



SECTION 1012

GEOCOMPOSITE DRAINAGE MATERIAL

1012.1 Scope. This specification covers material for use as geocomposite drains.

1012.2 Acceptance. Acceptance of the material will be based on the manufacturer's certification and upon the results of such tests as may be performed by the engineer.

1012.3 Material.

1012.3.1 General. During shipment and storage, the geocomposite material shall be protected from direct sunlight, ultraviolet rays, temperatures greater than 140 F (60 C), mud, dust and debris.

1012.3.2 Edge Drain. The edge drain shall consist of a plastic core completely surrounded by geotextile.

1012.3.2.1 The edge drain shall have nominal dimensions of 1 to 1 1/2 inches (25 to 38 mm) in thickness x 12 inches (300 mm) in height.

1012.3.2.2 The edge drain shall have a minimum flow capacity of 15 gallons per minute per foot (3 L/s/m) of width, as determined by ASTM D 4716, when tested under a confining stress of 10 psi (69 kPa) or more at a gradient of 0.1 or less.

1012.3.2.3 The edge drain shall have a minimum compressive strength of either 7000 psf (335 kPa) at a maximum deformation of 10 percent of the original thickness when tested in accordance with ASTM D 1621, or 8000 psf (383 kPa) at a maximum deformation of 20 percent when tested in accordance with ASTM D 695.

1012.3.2.4 The core shall provide a minimum of 10 percent open area to facilitate water entry or cross flow and shall be composed of plastic, which is physically and chemically stable under a normal range of service conditions.

1012.3.2.5 The geotextile shall be in accordance with [Sec 1011](#) for subsurface drainage geotextile.

1012.3.3 Vertical Drain at End Bents. The vertical drain shall consist of a plastic core with a geotextile attached to one or both sides.

1012.3.3.1 The vertical drain shall be no less than 3/8 inch (9.5 mm) or no greater than one inch (25 mm) in thickness.

1012.3.3.2 The vertical drain shall have a minimum flow capacity of 5 gallons per minute per foot (1 L/s/m) of width in either principal direction.

1012.3.3.3 The vertical drain shall have a minimum compressive strength of 6000 psf (287 kPa) at a maximum deformation of 10 percent of the original thickness, when tested in accordance with ASTM D 1621.

1012.3.3.4 The core shall be composed of plastic which is physically and chemically stable under a normal range of service conditions.

1012.3.3.5 Geotextile shall be in accordance with [Sec 1011](#) for subsurface drainage geotextile.

1012.4 Certification. The contractor shall furnish a manufacturer's certification to the engineer for each lot of material furnished stating the name of the manufacturer, and that the material supplied is in accordance with this specification. The certification shall include or have attached typical results of tests from specific lots for all specified requirements, including the geotextile.