



DOLINA NIDY ALFA FIRE FIREPROOF MACHINE-APPLIED GYPSUM PLASTER

- reinforced concrete walls and ceilings (REI 15 ÷ 360)
- reinforced concrete beams and columns (RE 15÷240)
- steel beams and columns (RE 15÷180)
- composite elements made of concrete and profiled steel plate



For mechanical application
Protect from moisture
Ecological product
ECO technology

APPLICATION

Fireproof gypsum plaster DOLINA NIDY ALFA FIRE is intended for passive fire protection of structural elements and interior partitions. In the event of a fire, a layer of plaster of an appropriately designed thickness applied to building elements significantly increases the stability of the building and extends the time for safe evacuation. According to ETA-21/0165, the product may be used on the following components:

- load-bearing and non-load-bearing ceilings, walls that have a separating function in case of fire and other reinforced concrete and prestressed concrete elements,
- reinforced concrete and prestressed concrete beams and columns,
- steel beams and columns with closed and open sections (I, H CHS/RHS),
- composite ceilings made of concrete and profiled steel plate.

PROPERTIES

- modern, ready-to-use mortar based on gypsum, light mineral fillers and modifiers,
- easy to apply with plastering machines,
- forms spotted texture on the substrate,
- can be levelled as needed.

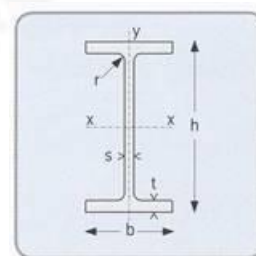
SUBSTRATE PREPARATION

Concrete substrates - should be stable and cured, their humidity must not exceed 3%. The substrate should be cleaned of any contaminants that may weaken the adhesion of the plaster, especially dust, loose and dusting elements, efflorescence, grease, remains of formwork oils, paint coatings, etc. Prime the substrate with DOLINA NIDY INTER-GRUNT primer at least 24 hours before plaster application.



Substrates consisting of composite elements made of concrete and profiled steel plate – should be dry, free from dust, rust, grease, other contamination and remains of old coatings that may weaken the adhesion of the plaster. Otherwise, the substrate should be cleaned, degreased and allowed to dry completely. Remove remains of rust, old paint coatings and other coatings and protect the substrate with an anti-corrosion coating according to the manufacturer's instructions.

Steel substrates – should be clean, free from dust, loose contamination, rust, poorly bound old coatings, grease and oils. Remove old, poorly bound coatings and rust manually or mechanically, e.g. by sandblasting. Then, if necessary, protect the substrate with a suitable anti-corrosion primer. If necessary, degrease, wash and dry the substrate. Before applying the plaster on steel substrates, install a galvanized hexagonal mesh, which, being a reinforcement, significantly improves the adhesion and durability of the plaster. Hexagonal mesh is attached to the substrate with fasteners (nails) welded by a capacitor spot welder or transformer spot welder. If the steel structure is coated with a primer or anticorrosive paint, grind the places on the steel element where the nails are fastened in order to remove the primer layer. Use not less than 10 nails per 1m², space them evenly and alternately on the edges and in the web of the shape (b) and in the middle of its flanges (t) and height (h).



The distance between the mesh and the steel element should not exceed 10 mm. If it is necessary to connect the mesh, use overlaps not smaller than 5 cm. After fixing the mesh, protect the nail welding points against corrosion again using the same type of primer. Apply the fireproof plaster layer of the required thickness to the mesh attached in this way.



Materials:

Hexagonal steel mesh (IZOLA type), galvanized, mesh size not greater than 35 mm and wire thickness minimum 0.8 mm.

Fasteners - nails with a welded disc for fixing thermal insulation to steel substrates, protected with a copper or galvanized coating; nail length min. 20 mm, nail diameter min. 2.6 mm; disc diameter min. 25 mm.

All steel components that may directly come into contact with plaster should be protected against corrosion. Do not apply the plaster to frozen substrates.

MORTAR PREPARATION

Spray the fireproof gypsum plaster DOLINA NIDY ALFA FIRE to the substrate using a PFT G4 or G5 plastering machine or another plastering machine of a similar design and operation, equipped with a D6-3 or D4-3 worm pump and a 10-12 mm air nozzle. Before applying the plaster, set the appropriate amount of water supplied to the plastering machine to obtain a stable and uniform consistency of the gypsum plaster. The recommended mortar density during application (fresh mortar when wet) is approximately 1000 kg/m³ (1000 g/litre)

