOURS	MEDIUM	STEAM PERMEABILITY	15 μ	GOOD
WORKABILITY	3 HOURS	MEDIUM	ELASTIC MODULE	5.500 N/mm ²	EXCELLENT
COMPRESSION STRENGTH	20 N/mm ²	MEDIUM	WATER RETENTION	>85%	EXCELLENT
BENDING STRENGTH	5,2 N/mm ² (28 gg)	MEDIUM	SHRINKAGE	6%	EXCELLENT

N.B. The mortar was characterised taking into account its own application mode. The numerical values refer to averages detected on media lab reproducing wall structures problems.

● EFFLORESCENCE

To evaluate if any soluble salts contained in a mortar, may cause unwanted phenomena of chemical and chromatic alteration, it is possible to carry out a lab test according to the RAL 544/3 regulation. The LEDAN D3 mortar compound undergoing such a test does not cause efflorescence phenomena.

EXPERIMENTS CARRIED OUT IN BUILDING YARDS UNDER THE "MINISTRY OF HERITAGE AND CULTURAL ACTIVITIES" CONTROL

A product to be used in the cultural heritage sector, not only requires rigorous laboratory studies, but also careful checks in building yards, aiming to verify the effective results on duration and stability, together with the absence of direct and indirect negative effects and possible reversibility.

LEDAN D3 was developed thanks to a research promoted and financed by the Ministry of Heritage and Cultural Activities, Superintendence of Lazio, building yards of the Medieval Walls of Bassiano (Province of Latina). The application tests carried out during the research, have proved that the product comply with the target-requirements and not presenting negative side effects, can be used on monumental restoration.

LEDAN D3 has been used also in the reattachment of the travertine slabs on the walls of the American Embassy in Naples.

● DURABILITY

Some LEDAN D3 samples undergoing an accelerated aging cycle, simulating a natural aging of about 20 years, resulted in a performance downfall below 8%.

SPECIFICATION ENTRY

Injections for consolidation of masonries and filling of cracks with premixed mortar LEDAN D3, made of binders highly resistant to sulphates, pozzolana, hydraulic and air-hardening limes that, together with suitable additives, make it possible to inject it without preliminary water saturation of the walls.

The manufacturer must declare to have used the product also in works where its application was under the control of the Ministry of Heritage and Cultural Activities officials.

● STORAGE

If conserved in a dry place and closed containers the product is conserved for 8 months.

● PACKAGES

Buckets/sacks of 15 kg

TECNO EDILE TOSCANA
 via Monti Lepini, 14 04100 LATINA (ITALY) Tel
 (+39) 0773241293 Fax (+39) 0773611023
 www.tecnosediletoscana.it