



Equipment Specification
Document No.: 4350.205
Item No.: 038-83207
Asset Suite: 83207
Originating Department: Distribution Engineering



Backfill Material A-2-4

1. Introduction

This is a general specification that covering the backfill material A 2-4 to be use on the distribution system in Puerto Rico. Further information will be provided by LUMA Energy at the time of order placement will provide information on site specific conditions, quantity, and other requirements. This document includes the general characteristics of the material.

2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this material to PREPA/LUMA on previous orders, will not have to furnish samples at bid opening. The material will be received at the LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

3. Quantity/Literature

Descriptive and technical literature must be supplied by vendor at time of bidding. This literature may include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. Failure to submit documents on time will cause bidder disqualification. For products described in this specification as requiring qualification, awards will be made only for such products that, prior to the time for opening of bids, had been tested and/or approved by LUMA. Evidence of PREPA's and/or LUMA Energy's approval of the equipment or material shall be supplied by vendor if requested by LUMA Energy.

4. Markings

- 4.1. Containers shall be marked outside with LUMA Energy's purchase order, item number, name and size, net and gross weight, manufacturer's name, and lot number.
- 4.2. Packaging labels and tags shall be waterproof.

5. Equal or Approved Equal to

Backfill Material A 2-4

Backfill Material A-2-4

6. Packaging

All material and equipment shall be packaged and marked in such a way as to facilitate handling and protection from damage and that the receiving warehouse can readily identify it and send it, in one complete unit, to a field location without opening crates or boxes to sort items and/or parts.

7. Number Per Package (Logistics)

- 7.1. As requested by LUMA Energy.
- 7.2. Standard Quantity Unit: Cubic Meter

8. Acceptance Criteria

- 8.1. Test required: certified by external laboratories.
- 8.2. Latest applicable codes, standards, and other regulations:
 - a. ASTM D 3282 - Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
 - b. ASTM D 2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 - c. ASTM D 422-90 – Standard Test Method for Particle Sizes Analysis of Soils
 - d. ASTM D 1556-90 – Standard Test Method for Density of Soil In-Place by Sand-Cone Method
 - e. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - f. ASTM D 2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
 - g. ASTM D 4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
 - h. AASHTO M 145 – Standard Practice for Classification of Soils-Aggregate Mixtures for Highway Construction Purposes.

9. Description

- 9.1. The material shall be a well graded granular soil-aggregate mixture classifiable as an A-2-4 as per ASTM D 3282.

Backfill Material A-2-4


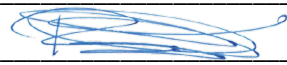
- 9.2. The material shall be free of any stone or rock fragments measuring over two (2) inches in their greatest dimension. It shall be free from vegetable matter, balls or lumps of clay and other deleterious substances.
- 9.3. A-2-4 fill material shall be of such nature and gradation that it can be compacted readily to form a firm, stable layer that can be fine graded to the required tolerances.
- 9.2 AASHTO Soil Classification System for Granular Materials (35 % or less passing the 0.075 mm (No. 200) sieve)
 - a. Group Classification: A-2-4
 - b. Sieve Analysis, % passing: 0.0755 mm (No. 200): 35% max.
 - c. Liquid Limit: 40 max.
 - d. Plastic Index: 10 max.
 - e. Usual types of significant constituent materials: Silty or clayey gravel and sand
 - f. General rating as a subgrade: Excellent to good

10. Inspection

The acceptance of any material or equipment shall in no way relieve the vendor from his responsibility to meet all the requirements of this specification, and it would not prevent subsequent rejection if such materials were found later to be defective.

— End of Specification —

Document History

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