



ALFA ACCIAI



1954
2024

ALFA SINSTONE[®] and GRIPSTONE[®]

Recovery of black slag
for use in building construction, road surfacing
and civil engineering works



Acciaierie di Sicilia

SICILYSTONE

A large customer-oriented Group

The Alfa Acciai Group, one of Europe's leading manufacturers of reinforcing steel and wire rod for 70 years, is a benchmark in terms of cutting-edge technology, mindful of the employees and with environmental awareness throughout the entire steel supply chain.

With an overall production capacity of 2.5 million tonnes of steel and rolled products and over 1,200 employees.

Focus on ethical corporate social responsibility principles, routine maintenance on installations and operations, caring and listening to stakeholders' requirements: these are the cornerstones on which the Alfa Acciai Group has grown and developed by working in the steel industry for seventy years with standards of excellence.







**Using natural resources wisely is
the only way to achieve
increasingly high-performance solutions
while respecting our environment.**

Our commitment to the environment is ongoing and unbending.

It reflects who we are and where we're headed.

By implementing the **Zero Waste philosophy, the Group not only gives new life to ferrous scrap, it also constantly strives to give value to each generated residue by contributing it to other circular economies, thereby feeding the value chain and promoting material recovery and the preservation of natural resources.**

For some time, the Alfa Acciai Group has been committed to making steel production increasingly sustainable, through an integrated approach that involves all environmental aspects, full compliance with current legislation and ongoing research into the best technical, management and organisational solutions to make consumption more efficient.

As proof of the policy focusing on ongoing improvement of environmental performance, Alfa Acciai and Acciaierie di Sicilia currently implement **ISO 14001 Environmental Management** and **ISO 5001 Energy Management Systems**.

In 2023, the Alfa Acciai Group was one of the first steel mills in Italy to obtain the **Corporate Carbon Footprint** certification for all its production sites.



All our products are awarded the following environmental certificates:

- ✔ **Content of recycled material - UNI/PdR 88:2020**, the minimum content of recycled material in Alfa Acciai and Acciaierie di Sicilia products is 99%. This is among the highest in Europe and far exceeds the Minimum Environmental Criteria for structural uses indicated by CAM-EDILIZIA, which is the most important environmental standard in the construction industry. 
- ✔ **Environmental Product Declaration (EN ISO 14025)** to meet LEED requirements and help increase the rating value of the end product.
- ✔ **ICMQ ECO Gold**
- ✔ **SUSTSTEEL**





Alfa Acciai Group's artificial aggregates: **ALFA SINSTONE®, GRIPSTONE® and SICILYSTONE.**



ALFA SINSTONE®, GRIPSTONE® and SICILYSTONE are by-products obtained from the recovery of black steel mill slag composed mainly of iron, calcium and silicon oxides, which is generated during the melting process of ferrous scrap in the electric arc furnace. These are high-performance artificial aggregates resulting from continuous research into new materials and new technologies for improving manufactured products and safeguarding natural resources.

GRIPSTONE® is certified 100% by-product and meets the Minimum Environmental Criteria requirements.

HOW THEY ARE OBTAINED

On completion of the solidification process via controlled cooling, black slag is turned into large pellets using a power shovel.

The material is transferred to a special storage area and then sent to the slag processing plant.

→ IN BRESCIA

The plant for producing GRIPSTONE® consists of a primary crusher with a grizzly screen, a secondary grinder and a screen with several levels for the finishing process, which enables different sizes to be obtained.

Similarly, ALFA SINSTONE® is obtained by processing slag through a primary crusher and a screener as required.

Magnetic belts are provided at the various processing stages to remove any ferrous residues.

→ IN CATANIA

The plant for obtaining SICILYSTONE consists of a screen used to obtain different sizes.



Where to use

The process generates a material that can be used in **building construction** (concrete and mortars), **road surfacing** (bitumen) and **civil engineering works** in place of materials of natural origin (quarry aggregates/basalt), thereby considerably saving non-renewable natural resources.



| USES | ALFA SINSTONE® | GRIPSTONE® | SICILYSTONE |
|---|----------------|------------|-------------|
| Landfill capping | ✓ | | |
| Civil engineering and road construction works (embankments and road sub-bases) | ✓ | | ✓ |
| Building industry (cement-based conglomerates and mortars) | | ✓ | ✓ |
| Road surfaces (bituminous conglomerates) | | ✓ | ✓ |
| Civil engineering works to replace natural original materials (quarry aggregate/basalt) | | ✓ | |

| SIZE AND APPLICATIONS | | |
|-----------------------|---|-----------|
| GRIPSTONE® | BITUMINOUS CONGLOMERATE | 0-4 mm |
| | | 4-8 mm |
| | | 8-12.5 mm |
| | | 8-16 mm |
| | CEMENT CONGLOMERATE | 0-4 mm |
| | | 4-8 mm |
| | | 8-12.5 mm |
| MORTAR | 0-4 mm | |
| ALFA SINSTONE® | DRAINING LAYER LEVELLING LAYER | 0-90 mm |
| SICILYSTONE | BITUMINOUS CONGLOMERATE | 0-31.5 mm |
| | CEMENT CONGLOMERATE | 0-31.5 mm |
| | CIVIL ENGINEERING AND ROAD CONSTRUCTION WORKS | 0-31.5 mm |
| | | 0-90 mm |



Registrations and Certifications

Black slag used to produce ALFA SINSTONE®, GRIPSTONE® and SICILYSTONE is registered at European level under **REACH regulation** (Registration Number 01-2119485979-09-0056 and 01-2119485979-09-0055).

ALFA SINSTONE® and GRIPSTONE® are also endorsed with the **EPD**.

ALFA SINSTONE®, GRIPSTONE® and SICILYSTONE bear the **CE 2+ mark** in compliance with (EU) regulation no. 305/2011 and are certified, according to the different sizes, to the following standards:

- ✓ **UNI 12620** - Aggregates for concrete;
- ✓ **UNI 13043** - Aggregates for bituminous mixtures;
- ✓ **UNI 13139** - Aggregates for mortar;
- ✓ **UNI 13242** - Aggregates for unbound and hydraulically-bound materials for use in civil engineering works and road construction.



| DRIVER | ACTION | ADVANTAGES |
|--|---|--|
| Processing improvements and sustainable production | Use of cutting-edge technical, management and organisational solutions for processing black slag | Production of increasingly sustainable steel in compliance with current environmental legislation |
| Circular economy and environmental focus | Optimisation of slag produced when processing steel to make ALFA SINSTONE®, GRIPSTONE® and SICILYSTONE | Reduction in slag going to recovery or disposal facilities |
| Circular economy and safeguarding natural resources | Use of artificial aggregates in different areas | Safeguarding non-renewable natural resources and reducing the consumption of these resources |
| Safeguarding natural resources and the landscape | Production of artificial aggregates | Reduction in environmental impact generated by quarrying operations (reduction in soil consumption and impact on landscape) |
| Technical aspects | Production of artificial aggregates with characteristics that differ from natural aggregates | Superior performance/technical characteristics compared with natural materials |
| Economic aspects | Production and sale of artificial aggregates | Cost-effective material |



[View / download product sheet](#)



All-round sustainability

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