

Product Evaluation

RE: Review of GeoSpec Expanded Polystyrene (EPS) Lightweight Fill

PRODUCT

The GeoSpec Expanded Polystyrene (EPS) Lightweight Fill material is produced and distributed by Plasti-Fab Ltd located in Calgary, Alberta.

VENDOR CLAIMS AND INFORMATION

CLAIMS

GeoSpec EPS is used in ground fill applications where a lightweight fill material is required to reduce stresses on underlying or adjoining soils/structures. GeoSpec EPS can be used to support high compressive loads, the GeoSpec density is less than 1% of traditional earth material. When constructing a road embankment with GeoSpec the load on the subsoil is reduced, this reduces or eliminates the settlement. Product Web Link: <http://www.plastifab.com/>

DESCRIPTION

GeoSpec EPS is a moulded expanded polystyrene in an air-filled, closed-cell, rigid foam plastic that does not contain any hydrofluorocarbons (FFC_s) as blowing agents. The closed-cell structure of EPS insulation provides constant thermal resistance, is dimensionally stable and non-corrosive, provides excellent mechanical properties and can be recycled.

POTENTIAL USAGE

GeoSpec EPS can be used as a lightweight substitution for soil fill in road or railway embankments, retaining wall and abutment backfill, slope stabilization and other areas where the subgrade is weak and cannot support anticipated loads using standard fill materials. GeoSpec performance properties: thermal resistance; compressive resistance; load reduction; moisture resistance; freeze-thaw resistance and drainage capabilities.

STANDARDS

ASTM D6817 – Rigid Cellular Polystyrene Geofoam

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE

Alberta Transportation has experience with similar product.

APPLICABLE STANDARDS

Alberta Transportation does not have a standard for light weight fill materials. In order to avoid black ice formation above the Geofoam it is recommended to be placed at least 1.2m below the pavement surface. Exceptions may be allowed if a detailed engineering analysis is prepared to support shallower burial. Additional measures such as chip seal may be required.

RECOMMENDATIONS:

GeoSpec EPS product be listed as a Proven Product under Alberta Transportation Products List, Lightweight Fill – Proprietary, based on the information provided.

TRIAL PROJECTS

NE – Anthony Henday

Joe Filice

cc New Product Evaluation Standing Committee – Roger Skirrow
Roger Skirrow/Dave Besuyen/Clayton Matwychuk/Jim Poole/Corinna Mulyk/Jim Gavin