

**SAND, AIRPORT SNOW AND ICE CONTROL**

**1. SCOPE:**

**1.1 Form:**

This specification covers natural sand in granular form.

**1.2 Application:**

This sand has been used typically to improve the frictional properties of runway, taxiway, and ramp surfaces for aircraft braking purposes, but usage is not limited to such applications.

**1.3 Precautions:**

Sand use may be detrimental to aircraft turbine engines if ingested. Therefore, sand should be applied onto pavements sparingly and as a last recourse to control snow and ice. When applied, it should be carefully monitored and any excess removed when practical. Once the slippery condition no longer exists, remaining sand should be swept off.

**2. APPLICABLE DOCUMENTS:**

The following publications form a part of this specification to the extent specified herein. The applicable issue of referenced publications shall be the issue in effect on the date of the purchase order.

**2.1 ASTM Publications:**

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM C 136 Sieve Analysis of Fine and Coarse Aggregates  
ASTM D 512 Chloride Ion in Water  
ASTM D 1193 Reagent Water  
ASTM E 11 Wire-Cloth Sieves for Testing Purposes

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## 2.2 U. S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-STD-2073-1 DOD Materiel, Procedures for Development and Application of Packaging Requirements

## 3. TECHNICAL REQUIREMENTS:

### 3.1 Material:

(R)

Shall be a washed sand, free from stones, debris, clay, salts, organic matter, and other corrosive agents and shall be delivered in a box-dry condition.

3.1.1 Gradation: Shall be as shown in Table 1, determined in accordance with ASTM C 136 by passing a sample of dry sand through sieves conforming to ASTM E 11.

TABLE 1 - Sand Gradation

U. S. Standard Sieve Number	Metric	Percent Passing
6	3.35 mm	100
8	2.36 mm	60 to 100
25	710 $\mu$ m	0 to 20
40	425 $\mu$ m	0 to 5

### 3.2 Properties:

Sand shall conform to the following requirements:

3.2.1 Chlorides: Shall not exceed 120 mg/kg (0.004 oz/lb) expressed as NaCl, (R) determined in accordance with 3.2.1.1.

3.2.1.1 Shake 500 grams of sand thoroughly with 1000 mL of ASTM D 1193, Type IV, water at room temperature. Allow the mixture to separate, then pour off the water layer. If the water is not clear, filter it through a filter. Use the filtrate or the clear separated water as sample solution determine the chloride ion content in accordance with ASTM D 512 and report the value. As a chloride ion check on the filter paper prior to its use, 75 mL of ASTM D 1193, Type IV, water passed through the filter paper should give a negative test for chloride ion.

#### 4. QUALITY ASSURANCE PROVISIONS:

##### 4.1 Responsibility for Inspection:

- (R) The vendor of sand shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the sand conforms to the requirements of this specification.

##### 4.2 Classification of Tests:

- 4.2.1 Acceptance Tests: Tests for composition (3.1), sand gradation (3.1.1),  
(R) and chlorides (3.2.1) are acceptance tests and shall be performed on each lot.

- 4.2.2 Periodic Tests: Tests for delivery equipment (5.1) are periodic tests and  
(R) shall be performed at a frequency selected by the vendor unless frequency of testing is specified by purchaser.

- 4.2.3 Preproduction Tests: Tests for all technical requirements are  
preproduction tests and shall be performed prior to or on the initial  
shipment of sand to a purchaser, when a change in ingredients and/or  
manufacturing procedures requires reapproval as in 4.4.2, and when  
purchaser deems confirmatory testing to be required.

- 4.2.3.1 For direct U.S. Military procurement, substantiating test data and, when  
requested, preproduction sand shall be submitted to the cognizant agency  
as directed by the procuring activity, contracting officer, or request  
for procurement.

##### 4.3 Sampling and Testing:

- (R) Shall be as follows:

- 4.3.1 For Acceptance Tests: Sufficient sand shall be taken at random from each  
(R) lot to perform all required tests in duplicate; a lot shall be all sand  
processed in a single production run from the same batches of raw materials  
under the same fixed conditions and presented for vendor's inspection at  
one time.

- 4.3.2 For Periodic Tests and Preproduction Tests: As agreed upon by purchaser  
and vendor.

##### 4.4 Approval:

- 4.4.1 Sample sand shall be approved by purchaser before sand for airport use is  
supplied, unless such approval be waived by purchaser. Results of tests on  
production sand for airport use shall be essentially equivalent to those on  
the approved sample.

4.4.2 Vendor shall use ingredients, manufacturing procedures, and methods of inspection on production sand which are essentially the same as those used on the approved sample. If necessary to make any change in ingredients or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in ingredients and/or manufacturing procedures and, when requested, sample sand. Production sand made by the revised procedure shall not be shipped prior to receipt of reapproval.

#### 4.5 Reports:

(R)

The vendor of sand shall furnish with each shipment a report showing the results of tests to determine conformance to the acceptance test requirements and, when performed, to the periodic test requirements, and stating that the sand conforms to the other technical requirements. This report shall include the purchase order number, lot number, AMS 1448A, vendor's identification, and quantity.

#### 4.6 Resampling and Retesting:

If any sample used in the above tests fails to meet the specified requirements, disposition of the sand may be based on the results of testing three additional samples for each original nonconforming sample. Failure of any retest sample to meet the specified requirements shall be cause for rejection of the sand represented. Results of all tests shall be reported.

### 5. PREPARATION FOR DELIVERY:

#### 5.1 Delivery Equipment:

Sand shall be delivered in containers of a type and size acceptable to purchaser.

5.1.1 Containers used for delivering sand to purchaser shall be thoroughly cleaned and emptied of any foreign particles or materials. Presence of any material from previous deliveries is not acceptable.

5.2 Sand shall be prepared for shipment in accordance with commercial practice (R) and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the sand to ensure carrier acceptance and safe delivery.

5.3 For direct U.S. Military procurement, packaging shall be in accordance with (R) MIL-STD-2073-1, Commercial Level, unless Level A is specified in the request for procurement.

### 6. ACKNOWLEDGMENT:

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.