

CITY OF SAN ANGELO

ITEM 247

FLEXIBLE BASE

247.1. DESCRIPTION.

This Item shall govern for the delivery, stockpiling and/or the construction of foundation or base courses as herein specified and in conformity with the typical sections and to the lines and grades shown on the Plans or established by the City.

247.2. MATERIALS.

The flexible base material shall be crushed or uncrushed as necessary to meet the requirements herein, and shall consist of durable coarse aggregate particles and binding materials.

(1) Physical Requirements.

(a) General. All types shall meet the physical requirements for the specified grade(s) as set forth in Table 1. Additives, such as, but not limited to, lime, cement or fly ash, shall not be used to alter the soil constants or strengths shown in Table 1, unless otherwise shown on the Plans approved by the City.

The flexible base shall be:

(b) Type A. Type A material shall be crushed stone produced from oversize quarried aggregate, sized by crushing and produced from a naturally occurring single source. Crushed gravel or uncrushed gravel shall not be acceptable for Type A material. No blending of sources and/or additive materials will be allowed in Type A material, unless noted on the Plans or as approved by the City.

(2) Testing: Testing of flexible base materials shall be in accordance with the following TxDOT standard laboratory test procedures:

Moisture Content	Tex-103-E / ASTM D 2216
Liquid Limit	Tex-104-E / ASTM D 4318
Plasticity Index.....	Tex-106-E / ASTM D 4318
Bar Linear Shrinkage	Tex-107-E, (Part II) / NA
Sieve Analysis.....	Tex-110-E / ASTM D 422
Moisture-Density Determination	Tex-113-E / ASTM D 1557
Roadway Density	Tex-115-E / ASTM D 2922 and ASTM D 3017
Wet Ball Mill	Tex-116-E / NA
Triaxial Tests	Tex-117-E, (Part I or II as selected by the City) / NA
Particle Count.....	Tex-460-A, Part I / ASTM D 5821

Samples for testing the base material for triaxial class, soil constants, gradation, and wet ball mill will be taken prior to the compaction operations.

TABLE 1
MATERIAL REQUIREMENTS

Property	Test Method	Grade 2
Master gradation sieve Size (% retained)		
2-1/2 in.	Tex-110-E ./ ASTM D 422	0
1-3/4 in		0 - 10
7/8 in		---
3/8 in		---
No. 4		45 - 75
No. 40		60 - 85
Liquid Limit, % max. ¹		Tex-104-E / ASTM D 4318
Plasticity Index, max ¹	Tex-106-E / ASTM D 4318	12
Plasticity Index, max ¹		As shown on plans
Wet ball mill, % max. ²	Tex-116-E / NA	45
Wet ball mill, % max. increase passing the No. 40 sieve		20
Classification ³	Tex-117-E / NA	1.1 – 2.3
Minimum compressive strength ³ , psi		
lateral pressure 0 psi		35
lateral pressure 15 psi		175

1. Determine plastic index in accordance with Tex-107-E / NA (linear shrinkage) when liquid limit is unattainable as defined in Tex-104-E / ASTM D 4318.
2. When a soundness value is required by the plans, test material in accordance with Tex-411-A / ASTM C 88.
3. Meet both the classification and the minimum compressive strength, unless otherwise shown on the plans.

(3) Tolerances. Unless otherwise shown on the Plans, the limits establishing reasonably close conformity with the specified gradation and plasticity index are defined by the following:

(a) Gradation. The City may accept the material, providing not more than one out of the most recent five (5) consecutive gradation tests performed are outside the specified gradation and plasticity index are defined by the following: