

## TECHNICAL DATA SHEET

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# LEDAN<sup>®</sup> D2

Injection  
Mixture

Excellent penetration, even without preliminary support wetting; easy leakage cleaning, chemical-mechanical compatibility and absence of efflorescences even in very wet environments.

## PARTICULAR FEATURES

*Excellent penetration, even without preliminary support wetting; easy leakage cleaning, chemical-mechanical compatibility and absence of efflorescences even in very wet environments.*

## COMPOSITION OF FORMULATION

It is made up of special hydraulic binders (C30) chemically stable and with very low soluble salt contents, very pure quartzes granulometrically impalpable, very fine pozzolana and a special combination of fluidifying, retentive, airing additives. The special formulation, produced in 1/10,000 planetary dispersion for a time under 20 minutes, forms an homogenous pre-mix of a white colour. To the mortar can be added microfibres to improve the mechanical features in special uses.

## APPLICATION FIELDS

*LEDAN D2 is a formulation extremely versatile. Particularly is used for: consolidation of: brick vaults, mix stony colonnades, archaeological structures, frescoed or scratched masonry structures.*

## PREPARATION'S INSTRUCTIONS

Knead energetically, for about three minutes, LEDAN D2, with water.

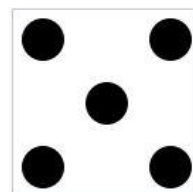
## RECOMENDED DOSES

USE	LEDAN D2	WATER
PRE-CONSOLIDATION OF DECOHERER SURFACES	1 Kg	1,6 lt
CONSOLIDATION OF MASONRY STRUCTURES, VAULTS, EXT.	1 Kg	1,6 lt

## INSTRUCTIONS FOR USE

- 1) Plaster well the product's possible leakage from the masonry support with the appropriate LEDAN STUC FORTE plastering mixture.
- 2) Carry out puncturing of building in quincunx with punctures' distance not over 50 cm and a deepness equal to 2/3 of the building. Puncture diameter minimum 8 mm.
- 3) Clean thoroughly the punctures with air.
- 4) Carry out the injections of LEDAN D2 uninterruptedly.

*\* If the puncturing and clearing operations are carried out correctly, the LEDAN D2, even without preliminary support wetting and applying a very low pressure, will flow right inside the empty area, spreading uniformly. Whenever this doesn't happen, check again the carried-out punctures' potential receptiveness.*



## LIMITS FOR THE USE

LEDAN D3 is lime based mixture, therefore avoid application in periods of extreme cold (with minimum temperatures less than 5° C) or extreme heat (with maximum temperatures over 35° C)

## EQUIPMENTS FOR USING

The application of LEDAN D2 can be done with cochlea systems, compression air, pistons, both manual and electrical (Art.:Nr.: 4406 000). It's advised, anyway, the use of equipments that allow to fill the masonry with high quantity of material, without the necessity of pauses for charging.

PHYSICAL - CHEMICAL FEATURES					
SPECIFIC WEIGHT	<b>1,40</b> Kg/Dm <sup>3</sup>	MEDIUM	ADHERENCE	<b>1,4</b> N/mm <sup>2</sup>	EXCELLENT
PLUGSTART	<b>18 HOURS</b>	MEDIUM	EXUDING	<b>NEGLEGIBLE</b>	EXCELLENT
PLUGEND	<b>24 HOURS</b>	MEDIUM	STEAM PERMEABILITY	<b>11 μ</b>	GOOD
WORKABILITY	<b>3 HOUR</b>	MEDIUM	ELASTIC MODULE SEC COMP	<b>11.000 N/mm<sup>2</sup></b>	MEDIUM
RESISTENCE TO COMPRESSION	<b>15</b> N/mm <sup>2</sup>	HIGH	WATER RETENTION	<b>&gt;80%</b>	EXCELLENT
RESISTENCE TO BENDING	<b>3,5</b> N/mm <sup>2</sup> (28 gg)	HIGH	SHRINKAGE	<b>5%</b>	EXCELLENT

N.B. The material was characterized bearing in mind its own application modalities. The numerical values refer to averages revealed on laboratory supports reproducing problems inherent in building structures.

### EFFLORESCENCE

To evaluate if possible soluble salts present in a mortar may cause undesired chemical and chromatic alteration phenomena, it is possible to carry out a test according to the RAL 544/3 regulations in the laboratory. The formulation LEDAN D2 undergoing such a test does not cause efflorescence phenomena.

### EXPERIMENTATIONS CARRIED OUT IN YARDS CHECKED BY THE MINISTRY FOR CULTURAL HERITAGE AND ACTIVITIES

A product to use in the sector of cultural heritage, as well as rigorous laboratory studies, also requires careful checks in yards, aiming to verify real behaviour over time, stability, the absence of direct and indirect negative effects and possible reversibility. LEDAN D2, focused on research promoted and financed by the Ministry for Cultural Heritage and Activities, Supervision of Matera (rocky churches) and Supervision of Southern Etruria (Necropolis of Tarquinia). The application proofs carried out during the research have showed that the material correspond to the requisite - aim and can, for absence of negative effects, be used in interventions of monumental restoration.

### DURABILITY

Some LEDAN D2 samples undergoing an accelerated aging cycle, simulating a natural ageing of around 20 years, have demonstrated a performance drop of under 5%.

### SPECIFICATION ENTRY

Injections for structural consolidation of decohered masonry, vaults and manufacture also frescoed, carried out using a premix composed by special hydraulics binders (C30) chemically stable and with very low soluble salt content, inert flints and calcareous in combination with hyperfluidifying additives. Because of the application peculiarity the premix must be tested for at least 10 years in research promoted by the BB.AA.CC Ministry. As for the product used, its principal chemical-physical features, the places and date of occurred testing must be declared. The producer must also supply the papers relating to the performed research activity, ratified by the Public Organ responsible for control thereof.

### STORAGE

If conserved in a dry place and closed containers the product is conserved for 12 months.

### PACKAGES

Buckets of : 15 Kg

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