EPOWALL ALM

NON-TOXIC TWO-COMPONENT EPOXY COATING FOR CONTAINERS OF FOODSTUFFS

DRACO

FLOORING

LINE

CHEMICALLY-RESISTANT RESINS SUITABLE FOR CONTACT WITH FOODSTUFFS

EPOWALL ALM is a two-component coating based on modified epoxy resins with excellent chemical-mechanical resistance, ideal for protecting and coating concrete surfaces of laboratories, food industries, chemical industries, production works, processing areas and surfaces at large destined to contact with aggressive agents or for containing food products and drinking water. **EPOWALL ALM** is certified for contact with foodstuffs according to the requirements of Ministerial Decree dated 21/03/73 and subsequent amendments.

BENEFITS

EPOWALL ALM is a two-component epoxy coating, suitable to the contact with foodstuffs, with the following features:

- ✓ **ANTACID: EPOWALL ALM** has an excellent chemical resistance to the industrial atmospheres, to the alkali (even at high concentrations), to the acids at moderate concentrations, and to the flow of fluids also containing solid suspensions.
- ✓ **WATERPROOF**: **EPOWALL ALM** is impermeable to water and to the chemically aggressive agents.
- ✓ **NON-TOXIC: EPOWALL ALM** is non-toxic, thus suitable to the contact with foodstuffs or drinking water according to the requirements of Ministerial Decree dated 21/03/73 and later amendments.
- ✓ **EASY TO APPLY:** The fluid consistency of **EPOWALL ALM** makes it quick and easy to apply by brush or roller.
- ✓ **HIGH BOND STRENGTH: EPOWALL ALM** provides superior adhesion to concrete, steel and most common materials used in building.

AREAS OF APPLICATION

EPOWALL ALM is an antacid and non-toxic epoxy resin for coating:

- ✓ tanks, pipes and containers for foodstuffs or drinking water;
- ✓ wastewater treatment tanks and relative technical premises;
- ✓ water treatment and distribution plants, pump rooms
- ✓ digestors, biogas production plants;
- ✓ drainage and sewage systems;
- ✓ containers for acid and basic substances;
- ✓ stables, dairy barns, veterinary premises, slaughterhouses.
- ✓ analysis laboratories, warehouses, production areas;
- ✓ cans for carrying crude petroleum products, chemicals and foodstuffs;
- ✓ concrete flooring.

DRACO Italiana SpA • via Monte Grappa, 11 D-E • 20067 Tribiano (MI) t. +39 02 90632917 • f. +39 02 90631976 • info@draco-edilizia.it

SUBSTRATES PREPARATION

- The substrates require a careful assessment of their quality and adequate mechanical resistance. It is in fact crucial to make sure that the superficial mechanical resistance is sufficient to ensure a good bonding strength.
- For applications on concrete, remove any flaking concrete parts, traces of oil, paint, cement laitance through sandblasting and chiselling; remove any trace of dust by compressed air. However concrete needs to be cured for at least 28 days; its surface must be dry.
- Any cracks, microfissures or irregularities in the substrate must be restored with FLUECO BLITZ or FLUECO 40T.
- In the presence of substrates damaged with cracks larger than 3 mm, volumetric rebuilding with mortars of the FLUECO line and skim coats of the CONCRETE FINISHER line shall be necessary.
- For applications on metal, first sandblast or grind the metal surface until achieving bare metal finish. In case it is impossible, immediately proceed with the application of **EPOWALL ALM**, treat the metal surface with a coat of PRIMER E. Sandpaper and accurately remove any trace of dust before the application.
- Moist substrates subject to rising damp. it is recommended to use the barrier against rising damp AQUASTOP T in a thickness of 2-3 mm, equal to an overall minimum consumption of 1 kg/m^2. In the presence of remarkable rising damp phenomena, it is recommended to increase the overall minimum consumption up to 2 kg/m^2.

APPLICATION OF THE PRODUCTS PROMOTING ADHESION

- Sound substrates: apply the product PRIMER E by roller or brush at the rate of approx. 200÷300 g/m^2.
- Porous or damaged substrates: apply the product PRIMER ES40 by roller or brush at the rate of approx. 350÷400 g/m^2. As this primer is in solvent phase, it deeply penetrates the substrate by consolidating the structures.

HOW TO USE

COMPONENTS PREPARATION

The two components of **EPOWALL ALM** are provided in two separate packages:

- A-RESIN
- B-HARDENER

Before mixing component B with component A, the products must be thoroughly mixed, each in its own container. Pour the entire hardener B into component A and carefully mix with a low-speed drill for 3÷4 minutes till getting a well-blended mix. Do not use partial quantities, as a wrong mixing ratio could cause damage during the hardening process. Do not dilute.

