

2110 - MULCH

SECTION 2110

MULCH

2110.1 DESCRIPTION

This specification covers material suitable for use as mulch.

2110.2 REQUIREMENTS

a. **General Mulch Materials.** Prairie hay is the preferred mulch material. Use prairie hay containing primarily Bluestem grasses, switchgrass, indiagrass and other desirable perennial grasses, normally found in Bluestem pastures. Additional materials acceptable for mulching include sudan grass hay or excelsior mulch.

Provide written evidence to the Engineer if none of the preferred/additional mulching materials are available. The Engineer may permit the use of wheat straw, oat straw, sawdust, shredded wood, peat moss or pulverized corn cobs.

Do not provide mulching material containing Sericea Lespedeza, Multiflora Rose or any noxious weed identified by the Kansas Department of Agriculture.

b. **Excelsior Mulch.**

(1) General. Excelsior mulch is composed of fibers cut from green wood. The cut is to be made to provide maximum fiber strength, but at an angle to the natural grain of the wood so the fiber will splinter as weathering progresses. Provide excelsior mulch free of seeds or other viable plant material that are not desirable in the mulch. Deliver excelsior mulch to the project in bales.

(2) Dimensions. The approximate dimensions of the majority of the fibers are as follows:

- Length4 to 6 inch
- Thickness0.020 to 0.040 inch
- Width0.030 to 0.050 inch

(3) Smolder Resistance. The excelsior mulch material is not to flame or smolder for a distance of more than 12 inches from point of ignition. See **subsection 2110.3** for test method.

(4) Toxicity. Vegetation growth and/or seed germination are not to be inhibited by any toxicity in the mulch. Excelsior mulch material is to be non-toxic to the personnel engaged in handling and installation.

c. **Shredded or Chipped Wood Mulch.** Provide shredded or chipped hardwood, cypress or cedar wood mulch for use around trees, shrubs and other plants as designated in the Contract Documents. Chipped wood mulch is to be substantially free of mineral, organic or vegetative matter other than wood. The mulch is to have no more than one calendar year between the time of cutting and shredding or chipping and the time of application to the current project. Do not use this chipped wood mulch around small perennials and vines.

d. **Composted Mulch.** Use only composted wood mulch around small perennials and vines.

e. **Wood Cellulose Fiber.** Provide wood cellulose fiber composed of a blend of virgin wood and paper fibers that contains no growth or germination inhibiting factors and complies with **TABLE 2110-1**:

TABLE 2110-1: WOOD CELLULOSE FIBER	
Property	Requirement
Wood	70%
paper	30%
Moisture Content	9-15%
Organic matter	80% minimum
pH	6.5 average
water holding capacity	1.6 gal/lb
Guar Tackifier	2% minimum

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f. Hydro-Mulch. Provide a bonded fiber matrix (BFM) product made from non-toxic, biodegradable, thermally processed, virgin, wood fibers that contains no growth or germination inhibiting factors and complies with **TABLE 2110-2**:

TABLE 2110-2: HYDRO-MULCH	
Property	Requirement
Virgin wood fibers	90% minimum
Organic matter	99% minimum
Hydrocolloid-based binder	10% minimum
“Dry” Moisture Content	9 - 15%
pH	5.5 – 7.5
Water holding capacity	13 times own weight
Dye agent color	Green or Yellow

2110.3 METHOD OF TESTS

Test for smolder resistance of excelsior mulch as follows: Obtain a representative sample of the excelsior large enough to form a mat approximately 30 x 30 x 1 ½ inches. Leach the sample with seven one-hour immersions in separate portions of water maintained at 80°F during the leaching period. Drain for about 15 minutes after each immersion. After the last immersion and draining period, spread the sample out on a flat surface to form a mat approx. 30 x 30 x 1 ½ inches and air dried for 72 hours at room temperature. At the completion of the air drying period, place a lit cigarette on the surface of the mat. Measure and record the distance that a flame or smolder spreads from the cigarette.

2110.4 PREQUALIFICATION

None Required.

2110.5 BASIS OF ACCEPTANCE

a. Excelsior mulch is accepted on the basis of satisfactory test results from the Materials and Research Center. Perform tests on samples supplied from the project delivered material.

b. The Engineer will accept straw or hay bales based on the following:

- North American Weed Management Association (NAWMA) Standards.
- Receipt of a statement that this material “meets the North American Weed Free Forage Standards” on a Transit certificate with the vehicle tag number, the type and number of bales being transported or a Forage tag on each bale.

Contact the Kansas Department of Agriculture to request inspection or for certifications. For a Certified Weed-Free Forage/Mulch Growers Listing contact the Kansas Department of Agriculture.

c. The wood cellulose fiber will be accepted based on visual inspection of the container label to verify compliance with this specification. Receipt and approval of a Type C certification as specified in **DIVISION 2600**.

d. All other mulch materials are accepted based on a visual inspection by the Engineer.