

MICROBETON® ASPHALT GROUT

Photocatalytic

MICROCONCRETE WITH PHOTOCATALYTIC EFFECT FOR REDUCTION OF POLLUTION CEMENT/ASPHALT PAVEMENT

Description **MICROBETON® ASPHALT GROUT photocatalytic** is premixed cement based product, with reactive micro-silica and anatase titanium dioxide powder, properly activated in order to obtain high fluidity grouts with very high mechanical strengths, shrinkage compensation, no bleeding, easy to cast in open grade drainage asphalt with porosity from 25÷30%. Once cured the product performs oxidative effect on air pollutants.

Advantages and characteristics Very fluid grout can be obtained by mixing with water and having the following main characteristics:

- Very low water/cement ratio to obtain very fluid grouts with very low viscosity
- No bleeding, shrinkage compensation, volumetric stability
- Long workability time when pouring or injecting
- Very high mechanical strengths and opening to traffic after 24 hours
- Promotes the rapid decomposition of pollutants through the action of natural light and activating an oxidative process that transforms pollutants (nitrogen oxide and nitrogen dioxide, sulphur dioxide, carbon monoxide, aromatic compounds, particulate matter) into harmless compounds.

Fields of use - Fluid grout for filling of mono-granular OPEN GRADE Asphalt (open porosity 25÷30%) broken stone (recommended basalt) particle size approx. from 4 mm to 20÷25 mm, screed thickness from 40÷70 mm: recommended prequalification made from the OPEN GRADE producer/applicator (see also instructions in ASPHALT GROUT MANUAL) in order to obtain semi-flexible asphalt-cementitious pavements, with even no joints, to be used for port areas, containers storage, airport areas, warehouses, forklifts loading areas, areas with high static, dynamic or mechanical stresses and with heavy traffic.

→ Wherever it is useful to reduce air pollution, the extent of which should best be monitored over time.

Method of use

- Apply the **MICROBETON® ASPHALT GROUT photocatalytic** on OPEN GRADE ASPHALT which should be guaranteed by its producer, properly laid with vibratory finishing machine and rolled. The ASPHALT GROUT can be poured once the temperature of the OPEN GRADE Asphalt is lower than 30°C.
- Mix with a total 22% of mixing water depending on the required viscosity.
- Start adding approx. 18% of water and then pouring gradually the product.
- Add the remaining water and mix strongly for 5-6 minutes; the mixing must be homogeneous, with no lumps.
- The mixing time can be reduced if turbo mixing or mixings with high speed are used. The grouts will result easy pumpable for about 1 hour if evaporation is avoided.
- The product can be mixed and automatically pumped with TURBOFLOW MIXER (fed by big bags or by bulk silo) in order to reduce the mixing time considerably. The slurry remains pumpable for about 1 hour, avoiding the evaporation of the water contained.

NOTE: Our allied applicators with appropriate tools benefit from the guidance and assistance of our office for Engineering and Project Assistance: *from Project to Jobsite*.

From Project to Jobsite

Remark Information according to 2003/53/CE:
Storage: The product can be kept for at least 12 months if stored in dry and protected conditions, in the original packaging, between +5°C and + 35°C.

Packaging Bulk, Bag of 25 Kg and Big bag of 1000 Kg.

Consumption of the powder about 5 Kg/m²/cm

Technical characteristics
 (typical values ASPHALT GROUT)

- MARSH FUNNEL viscosity approx. 110 seconds: the acceptable ranges of viscosity have to be established on the particular field of application quality control.

MICROBETON [®] ASPHALT GROUT photocatalytic		
Mechanical resistance	compr. Str.MPa	Flexural str. MPa
3 hours	/	/
1 day	20	4
7 days	60	6
28 days	80	9
90 days	90	10

- Setting and hardening times change depending on the climate or ambient conditions. In any case, the formula can be adapted to the applicative conditions.
- Dimensional stability: the formulation is calculated for a potential expansion 0,2–0,5 mm/m in conditions of no water loss for suction or evaporation.
- The system asphalt/cement OPEN GRADE (asphalt) + ASPHALT GROUT (cement) will provide typical resistances:

Compressive strength	8÷10 MPa
Elasticity modulus	About 8.000 MPa (ASTM D-4123)

Remark Avoid the use of brackish water or salt water.

Safety indications Read carefully the safety indications on the packaging, or consult the relevant Material Safety Data sheet of this product.

This information is based on our experiences and latest laboratory testing. The above information may be subject to modifications, which will be announced in the updated technical datasheets. Eventual changes to the information on top will be announced on www.tecnochem.it in which the technical datasheets are updated regularly and always the most updated can be found. Tecnochem Italiana cannot held responsible for poor results that are due to causes unconnected to the quality if the product or for defects deriving from factors different than the quality of the product including the wrong storage.