APPLICATION

After the primer application on concrete, however not later than 24 hours thereafter, apply **EPOWALL ALM** by roller or brush.

Usually at least two coats of **EPOWALL ALM** are applied, for an overall consumption of 500 - 600 g/m^2.

PRECAUTIONS FOR HOT CLIMATES

- Store **EPOWALL ALM** away from sunlight;
- do not perform work during the hottest hours of the day;
- do not work at temperatures higher than +30°C.
- do not apply onto surfaces exposed to direct sunlight.

RECOMMENDATIONS FOR COLD CLIMATES

- Store **EPOWALL ALM** in a frost-free location;
- do not apply at temperatures lower than +5°C;
- start work during the hottest hours of the day.

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WARNINGS

- Do not dilute **EPOWALL ALM** with water or solvents.
- Do not apply **EPOWALL ALM** on moist surfaces or subject to rising damp.

PACKAGING AND STORAGE

EPOWALL ALM is available in:

5 kg pail + 1.25 kg pail = (A + B) 6.25 kg

10 kg pail + 2.50 kg pail = (A + B) 12.50 kg

The product in its original packaging, stored in separate packages indoors at a temperature of not less than 5°C, can maintain its original features for one year.

TECHNICAL SPECIFICATIONS

APPEARANCE	Fluid
COLOUR	red - grey Others on demand
DENSITY - UNI EN ISO 2811	Comp. A: 1.45 kg/l Comp. B: 0.9 kg/l
VISCOSITY - UNI EN ISO 3219	Comp. A: 16600 mPa.s Comp. B: 320 mPa.s
PACKAGES	5 + 1.25 = 6.25 kg 10 + 2.5 = 12.5 kg
STORAGE	12 months

APPLICATION DATA a 20°C e 50% R.H.

MIXING RATIO	A:B=4:1
CONSISTENCY OF MIX	Fluid
A + B DENSITY - EN ISO 2811	1.34 kg/l
WORKABILITY TIME - EN ISO 9514	30÷40 minutes
HARDENING TO TOUCH	12 hours
OVERCOATING TIME	12-24 hours
TOTAL CURE TIME	7 days
APPLICATION TEMPERATURE RANGE	from +5°C to +30°C
CONSUMPTION	200 - 300 g/m^2 depending on the porosity of the substrate 500 - 600 g/m^2 (recommended minimum in 2 coats)

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PERFORMANCE CHARACTERISTICS AS PER UNI EN 1504-2 COATING C (PI-MC-RC)

PERFORMANCE CHARACTERISTIC	TEST METHOD	REQUIREMENTS ACCORDING TO EN 1504-2	PRODUCT PERFORMANCE
PERMEABILITY TO CARBON DIOXIDE	UNI EN 1062-6	S_D > 50 m	32100 m
PERMEABILITY TO WATER VAPOUR	UNI EN ISO 7783-2	class I to III	S_D = 140 m Class III (impermeable)
CAPILLARY ABSORPTION	UNI EN 1062-3	W < 0.1 kg/m^2·h^{0,5}	>0.01 kg/m^2·h^{0,5}
DIRECT TENSILE STRENGTH	UNI EN 1542	*Cracking or flexible systems:* without traffic: ≥ 0,8 (0,5) with traffic: ≥ 1,5 (1,0) *Rigid systems* without traffic: ≥ 1,0 (0,7) with traffic: ≥ 2,0 (1,0)	3 MPa
Resistance to severe chemical attack Class I: 3 days with no pressure Class II: 28 days with no pressure Class III: 28 days with pressure We recommend using test liquids for the 20 classes indicated in EN 13529, which cover all types of the most commonly-used chemical agents. Other test liquids may be agreed upon between those interested in the tests:	EN 13529	Reduction of hardness less than 50% when measured according to the Buchholz method (EN ISO 2815) or the Shore method (EN ISO 868), 24 hours after removing the coating material from immersion in the test liquid	No variation in performance. Bubbles with 10% acetic acid after 28 days

ITEM SPECIFICATIONS

The epoxy coating EPOWALL ALM must be applied on all the surfaces, in order to ensure impermeability and high resistance to wear, to chemical attack, to mineral oils, vegetables, petrol, etc. The product shall be used according to the instructions of the manufacturer, DRACO Italiana SpA, which shall also provide technical support upon request.

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