

Aurubis Bulgaria

Aurubis Bulgaria is part of Aurubis AG, a leading international metals production group based in Hamburg, Germany.

Today, Aurubis is the largest taxpayer in Bulgaria, with structural significance for the country's economy. The company's plant in Bulgaria is located in the Sredna Gora mountain range.

Since its establishment in 1958, copper production near Pirdop and Zlatitsa has been an integral part of the region's history and Bulgaria's development.

The company creates 1,000 direct jobs and 2,500 indirect jobs in the subcontractor chain.

Between 1998 and 2023, the company has invested over €750 million, focusing on modernizing production and the environment.

Its main activity is the processing of copper concentrates, the production of refined copper, registered on the London Metal Exchange under the brand name "Pirdop," copper anodes, and secondary products such as sulfuric acid and iron silicate fines.

The company is certified according to the following standards: ISO 9001, ISO 14001, ISO 45001, ISO 50001, ISO 17025, and The Copper Mark.

In the field of iron silicate fines, it is certified according to EN 12620, EN 13139, has a European Technical Assessment (ETA) and an Environmental Product Declaration (EPD).



Contact person:

Emanuela Manolova
tel: +359 882 806 387
e.manolova@aurubis.com

Lidia Nedeleva
tel: +359 884 220402
l.nedeleva@aurubis.com



Aurubis Bulgaria AD

Address: 2070 Pirdop,
Industrial Zone

www.aurubis.com/bulgaria/products/iron-silicate

Iron silicate fines

For concrete with higher strength and better workability


Metals for Progress

Iron silicate fines

Iron silicate fines is a certified construction product manufactured by Aurubis Bulgaria, used in ready mix concrete, concrete products, and prefabricated reinforced concrete elements.

From 2022 the material is used in all areas of the construction process related to concrete works, in the construction of reinforced concrete structures of buildings, transport and hydro technical facilities, pavements, concrete elements and products.

It has a declaration of performance as an aggregate used as a fine filler for concrete according to EN12620 and for mortar according to EN 13139. In addition, there is a European Technical Assessment for the manufacture of blended cements replacing Portland cement up to 20%.

The material has industrial origin, with consistent characteristics in terms of both chemical composition and physical parameters. This greatly facilitates the production process and maintains the quality of the final concrete products.

The use of iron silicate fines in construction creates materials with a lower environmental footprint. It is one of the first in the sector with EPD certificate regarding the environmental aspects of the product and its life cycle assessment.

Concrete manufacturers can use it to demonstrate the environmental sustainability of their products. It makes it easier for investors to meet the requirements for LEED, BREEAM, and Multi Comfort certification for their buildings.

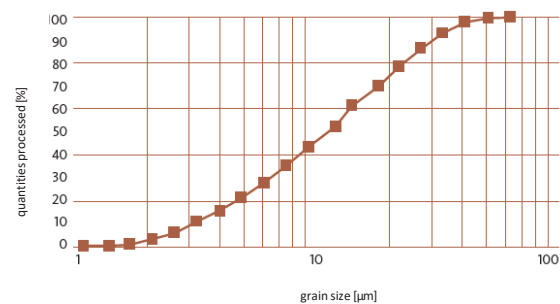
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Main physical characteristics

Particle shape	angular
Appearance	color anthracite
Bulk density	1800 kg/m ³
Specific density	3700 kg/m ³
Moisture content of the material	10
Loss on ignition	0.68% at 480°C
Internal friction angle	70

Grain size distribution



Concrete and concrete products

Characteristics of concrete products

- » Certified additive according to EN 12620
- » Increases concrete density and compressive strength
- » Increases the durability of concrete: water impermeability (Cw0.8 & Cd50 (BDS EN 206:2013 & NA.N)), abrasion resistance (18000mm³/5000mm²), wearing resistance (18±0.2cm³/50cm² (BDS EN 13892-3:2015)), frost resistance (Δm=0.2% & Δf=2.3% (BDS EN 206:2013+A1:2016)), as well as protection against aggressive effects of chlorides, sulfates, and sea salts
- » No linear deformation of the concrete (no shrinkage or swelling)
- » Improves the properties of fresh concrete mix
- » Reduces the heat released during cement hydration
- » Does not cause an alkali-silica reaction

Applications

- » Ready mix concrete
- » Large-size pavements
- » Facilities for transport and hydraulic engineering structures
- » Heavy-duty structures
- » structures subject to aggressive influences
- » ultra high strength concrete
- » protective concrete against radiation effects
- » concrete elements for urban and suburban areas

