

SECTION S207 – GEOTEXTILES AND GEOGRIDS

S207-1 DESCRIPTION

Work consists of installation of geotextile and geogrid materials as required in Contract Documents and as directed by Project Manager.

References to NYSDOT specifications are to be in accordance with latest edition of *NYSDOT Standard Specifications (US Customary Units)*.

S207-2 MATERIALS

S207-2.01 Pavement Crack and Joint Repair

Polyester fiber fabric is to be heavy-duty, high strength, heat bonded geotextile composite membrane that is for use to repair and waterproof pavement cracks and joints.

Polyester fiber fabric that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable pavement crack and joint repair material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

S207-2.02 Pavement Reinforcement

Pavement reinforcement material is to be either biaxial or triaxial geogrid material that is for use as asphalt pavement base reinforcement.

Geogrid material is to be punched and drawn from polypropylene sheet that is oriented in substantially equilateral directions, has high tensile strength in each direction, with ribs having high degree of molecular orientation which continues in part through mass of integral node that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable pavement reinforcement material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

S207-2.03 Pavement Subsurface Stabilization

Pavement subsurface stabilization material is to be either geogrid or geotextile material that is for use to increase stability of underlying soil.

Geogrid material is to be punched and drawn from polypropylene sheet that is oriented in substantially equilateral directions, has high tensile strength in each direction, with ribs having high degree of molecular orientation which continues in part through mass of integral node that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable stabilization material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

Geotextile material is to be high-tenacity polypropylene or polyethylene material composed of high-tenacity yarns woven into stable network such that yarns retain their relative position that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable stabilization material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

S207-2.04 Geotextile for Subsurface Drainage

Geotextile material that is for use with long-term passage of water into underdrain system.

Geotextile material is to be 100 per cent staple polyester and polypropylene non-woven needle-punched geotextile fabric that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable drainage material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

S207-2.05 Geotextile Separation

Geotextile separation material that is for use as an aid in drainage between porous subbase filter layer course and underlying soil.

Geotextile material is to be high-tenacity polypropylene or polyethylene material composed of high-tenacity yarns woven into stable network such that yarns retain their relative position that is in accordance with NYSDOT Section 737 Geosynthetics, is an acceptable separation material that is listed on *NYSDOT Technical Services-Materials-Approved List*, or approved equivalent.

S207-2.06 Tack Coat

Tack coat is to be diluted or straight tack coat mix in accordance with Section S407 Tack Coat.

S207-3 CONSTRUCTION DETAILS

S207-3.01 General

Materials are to be protected from exposure to sunlight during transport and storage.

Materials are to be installed in accordance with manufacturer's latest instructions and as approved by Project Manager. After placement, material is not to be left uncovered for more than one week.

Traffic or construction equipment is not permitted to be directly on material.

Material which becomes torn or damaged due to Contractor's operations is to be replaced or patched at Contractor's expense. Patch is to extend 3 feet beyond perimeter of tear or damage.

S207-3.02 Pavement Crack and Joint Repair

Pavement surface upon which fabric is to be placed is to be cleaned and kept cleaned of all extraneous materials. Cracks that are larger than 1-1/4 inch in width, and all holes, are to be thoroughly cleaned of all dirt and loose material, and filled with an acceptable asphalt concrete material.

Tack coat is to be applied uniformly by either power spray units or pour pots. It is important when applying tack coat to remember that edges of fabric are to be well bonded to pavement surface.

In warm weather conditions (60°F and rising), tack coat is to be applied at rate of 0.10 gallons per square yard. In cold weather conditions (45°F and rising), tack coat is to be applied at rate of 0.10 to 0.20 gallons per square yard. In no case is rate of application to exceed 0.20 gallons per square yard.

Width of tack coat application on pavement surface is width of fabric plus 2 to 3 inches. Tack coat is not to be applied no further in advance of fabric placement, than what can be accomplished without losing adhesive abilities of tack coat. In cold weather, advance application distance is to be no more than 5 feet.

In certain applications high solids emulsion may be used as tack coat, but caution must be exercised to let emulsion break prior to embedment of fabric. When using an emulsion tack, overspray area must not exceed 2 inches.

Where transverse and longitudinal joints meet, fabric may be butted or overlapped. Overlapping is mandatory on bridge decks, or where intentional waterproofing is desired. Where overlapping is used, additional tack coat is required to bond two fabric areas together.

Prior to applying asphalt overlay, small amounts of washed sand may be used to blot excess asphalt to facilitate movement of traffic or construction equipment over fabric. If fabric sticks to paver or truck tire, hot mix asphalt can be sanded out on fabric ahead of paver. Hot mix asphalt overlay may be placed immediately after placement of fabric.

S207-3.03 Pavement Reinforcement and Pavement Subsurface Stabilization

Subgrade is to be finish graded before placement of material.

If tensioning or joining methods are not employed, subbase course material can be back dumped from trucks riding on top of material. Subbase course material is to be bladed onto material in such manner that subbase course material rolls ahead onto geotextile.

If ruts are created in subbase course fill due to construction traffic, fill ruts with additional subbase course material, do not blade adjacent subbase course material into rut.

Rip-rap or stone filling is not to be dropped onto geotextile material from heights that are greater than 12 inches.

Overall undercut section will be to eliminate soft or otherwise undesirable subgrade material, to depth AOBPM.

S207-3.04 Geotextile for Subsurface Drainage

Subgrade is to be finish graded before placement of geotextile fabric.

Geotextile material is to be placed to conform loosely to shape of trench.

When used to wrap underdrain trench, geotextile fabric is to be folded over top of underdrain filter material to produce minimum overlap of 12 inches.

S207-3.05 Geotextile Separation

Subgrade is to be finish graded before placement of geotextile material.

Geotextile material is to be placed to conform loosely to shape of trench.

S207-4 METHOD OF MEASUREMENT

S207-4.01 Pavement Crack and Joint Repair; Pavement Reinforcement; Pavement Subsurface Stabilization; Geotextile Separation

Quantity to be measured for payment will be number of square yards of material installed as computed from payment limits shown on plans.

Measurement and separate payment is not to be made for material that is used for overlaps, seams, patches or repairs.

S207-4.02 Geotextile for Underdrain

Quantity to be measured for payment will be number of square yards of material installed as computed from payment limits shown on plans, including overlap.

S207-5 BASIS OF PAYMENT

S207-5.01 General

Unit price bid for all items includes cost of: furnishing, storing, installing, cutting, seams, overlapping and joining material; and furnishing all labor, material and equipment necessary to complete work.

S207-5.02 Pavement Crack and Joint Repair

Unit price bid also includes cost of: furnishing and placing asphaltic materials; crack-filler; tack coat; cleaning, repairing, filling joints and cracks.

Payment will be made under:

S207.20	Pavement Crack and Joint Repair	Square Foot
S207.21	Pavement Reinforcement –Light and Medium Duty Asphalt Pavement	Square Yard
S207.22	Pavement Reinforcement –Modified and Heavy Duty Asphalt Pavement	Square Yard
S207.23	Pavement Subsurface Stabilization	Square Yard
S207.24	Geotextile for Subsurface Drainage	Square Yard
S207.25	Geotextile Separation	Square Yard

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