

GEOGRID-COMPRESSIBLE INCLUSION

****From Waterbury IM 089-2(43)(Re-advertised)**

xx. DESCRIPTION. This work shall consist of furnishing and installing elasticized Expanded Polystyrene (EPS) and geotextile separation fabric between the back of concrete surfaces and backfill material, in accordance with this specification and in close conformity with the manufacturer's recommendations, as detailed on the Plans, and as directed by the Engineer.

xx. MATERIALS.

(a) Elasticized Expanded Polystyrene (EPS). EPS shall have a size tolerance of 1/8 inch for each dimension and conform to the following:

Physical Property	ASTM Test Method	Requirements
Compressible Strength	D-1621	720 psf ±60 psf @ 10% strain
Water absorption	C-272	Max. 3% by volume

Physical Standard	ASTM Test Method	Requirements
Insect Resistance	D-3345-74	Resistance to ants, termites, etc.

The EPS shall be elasticized, with a linear-elastic stress-strain behavior up to 10 percent strain and linear proportional stress-strain behavior up to 30 percent strain.

The EPS shall contain no chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), or formaldehyde. It shall be chemically and biologically inert when in contact with acidic and alkaline soils. It shall be treated to prevent insect attack and shall contain a flame retardant additive.

The materials shall withstand temperature variations from 0°F to 140°F without deforming and shall maintain their original dimensions and placement without chipping, spalling, or cracking. Materials shall not deteriorate because of contact with sodium chloride, calcium chloride, mild alkalis and acids, or other ice control materials.

(b) Geotextile Separation Fabric. Geotextile Separation Fabric shall be a non-woven geotextile separation fabric placed between the EPS and the backfill material. Fabric joints shall have a minimum overlap of twelve inches. Fabric shall extend a minimum of twelve inches beyond the EPS surface and overlap with adjacent concrete surface.

The separation fabric shall have the following properties:

Physical Property	ASTM Test Method	Requirements
Grab Strength	D-4632	Min. 250 lb
Puncture Strength	D-6241	Min. 500 lb
Tear Strength	D-4533	Min. 90 lb
Permittivity	D-4491	Min. 0.02 sec ⁻¹
Apparent Opening Size	D-4751	Max. No. 40 sieve

Geotextile separation fabric shall be protected from mud, dirt, dust, sunlight, and debris during transport and storage. Material shall be insert to commonly encountered chemicals; resistant to mildew, rot, insects, and rodents; and biological and thermally stable. Geotextile separation fabric for subsurface installation shall not be exposed to direct sunlight for more than 24 hours during installation.

Tensile strength requirements are in the machine and cross-machine directions.

(c) Adhesive. Adhesive shall be used to bond the EPS to concrete surfaces and the separation fabric to the EPS. It shall be of a chemical composition that will not damage the EPS and it shall be applied in accordance with the EPS manufacturer's recommendations.

(d) Backfill Material. Backfill material adjacent to the separation fabric shall be as specified in the Plans.

xx. INSTALLATION. The EPS and separation fabric shall be installed utilizing materials, tools, and methods as required by the manufacturer.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Geogrid-Compressible Inclusion) to be measured for payment will be the number of cubic meters (cubic yards) complete in place in the accepted work, measured within the limits specified on the Plans or as directed by the Engineer.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Geogrid-Compressible Inclusion) will be paid for at the Contract unit price per cubic meter (cubic yard). Payment will be full compensation for furnishing and installing the specified materials, including geotextile separation fabric, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.608 Special Provision (Geogrid-Compressible Inclusion)	Cubic Meter (Cubic Yard)