METHOD OF APPLICATION

Spray the plaster mix from a distance of approximately 30 cm to the substrate evenly and in thin layers until the required thickness is obtained, using the wet on wet method. The interval between the application of successive layers should not exceed 60 minutes. If plaster surface levelling is required, do this before the plaster setting begins, i.e. when the plaster still retains its plasticity. Time to setting is approximately 60 minutes and may change depending on the type of substrate, temperature and ambient humidity. After this time, levelling and any other corrections are not allowed because they can weaken the structure and adhesion of the mortar. Apply the plaster in conditions of normal air humidity at an ambient temperature of 5 to 30°C. Avoid direct sunlight and draughts during application as they can shorten the setting time. After plastering, protect the applied plaster against frost, sunlight and draughts for 24 hours. Then the plaster can be intensively aired and dried, maintaining the temperature of 5÷40°C until the plaster is dry. The drying time depends on the layer thickness, humidity and ambient temperature. It is assumed that plaster with a thickness of 15 mm, in a properly ventilated room and at a temperature above 15°C takes approximately 14 days to dry.

CONSUMPTION

The average consumption is approx. 0.65 kg of plaster per 1 m² of substrate at a layer thickness of 1 mm.

PACKAGING

20 kg paper bags,

TOOLS

PFT G4, G5 plastering machine or similar one.
D6-3 or D4-3 pump for plastering machine.
Spray nozzle with a diameter of 10-12 mm.
Plastering tools.

SAFETY INFORMATION

Safety information is provided on the product packaging and in the Safety Data Sheet available at dolina-nidy.com.pl.

The product has:

- Hygienic Conformity Certificate B-BK-60211-0656/20
- Environmental Product Declaration type II EPD 146/2021

STORAGE AND TRANSPORT

Information on storage and transport is provided on the product packaging and in the Material Safety Data Sheet available at www.dolina-nidy.com.pl.

The shelf life of the product (use-by date) is 6 months from the date of manufacture on the bag.

TECHNICAL DATA

Mixing ratio	approx. 16.2 l water per 20 kg
Yield	100 kg of plaster = approx. 160 l of mortar
Time before the application of the next layer or substrate levelling	≤ 60 min
Conditions during plastering - substrate temperature and ambient temperature	from +5°C to +30°C,
Adhesion to the substrate: (concrete, steel, galvanized steel)	≥ 0,1 N/mm ²
Thermal conductivity coefficient	≤ 0,1 W/m·K
Bulk density	approx. 550 kg/m ³
Volume density: - fresh mortar during application - set and dried mortar	approx. 1,000 kg/m ³ approx. 700 kg/m ³

Fire classification acc. to ETA-21/0165

Reinforced concrete and prestressed concrete walls and ceilings (load-bearing and non-load-bearing elements).

Layer thickness: 14.5 to 25.0 mm: REI 15÷360 min

Reinforced concrete and prestressed concrete beams and columns:

Layer thickness: 11.5 to 23.0 mm: R 15÷240 min

Steel beams and columns:

Layer thickness: 11.8 to 36.6 mm: R 15÷180 min

Composite ceilings made of concrete and profiled steel plate:

Maximum heating time for a layer thickness of 40 mm

Load-bearing elements: 130 min

Non-load-bearing elements: 229 minutes



TECHNICAL REQUIREMENTS

The product is covered by European Technical Assessment ETA-21/0165.

DOLINA NIDY ALFA FIRE (2021) Declaration of Performance no. EC 30/1/CPR European Technical Assessment ETA-21/0156 of 17/03/2021	
Plaster for fire protection of the following structural elements: - Type 3 – concrete load-bearing elements - Type 4 – steel load-bearing elements - Type 5 – load-bearing flat composite elements made of concrete and profiled steel plate - Type 6 – load-bearing steel columns filled with concrete	
Reaction to fire	A1
Adhesion:	
- concrete - plaster thickness 10÷25 mm	≥ 0.10 MPa
- steel (raw or covered with epoxy or alkyd primer) - plaster thickness 10÷36 mm	≥ 0.10 MPa
- galvanized steel - plaster thickness 10÷40 mm	≥ 0.10 MPa

CAUTION

Strictly observe the instructions for:

- proper storage of the product,
- priming and proper preparation of substrates,
- application of recommended thickness of plaster,
- appropriate humidity, substrate temperature and ambient temperature,
- recommended plaster care procedures.

The manufacturer assumes no responsibility for the consequences of using the product contrary to the above guidelines and the best construction practices.

The information in the Product Data Sheet constitutes basic guidelines concerning the use of the product and does not release from the obligation to conduct work according to the best construction practices and health and safety at work regulations. On the date of issue of this Product Data Sheet, all previous Product Data Sheets become invalid.

The accompanying documents for the product are available at www.dolina-nidy.com.pl.

The content of the Product Data Sheet as well as the symbols and trade names used in it are the property of Atlas sp. z o. o. Their unauthorized use will be sanctioned.

Updated on: 05/10/2022