

URALGRIT Corp.

OKP 398950
AGREED: _____
A.A. Shnurenko,
Commercial Director,
“Kanonersky Ship Repairing Plant”
Letter No. 17-251 of July 16, 2002

APPROVED:
N.V. Perevalova
General Director
URALGRIT

_____ 2003

ABRASIVE GRIT (Blasting Media) N/CU/G 0.5 – 2.5 Ka TECHNICAL SPECIFICATION 3989-003-15050378-2003

Validity period: starting July 2003, unlimited.

Sanitary-Epidemiological Statement
No. 66.01.10.398.T.001999.07.03
dated July 24, 2003

Developed:
Deputy Director for URALGRIT
_____ A.K. Gubin

The present Technical Specification covers the abrasive grit made of granulated slag of copper refinery and used for surface cleaning by blasting units. The grit can be used inside the country and exported to other countries.

1. Specification

1.1. The blasting grit should meet the requirements of this Technical Specification and is made according to the production regulations properly approved.

1.2. Basic Parameters and Properties:

1.2.1. Blast-cleaning of the surface of any materials enables to comply with SA-2, SA-2½, SA-3.

1.2.2. Chemical composition:

Ferrous oxide(Fe₂O₄), protoxide (FeO) –40-50%

Silicon dioxide (SiO₂) –25-35%

Magnesium oxide (MgO) –less than 5%

Calcium oxide (CaO) –6-10%

The grit is made of the granulated slag that complies with Technical Specification TU 5712-041-00290038-99.

1.2.3. Shape – fine angular.

1.2.4. Colour – black.

1.2.5. Moh's hardness – 6-7.

1.2.6. Specific density – 3.3-3.9 kg/dm³.

1.2.7. Bulk mass of the grit – 1.3-1.8 g/cm³.

1.2.8. Dynamic strength – more than 10.0.

- 1.2.9. Abrasive capacity – more than 4.0.
- 1.2.10. Maximum conductivity of water solutions – less than 25.
- 1.2.11. Water-soluble chlorides – less than 0.0025 %.
- 1.2.12 Moisture – less than 0.2%.
- 1.2.13 Grain size 0.1-3.0 mm.
- 1.2.14 Grain size may vary on customer's request.
- 1.2.15 The chemical composition and abrasive capacity of the grit are guaranteed by the production technology.
- 1.2.16 The grit doesn't change its physical properties and chemical composition under the weather conditions, except for the moisture.

1.3 Package

- 1.3.1 The grit is packed into soft containers, which are specially designed for the granular products and made of capron cloth according to the valid regulatory or technical documentation.
- 1.3.2 While packing, the grit temperature should not exceed 65°C.
- 1.3.3 The grit is packed into polyethylene bags according to State Standard GOST 17811-78, into special containers according to GOST 19668-74 or into a different package, which does not let the moisture in and has sufficient durability.

1.4 Marking

- 1.4.1 The package is marked in the following way:

- Name of the manufacturer, its trademark;
- Description of the goods;
- Date of manufacture.

2. Safety Requirements

- 2.1 The grit is referred to the 4th Risk Class, according to GOST 12.1.007-76.
- 2.2 The grit doesn't generate toxic compounds in the atmosphere and in the wastewater.
- 2.3 The grit is fire and exposure safe.
- 2.4 The grit is low toxic and low-risk material; it has low fibrogenic effect on the lungs at continuous dust exposure.
- 2.5 The maximum permissible concentration of the slag dust in the atmosphere of the working area of industrial rooms is 6 mg/m³, which provides for maximum permissible concentration of any harmful substances present in the slag, according to GOST 12.1.005-88, Appendix 12 to List of Maximum Permissible Concentrations No. 4617-88.
- 2.6 While working in the area of abrasive grit dust, it is necessary to use individual respiratory protection units (see GOST)

3 Incoming Inspection Rules

- 3.1 The grit is inspected by batches. The batch should be uniform in granule size range and should be accompanied by the quality document including the following:

- Name and trademark of the manufacturer;
- Reference to the Technical Specification;
- Serial number of the batch;
- Delivery date;
- Net weight;
- Moisture, grain size.

- 3.2 The manufacturer should determine the grain size range, moisture, bulk mass for each batch.
- 3.3 Chemical composition and the abrasive capacity of the grit should be determined in case of varying the production technology, but not less than once a quarter.
- 3.4 An accredited hygienic laboratory should perform inspection no less than twice a year.
- 3.5 In case of unsatisfactory results of the analysis of the grit basic parameters and properties, the batch is rejected.

4 Control Techniques

- 4.1 Sampling for chemical analysis and moisture determination of the grit should be according to GOST 14180-80.
- 4.2 Chemical composition should be determined according to GOST 5382-73 or other techniques, which provide for appropriate accuracy of the analysis.
- 4.3 Determining of the grain composition, bulk mass, moisture content is according to GOST 8735-83.
- 4.4 Grit abrasive capacity is determined by techniques specified in Appendix 1.
- 4.5 The list of the documents which are referred to in the Technical Specification is given in Appendix B.

5 Transportation and storage

- 5.1 Transportation of the grit should be performed according to the Rules of Freight Transportation and the Terms of Freight Loading and Fastening approved by the Railway Ministry.
- 5.2 Packed abrasive grit is transported in semi-cars.
- 5.3 Vehicles should be clean, dry and they should not have bulging parts.
- 5.4 Transportation of abrasive grit in hoppers and cement tank wagons is permitted.
- 5.5 Abrasive grit must be stored in closed and dry warehouses.
- 5.6 Bags with abrasive grit must be stored in stacks on wooden grates or boards.

6 Manufacturer's Warranty

- 6.1 The manufacturer guarantees the compliance of the grit with the Technical Specification in case the transportation and storage requirements are observed.
- 6.2 The guaranteed period of storage is one (1) year.