



Family
Floortech

Type
High-performance hardening powder for industrial flooring

Product Lines
• **Infratech**
• **Floor**

Functional Categories
• **Construction of high performance industrial concrete floors**
• **Wall structure treatments and repair of industrial concrete floors**

Components
Single-component

Appearance
Powder

FLR.0055

FLOOR VULKAN

Hardening cement dusting, high-performance, with basaltic aggregates

Customs Code

3824 5090

Packaging

- Bag 25 kg
- Pallet: 50 x (Bag 25 kg)

Application

- Apply by hand
- Finishing trowel
- Power trowel

Certifications and legislations



EN 13813

Screed material and floor screeds - Screed material - Properties and requirements



EN 1504-3

Products and systems for the protection and repair of concrete structures - Structural and non-structural repair (R4)



C70 F7

EN 13813

General description

A premixed hardening mineral blend with a base of basalt, corundum, high-purity quartz, super-pozzolanic reactivities (thickened microsiliates) and hydraulic binders for surface armour dust or paste, for industrial concrete flooring.

General features

In concrete floors, even if covered with traditional hardening powders, "dust" is caused the abrasion and consequent wear of the friable components of the hardened cement paste: especially calcium hydroxide, also called free lime $\text{Ca}(\text{OH})_2$, notoriously unstable from the chemical point of view, relatively soluble and intrinsically "friable". FLOOR VULKAN is made up of "hard" mineral aggregates (basalts, quartz and corundum) bound together by cement modified with micro-siliates (MICROSIL 90), which, by means of super-pozzolanic reaction (transformation of the lime released by hydrolysis during hydration, in new calcium silicate compounds that are stable, insoluble and resistant), and give the surface of the floor reinforced with FLOOR VULKAN very high mechanical performance and overall durability. FLOOR VULKAN exploits the mineralogical characteristics of the hardest materials present in the Mohs scale. It is made up of selected pure quartz (harder than quartz normally used in construction, Mohs scale = 7), Corundum (Mohs hardness = 9) and high hardness Basalt (very hard, tough and very wear-resistant effusive rock, Mohs scale = 7-8), which make up most of the aggregates contained in the mixture.

- Slip resistance, UNI EN 13036-4 (PTV): dry <75, wet <40
 - Wear resistance, BCA UNI EN 13892-4: <=90 μ (class AR1)
 - Drop test of a mass with spherical head diameter 20 mm and total mass 1000 grams, UNI EN ISO 6272: fall height 1600 mm INTEGRO-PASS, fall height 1700 mm INTEGRO-PASS.
- The technical parameters set out above allow to fulfil standard 13813 (Materials for Screeds - Properties and Requirements) and, above all, the strict standard 1504/3 (Products and systems for the protection and repair of concrete structures - Part 3: Structural repairs). Please note that the category of FLOOR VULKAN with regards to regulation 1504/3 is that of structural mortar R4, with the relative criteria of resistance to carbonation and adherence bonding after thermal cycles. The fulfilment of the structural parameters of regulation 1504/3 is of fundamental importance when dusting is carried out in severely exposed environments from the chemical point of view (carbonation, chemical attacks), from the mechanical point of view (flooring subjected to static loads and dynamic stress) or when dusting is carried out on fibre-reinforced concrete floors (especially in the presence of metallic fibre reinforcement). Produced in accordance with ACI 201 - 2R 77 - Guide to Durable Concrete: Section 3,4,6 "Recommendations for obtaining abrasion resistant surfaces".



