



TECHNICAL DATA SHEET

for

**Grasimat artificial aggregate
granulated ferrosilicomanganese slag
INTEGRATED MANAGEMENT SYSTEM**

(STN EN ISO 9001:2015, STN EN ISO 14001:2015 a STN EN ISO 45001:2018)

Number: TL-006-EN

Date of issue:

24 February 2025

Revision No.: 0

Revision date: -



1. DESCRIPTION

Grasimat artificial aggregate – granulated ferrosilicomanganese slag is produced as a by-product during the production of ferrosilicomanganese (FeSiMn) alloy in an electric arc furnace. It consists of a molten and subsequently solidified mixture of silicon, magnesium, aluminum, manganese, and calcium oxides. The molten oxide mixture is then cooled in a cold water stream, resulting in the formation of fine granules of synthetic aggregate. At least 90% of the Grasimat artificial aggregate – granulated ferrosilicomanganese slag production has a particle size of 0–8 mm. It is an inert material – non-wetting and insoluble in water, with a gray-green color. The production process is described in PP-046-SK Production and Storage of By-products.

2. USE

- for the construction of bedding and backfill for water supply, sewage, and other plastic pipelines,
- as an abrasive material for winter road maintenance,
- for land reclamation and terrain rehabilitation,
- in the cement industry for clinker production,
- as an abrasive material for mechanical surface treatment by sandblasting.

3. CERTIFICATES/APPROVALS

- Integrated operation permit of OFZ, a.s., Široká plant No. 3574/2007/Jur/770010203 dated 5 May 2007 as amended (Consent that the substance is considered a by-product with the trade name "GRASIMAT artificial aggregate granulated ferrosilicomanganese slag" and not waste).
- Certificate of production management system issued by the inspection certification body QUALIFORM SLOVAKIA, s.r.o., Pasienková 9 D, 82106 Bratislava.
- OFZ, a.s. is certified under quality management systems STN EN ISO 9001:2015 and environmental system STN EN ISO 14 001:2015.

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Registration: Business Register, District Court of Žilina, Section: Sa, Insert No.: 10228/L



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4. PHYSICAL AND CHEMICAL PARAMETERS

Particle size (mm): 0/8

Qualitative and quality parameters to be met:

Parameter	Value
Silicon dioxide (SiO ₂)	30– 50% w/w
Calcium oxide (CaO)	10 – 30% w/w
Aluminium oxide (Al ₂ O ₃)	5 – 25% w/w
Manganese oxide (MnO)	5 – 20% w/w
Activity concentration index	≤ 1
Bulk Density	635 ± 100 kg/m ³
Moisture	< 30% w/w

5. QUALITY CONTROL

The qualitative properties of the product are defined by applicable STN and EN standards as well as internal manufacturing specifications. Quality control is carried out in accordance with Guideline OS-004-SK on final inspection and is ensured by the Quality Management Department. Analytical testing of parameters is performed at least once per month during production in the company's in-house operational laboratory (excluding the activity concentration index and bulk density), and once per year in full scope by an accredited laboratory. Records of analytical control are retained for a minimum of five years.

Registration number	Name of the Work Procedure
PP-009-SK	Incoming, In-Process and Dispatch Quality Control
PP-012-SK	Material Analysis by X-ray Fluorescence (XRF) Method
PP-013-SK	Determination of Carbon and Sulfur Content Using ELTRA CS 800 Analyzer
PP-014-SK	Quality Control of By-products
PP-016-SK	Methods for Determining Physical and Chemical Parameters of Materials
PP-017-SK	Material Analysis by Photometric Method and Atomic Absorption Spectrometry (AAS)
PP-088-SK	Material Analysis by Thermogravimetric Analysis (TGA)

During the final quality control, a QUALITY CERTIFICATE is issued, which includes the following information: Company name, Material name, Chemical composition, Batch class, Delivery number Gross and net delivery weight, Purchase contract number, Stamp, Date and signature of final inspection.

The delivery note shall include: Manufacturer's name, Place of manufacture, Type of material - product name, fraction – particle size, Delivery method, Delivery note number, Quantity [kg, t].

The packaging shall include: Manufacturer's name, Place of manufacture, Type of material - product name, fraction – particle size, Quantity [kg, t], Date of manufacture.

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6. PACKING

Packing: Bulk

Form: Free-flowing (fine granules)

Weight: According to permitted vehicle load capacity

7. TRANSPORT

Bulk, transported in vehicles designed for the transport of loose bulk materials.

8. STORAGE

Stored on stabilized surfaces in uncovered stockpiles, sorted by particle size fractions. During dispatch, the material is loaded from the stockpiles onto the transport vehicle using appropriate handling equipment.

9. SAFETY DATA

Safety information is provided in the Material Safety Data Sheet (MSDS) issued by the manufacturer under registration number KBU-006-EN issued on 10 March 2025.

The current revision of the SDS is available upon request from the manufacturer or for download at: **www.ofz.sk**.

10. OTHER

Information is available at <https://siroka.ofz.company/sk/simat.html>

Replaces document: **TL-OFZ-04/19 issued od 1 June 2021**

Prepared by: Róbert Zrnčík, Head of Ferroalloy Production - signed

Approved by: Milan Kelbel, Director of Production Services - signed

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