

From Project to Jobsite

DRY SPRITZ - RAPIDO

SHOTCRETE WITH FAST SETTING FOR CONSOLIDATION AND STRUCTURAL APPLICATIONS.

CE approved – Certificate n. 1305 - CPD - 0808
 EN 1504-3 Class R3



Description DRY SPRITZ - RAPIDO is a dry mixture for the production of shotcrete and spray mortar, with extraordinary strength, impermeability, frost resistance and durability. Depending on requirements, the dry mixture can be made for the consolidation of excavations, embankments and tunnels by the wet or the dry process, for the restoration of buildings or for the production of spray mortars. The process of the projection of concrete is applied in particular in the consolidation of rocky or friable surfaces, faced with in the construction of tunnels, but also for the rehabilitation and reinforcement of reinforced concrete elements. In the proceedings of shotcreting, the dry cement and the additives are blended and pumped, freely suspended in a current of compressed air, through a tube, to reach the mixing nozzle. In the nozzle water is added to the dry mixture, to achieve the necessary humidity. Finally, the concrete is applied with the spray lance in layers, in a continuous flow at the point of application, where, thanks to the impact energy, it compresses itself.

- Advantages and characteristics**
- high resistance
 - waterproof
 - resistant to frost (X3F)
 - fast setting
 - durable
 - requires no additional accelerators
 - high flexibility
 - pumping is possible up to a distance of 500 m (ideal distance about 100 m)
 - rapid application
 - easy cleaning
 - can be supplied in all classes of resistance and exposure

- Indicated use**
- consolidation of foundation excavations
 - consolidation of slopes
 - primary consolidation and structural applications of galleries, tunnels and mines
 - rehabilitation (buildings, bridges, tunnels and canals), preservation and protection of buildings of architectural heritage

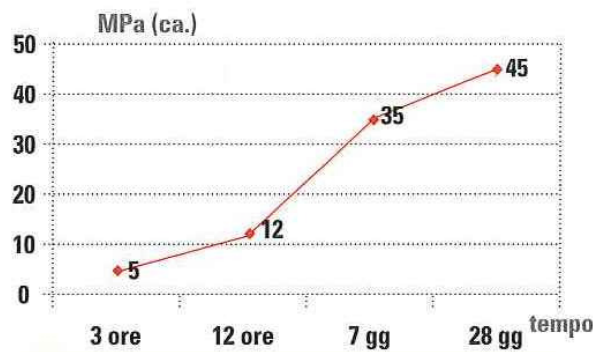
- Characteristics**
- **Cement:** dry shotcrete for this fast-setting, it takes special cements, with setting time to about 90-120 seconds.
 - **Water:** the water/cement ratio (W/C) is a determining factor in the quality of shotcrete. The total amount of water used in the dry process, is represented by the water of addition added in the nozzle.
 - **Fibre:** depending on the needs can be added to the dry mixture of steel fibres, in order to obtain a greater energy absorption capacity and/or a lower shrinkage of the shotcrete. With the addition of steel fibres, decays also the need for additional fastening in case of consolidation with steel nets.
 - **Other additives** precisely graded sand, aggregates and valuable minerals are used. On request they can be combined with other additives that modify the characteristics of the shotcrete.

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Technical characteristics (typical values)

- Consumption: ~ 2,25 Kg. Mix per litre, or mm/m² (excluded rebound)
- Apparent density: ~ 1,9 Kg/dm³
- Resistance class: Rck 25 N/mm² for consolidation; Rck 45 N/mm² and more for other structural applications.
- Mixing liquid: water
- Water content required: ~ 160 l/m³
- Workability time: Fast setting. Subsequent elaboration is not possible.
- Thickness layer: > 3 cm per layer
- Initial setting: circa 3-4 minutes

Development of the compressive strength :



Exposure class: XF3, on request other classes can be provided.

Modulus E: ~ 27 GPa

Waterproofing: depth of penetration < 15 mm, UNI EN 12390/8 (5 bar, 3 days)

Packaging Bags of 25 Kg on pallet, or bulk in silo.

Composition **Cement:** special hydraulic Portland binder with fast set and hardening, with poly functional additives in powder.

Aggregates : granulometric distribution from 0-4 or 0-8 mm.

Storage 12 weeks.

Application With dry spray equipment, operated by skilled staff.

Safety remarks Read carefully the instructions on the packaging and eventually ask us the Material Safety Data Sheet of the product.

The above data are based on our actual and most experienced practical and laboratory knowledge and the results are collected from application of the product in different situations. Tecnochem Italiana does not assume any responsibility regarding inadequate or negative performance as a result of improper use of the product or for defects deriving from factors or elements other than the quality of the product including improper storage. The technical characteristics and performance mentioned in this datasheet are updated periodically. The revision dates and number of revision of the datasheets are listed in the table below. Eventual variations are traceable on our website www.tecnochem.it where the most updated datasheets can be retrieved.