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Dosage

Typical usages are:

- dusting of the dry mixture on fresh concrete surfaces: 1 kg/m²
- application in layers as for mortar on concrete surfaces (wet-on-wet): 15-20 kg/m²
- application on hardened concrete surfaces such as fishbone ramps, after laying a bonding element such as SYNTECH RGS: 20-30 kg/m²

Fields of application

Anti-wear and anti-dust coatings of concrete surfaces subjected to high abrasion stresses: industrial flooring, road surfaces, airport flooring, ducts, overflows, such as: • floors in industrial environments (metal and steel industries); • flooring in areas for storage and handling of goods (logistics warehouses, depots, freight forwarders); • paving of interports and airport hangars; • flooring in commercial environments (shopping malls, supermarkets, shops, showrooms); • loading/unloading platforms • access slides to parking lots and garages in indoor and outdoor areas.

Basic features



Highlighted product



Density:
2000 kg/m³



Maximum diameter of aggregate:
2 mm



Min. recommended thickness:
2 mm



Nonflammable



Pot-life:
>45 min



Shelf-life:
12 months



Temperature of use:
+5 / +30 °C



UV-resistant



Available colours
Gray / Black

Technical specifications

Adhesion to substrate UNI EN 1542: 2.8 N/mm²

Chloride content UNI EN 1015-17: 0.008 %

Compressive strength after 28 days UNI EN 1015-11: > 70 N/mm²

Drop test of a mass with spherical head diameter 20 mm and
total mass 1000 grams UNI EN ISO 6272 (PROMOTED): 1700 mm

Dry skid resistance UNI EN 13036-4 (PTV): < 70 _

Flexural strength after 28 days UNI EN 1015-11: 9.5 N/mm²

pH: > 12.5 _

Resistance to carbonatation UNI EN 13295: dk < cls rif. _

Static elastic modulus UNI EN 13412: 35000 MPa

Thermal compatibility UNI EN 13687-1: 2.4 MPa

Wear resistance BCA UNI EN 13892-4: ≤ 90 (AR1) μ

Wet skid resistance UNI EN 13036-4 (PTV): < 40 _

Applicable on

Concrete

Instructions for use

FLOOR VULKAN is a premixed product in 25 kg bags, ready to use, for application according to traditional methods (dusting or "pasting").

Surface dusting must always be carried out on fresh concrete, before setting has commenced, and can be carried out either manually or mechanically.



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Storage and preservation

Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight. Inadequate storage of the product may result in a loss of rheological performance. Protect from humidity.



Warnings, Precautions and Ecology

The general information, along with any instructions and recommendations for use of this product, including in this data sheet and eventually provided verbally or in writing, correspond to the present state of our scientific and practical knowledge.

Any technical and performance data reported is the result of laboratory tests conducted in a controlled environment and thus may be subject to modification in relation to the actual conditions of implementation.

Azichem Srl does not assume any liability arising from inadequate characteristics related to improper use of the product or connected to defects arising from factors or elements unrelated to the quality of the product, including improper storage.

Those wishing to utilise the product are required to determine prior to use whether or not the same is suitable for the intended use, assuming all consequent responsibility.

The technical and characteristic details contained in this data sheet shall be updated periodically. For consultation in real time, please visit the website: www.azichem.com. The date of revision is indicated in the space to the side. The current edition cancels out and replaces any previous version.

Please note that the user is required to read the latest Safety Data Sheet for this product, containing chemical-physical and toxicological data, risk phrases and other information regarding the safe transport, use and disposal of the product and its packaging. For consultation, please visit: www.azichem.com.

It is forbidden to dispose of the product and/or packaging in the environment.

FLOOR VULKAN contains cement which, in contact with sweat, causes an irritant alkaline reaction and allergic reactions in those predisposed. Please note that the user is required to read the most recent Safety Data Sheet of the product, which contains chemical-physical and toxicological data, risk phrases and other information regarding the transport, use and disposal of the product and its packaging in complete safety.

Technical data and performance data reported in this document are the result of laboratory tests conducted in a controlled environment and, as such, can be significantly modified by operating and installation conditions. Preliminary tests in the actual conditions of use are therefore required. The product and its packaging must not, in any case, be dispersed into the environment. Pay attention to the damp ageing and protection of exposed surfaces.

FLOOR VULKAN is produced/distributed by



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