

2108 - FERTILIZERS

SECTION 2108

FERTILIZERS

2108.1 DESCRIPTION

This specification covers the material requirements for fertilizers.

2108.2 REQUIREMENTS

a. Fertilizers used on KDOT projects must comply with the applicable sections of the “Kansas Commercial Fertilizer Law” as administered by the Kansas State Board of Agriculture.

b. Fertilizer Grade. The grade for each commercial fertilizer will be shown in the Contract Documents. The fertilizer grade shown in the Contract Documents shall be read as follows:

- the first number represents the percentage of nitrogen required (expressed as available N),
- the second number represents the percentage of phosphorous required (expressed as the percent of available P₂O₅),
- the third number represents the percentage of potassium required (expressed as the percent of available K₂O).

A mixed fertilizer such as 12-24-12 would contain 12% N, 24% P₂O₅ and 12% K₂O.

A tolerance of -0.5% will be permitted for each of the designated ingredients in commercial fertilizers.

c. Sources of Fertilizer. Use one of the following types of commercial fertilizers on KDOT work:

(1) Package fertilizers in granulated or tablet form, manufactured by firms registered by the Kansas State Board of Agriculture annually on July 1st.

Fertilizer tablets are commercially prepared, tightly compressed material used when planting trees and plants. They are formulated to be long-lasting (2 year minimum) with a slow-release analysis of 20-10-5 derived from urea-formaldehyde, calcium phosphates, potassium sulfate, calcium sulfate, ferrous sulfate and comply with the following minimum guaranteed analysis.

Total Nitrogen (N)*	20.0%
7% Water Soluble Organic Nitrogen	
13% Water Insoluble Nitrogen	
Available Phosphoric Acid (P ₂ O ₅)	10.0%
Soluble Potash (K ₂ O)	5.0%
Calcium (Ca)	2.6%
Sulfur (S)	1.6%
Iron (Fe)	0.35%
*17% slowly available nitrogen from urea-formaldehyde	

(2) Bulk fertilizers blended by custom blenders licensed by the Kansas State Board of Agriculture annually on January 1st. Liquid fertilizers are considered to be bulk fertilizers.

2108.3 TEST METHODS

None specified.

2108.4 PREQUALIFICATION

Comply with registration and licensing requirements of the Kansas State Board of Agriculture as specified in subsection 2108.2c.(2).

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2108.5 BASIS OF ACCEPTANCE

a. Package Fertilizers.

(1) Receipt of the current certificate of registration issued by the Kansas State Board of Agriculture for annual registration of the product.

(2) The grade of commercial package fertilizers will be determined and accepted on the basis of the label analysis, which must appear on each package. Show on the label analysis the following information as required by the applicable provisions of the "Kansas Commercial Fertilizer Law":

- (a) the name and address of the person registering the commercial fertilizer;
- (b) the brand and grade of the commercial fertilizer;
- (c) the net mass in the package or container;
- (d) the registered guaranteed analysis. The guaranteed analysis includes the minimum percentages of plant foods in the following order and form:

Nitrogen, minimum ___ percent

Available phosphoric acid, minimum ___ percent

Soluble potash, minimum ___ percent,

except as follows:

- unacidulated mineral phosphatic materials and basic slag show the guaranteed analysis in the following order and form:
 - Total phosphoric acid, minimum ___ percent
 - Available phosphoric acid, minimum ___ percent
 - Fineness of grind: ___ percent through mesh screen, and
- bone, tankage, and other natural organic phosphate materials shall show the guaranteed analysis in the following form:
 - Total phosphoric acid, minimum ___ percent;

(e) Commercial fertilizers containing any ingredient which is injurious to plants must be labeled to show:

- the name and percentage of each such active ingredient;
- adequate directions for use, and
- adequate warnings against misuse;

(f) the minimum percentage of any and all other plant food elements or compounds contributing to the value of the commercial fertilizer, and

(g) any other information as may be prescribed by rules and regulations.

(3) Small quantities of package fertilizers may be accepted on brand name. Only high quality fertilizer of a recognized brand, and of the proper grade and type for the intended use, will be accepted in this manner.

b. Bulk.

(1) Receipt of a copy of custom blender's current license issued by the Kansas State Board of Agriculture.

(2) Receipt of a certified label or a certified delivery slip covering each shipment, and showing the information required in **subsection 2108.05(a)(2)**.

c. Verification Tests. Verification tests may be conducted by KDOT on samples obtained at frequencies and locations designated by the Engineer to determine the reliability of bag label analysis and custom blender certified labels or a certified delivery slip.

If a product of any supplier is found to consistently deviate from the bag level analysis or the custom blenders certified analysis, the acceptance of that product will be discontinued. Copies of the failing test reports will be furnished to the Kansas State Board of Agriculture for appropriate action under the "Kansas Commercial Fertilizer Law".