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3745-512-415

Leachate collection system tire shred drainage layer.

(A) The leachate collection system tire shred drainage layer shall be underlain by a liner cushion layer consisting of either of the following:

(1) A leachate collection system granular drainage layer constructed by the owner or operator in accordance with rule 3745-512-411 of the Administrative Code.

(2) A geotextile or geocomposite meeting the following criteria:

(a) Be composed of polyethylene, unless an alternative material is approved in accordance with rule 3745-512-17 of the Administrative Code.

(b) For tire shreds which are debeaded with no dimension greater than twelve inches in length, a minimum average roll value for weight of eight ounces per square yard.

(c) For tire shreds which do not meet the criteria in paragraph (A)(2)(b) of this rule, a minimum average roll value for weight of sixteen ounces per square yard and puncture resistance of at least three hundred ten pounds as determined by ASTM D4833 (index puncture resistance) as described in rule 3745-500-03 of the Administrative Code.

(d) For a liner cushion layer consisting of a geotextile or for the top geotextile of a geocomposite, the geotextile shall be overlapped and sewn by the owner or operator to prevent exposure of the liner system flexible membrane liner and made in accordance with the manufacturer's specifications.

(e) For a liner cushion layer consisting of geocomposite, the geonet component shall be overlapped and secured by the owner or operator with cable ties in accordance with the manufacturer's specifications.

(B) The leachate collection system tire shred drainage layer shall meet the following criteria:

(1) Be free of foreign material and deleterious material.

(2) Be free of industrial waste, solid waste, and C&DD.

(3) Be deployed by the owner or operator to a thickness that conforms to the following:

(a) If the tire shreds are not debeaded and a geotextile or geocomposite cushion layer is used, not less than thirty inches.

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- (b) Not more than forty-eight inches once deployment of the tire shreds is complete.
- (4) Have not more than ten per cent of the particles by weight with any dimension greater than twelve inches. If a liner cushion layer with a minimum average roll value for weight of eight ounces per square yard is used, the debaded tire shreds shall have no particles with any dimension greater than twelve inches. This paragraph does not apply if the tire shred drainage layer is placed above a cushion layer consisting of a drainage layer comprised of granular material.
- (5) Have not more than five per cent of the particles by weight passing through the number two hundred standard sieve.
- (6) The entire thickness of tire shreds shall be deployed as one lift. Tire shreds may be temporarily used in thicknesses that exceed forty-eight inches to create access roads across the cushion layer for delivery of additional tire shreds into the phase.
- (C) Testing of tire shreds and the geotextile or geocomposite liner cushion layer, if used, shall be performed by the owner or operator in conformance with the following:

 - (1) Pre-construction testing on representative samples to determine shear strength in accordance with rule 3745-512-10 of the Administrative Code.
 - (2) Pre-construction testing of tire shreds on representative samples in accordance with rule 3745-512-15 of the Administrative Code.
- (D) If the tire shreds are not debaded and a geotextile or geocomposite liner cushion layer is used above a liner system flexible membrane liner, the owner or operator shall use test pits to determine if the tire shreds have damaged the liner system flexible membrane liner as follows:

 - (1) All test pits shall be dug in the presence of the concurring authority, unless the concurring authority has given prior written authorization for the owner or operator to proceed in the absence of the concurring authority.
 - (2) Locations of test pits shall be agreed upon by the owner or operator and the concurring authority. At least one test pit shall be created in each acre where tire shreds were deployed. If any of the following in paragraphs (D)(2)(a) or (D)(2)(b) of this rule occur, the test pit shall be located in the area of the occurrence. Additional test pits are necessary if the occurrence was in a large area or occurred in multiple areas.

 - (a) Equipment used to deliver, place, or spread the tire shreds had a ground pressure of more than five pounds per square inch.

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- (b) Tire shreds are deployed in such a manner that the shreds are dragged or pushed across the liner cushion layer.
 - (3) Each test pit shall expose at least nine square feet of the liner system flexible membrane liner.
 - (4) Once the liner system flexible membrane liner is exposed pursuant to paragraph (D)(3) of this rule, the flexible membrane liner shall be visually inspected, photographed, and examined by the owner or operator to determine if any puncture or gouge exists.
 - (5) If a puncture or gouge is detected pursuant to paragraph (D)(4) of this rule, the owner or operator shall do the following:
 - (a) Patch the liner system flexible membrane liner. Patches are subject to the testing and certification requirements of rule 3745-512-330 of the Administrative Code.
 - (b) Dig, inspect, photograph, and examine additional test pits in accordance with this rule. The number and locations of the additional test pits shall be agreed upon by the owner or operator and the concurring authority. If the owner or operator detects additional punctures or gouges, the concurring authority shall determine the location and extent of liner system flexible membrane liner that shall be replaced.
 - (6) The geotextile or geocomposite liner cushion layer shall be repaired by the owner or operator. Repairs are subject to the criteria established in paragraph (A)(2) of this rule.
 - (7) After inspection and repair pursuant to paragraphs (D)(4) to (D)(6) of this rule, the owner or operator shall replace tire shreds in the test pit to the depth necessary to conform to this rule and the authorizing documents.
- (E) Certification of the leachate collection system tire shred drainage layer by the owner or operator shall include the following:
- (1) Record drawings showing the location, including the run-out if applicable, and plan views with topographic representation of the basal and final elevations of the tire shred drainage layer, as constructed, and the granular liner cushion layer, if applicable.
 - (2) Results of the test pit investigation performed under paragraph (D) of this rule, if applicable.
 - (3) Results of all testing and verification that the shredded tire drainage layer, including the geotextile or geocomposite liner cushion layer, meets the standards

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in paragraphs (A) and (B) of this rule and the specifications in the authorizing document. If an alternative material is used, the evaluation conducted pursuant to rule 3745-512-17 of the Administrative Code was submitted prior to use of the alternative material and therefore verification is not required to be submitted with the construction certification report under this rule. However, results of all testing to verify that the alternative material meets material specifications are required in the construction certification report.

- (4) Measures taken by the owner or operator to prevent clogging of the tire shred drainage layer in the run-out.