



## TECHNICAL DATA SHEET

for the product

**Simat artificial aggregate of ferro silico manganese slag crushed 0/16**  
**Simat artificial aggregate of ferro silico manganese slag fine crushed 0/4**  
**Simat artificial aggregate of ferro silico manganese slag fine crushed 4/16**  
**Simat artificial aggregate of ferro silico manganese slag coarse crushed 16/32**  
**Simat artificial aggregate of ferro silico manganese slag coarse crushed 32/63**  
**Simat artificial aggregate of ferro silico manganese slag unsorted 0/300**  
Rec. No. TL-OFZ-05/19

Valid since: May 12, 2020

Replacing: TL-OFZ-05/19 Rev. No. 1 dated March 23, 2019

Replacing: TL-OFZ-07/03 Rev. No. 1 dated September 1, 2003

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Manufacturer: OFZ, a.s.	Seat: Široká 381, 027 41 Oravský Podzámok, Slovak Republic	Reg. No.: 36 389 030	

## 1. Introduction

Simat artificial aggregate of ferro silico manganese slag (FeSiMn slag) is a solidified slag consisting of silicon, magnesium, aluminium, manganese and calcium oxides that is generated during the production of ferro silico manganese (FeSiMn).

## 2. Production

Simat artificial aggregate of ferro silico manganese slag is generated as a by-product during FeSiMn production. The procedure for processing FeSiMn into Simat is included in the work procedure PVF-21/2018 - Production of FeSiMn in the Electric Arc Furnace (EAF). After solidifying, cooling and excavating the slag casted into slag boxes in layers, the slag is processed into desired size using screening & crushing line. This procedure is included in the work procedure PVS-03/2007 - Preparing Shipping Lots, Processing and Loading the Products and PVS-11/2005 - Product Processing, Sampling and Loading.

## 3. Technical Parameters

### 3.1 Chemical Composition and Physical Properties

Chemical/Physical Parameter	Value
SiO <sub>2</sub>	30.0 - 45.0 [% w/w]
CaO	10.0 - 30.0 [% w/w]
Al <sub>2</sub> O <sub>3</sub>	8.0 - 20.0 [% w/w]
MnO	5.0 - 15.0 [% w/w]
MgO	5.0 - 15.0 [% w/w]
FeO	≤ 2.0 [% w/w]
K <sub>2</sub> O	≤ 2.0 [% w/w]
Na <sub>2</sub> O	≤ 2.0 [% w/w]
SO <sub>3</sub>	≤ 2.0 [% w/w]
Mass Activity Index	≤ 1 [-]
Bulk Density	1 500.0 ±300.0 kg/m <sup>3</sup>

### 3.2 Granulometric Composition

Simat artificial aggregate of ferro silico manganese slag is produced in sizes /mm/: 0 - 4, 0 - 16, 16 - 32, 32 - 63, 0 - 300;



### 3.3 Bulk Density

The bulk density of Simat artificial aggregate of ferro silico manganese slag is  $1\,500.0 \pm 300.0$  kg/m<sup>3</sup>. This product is a non-wetted material and a material insoluble in water.

### 4. Hygiene and Health Aspects

Hygiene and health aspects are in full detail included in the Product Safety Data Sheet on Simat artificial aggregate of ferro silico manganese slag namely in Chapter 11 Toxicological Effects on health, Chapter 8 Personal Protective Equipment for ensuring health & safety and Chapter 4 First-aid Measures. This product is in the form of artificial aggregate. With using appropriate PPEs and adhering to intended use, proper handling and storing in accordance with Technical Data Sheet and Product Safety Data Sheet for Simat artificial aggregate of ferro silico manganese slag, the product does not pose a threat to human health.

### 5. Control

The manufacturer is in charge of a system control. The procedures for analyzing and control of this product are included in the work procedures LAB-05/2007 - XRF Assays of Ferroalloys and Other Materials, LAB-06/2007 - Determining the Carbon and Sulphur Content in Ferroalloys and Other Materials, PVS-08/2010 - Inspection & Control of Shipments and PVS-09/2010 - Determining the Physical Properties of Products, Raw Materials and By-products.

#### 5.1 Properties, Testing Methods and Minimum Testing Frequency under In-house Inspections:

Parameter	Testing Methods	Minimum Testing Frequency
SiO <sub>2</sub>	LAB-05/2007	Once a month
CaO	LAB-05/2007	Once a month
Al <sub>2</sub> O <sub>3</sub>	LAB-05/2007	Once a month
MnO	LAB-05/2007	Once a month
MgO	LAB-05/2007	Once a month
FeO	LAB-05/2007	Once a month
K <sub>2</sub> O	LAB-05/2007	Once a month
Na <sub>2</sub> O	LAB-05/2007	Once a month
SO <sub>3</sub>	LAB-06/2007	Once a month
Radiologic Parameters - Mass Activity Index	Determined by gamma spectroscopic HPGe detector	Once a year - externally
Bulk Density	PVS-09/2010	Once a year

### 6. Storing



Simat artificial aggregate of ferro silico manganese slag is stored at the uncovered reinforced warehousing areas and is screened according to the different sizes.

## 7. Packaging & Delivery

Simat artificial aggregate of ferro silico manganese slag is delivered in bulk. When delivered in bulk, Simat artificial aggregate of ferro silico manganese slag can be transported in tilting trucks or railway cars suitable for transporting bulk materials.

## 8. Labeling

A delivery shall also include the product labeling according to delivery note or labeling on the cover which shall include the following:

- name of the manufacturer;
- production site;
- sort of material: Simat artificial aggregate of ferro silico manganese slag (size);
- form of material when delivered;
- rec. no.;
- tonnage [kg, t];
- stamp and signature of the final inspection.

## 9. Intended Use

Among the uses of Simat artificial aggregate of ferro silico manganese slag are the following:

- pursuant to EN 12620: 2002 + A1: 2008, EN 13242: 2002 + A1: 2007
  - an aggregate for concrete (size: fine 0/4, coarse 4/16);
  - an aggregate for unbound and hydraulically bound materials for use in civil engineering work and road construction (size: fine 0/4, coarse 4/16);
- other uses for sizes (fine crushed 0/4, crushed 0/16, coarse crushed 16/32, coarse crushed 32/63, unsorted 0/300)
  - as crushed stones with suitable size for ground completion, filling, backfilling and creating protective layers (protective layers for drainage systems and engineering works);
  - as a spreading material for rough backfilling and leveling of elevations;
  - as a spreading material for winter road maintenance;
  - for recultivation & ground completion;
  - for mechanical sand surfacing (size: fine crushed 0/4);
  - for clinker production.