

Product Evaluation

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

PRODUCT

The GEOFOAM EPS product is produced and distributed by Beaver Plastics located in Acheson, Alberta and EPS Molders Incorporated located in Ponoka, Alberta.

VENDOR CLAIMS AND INFORMATION

CLAIMS

GEOFOAM EPS is used in light weight fill in geotechnical applications to reduce settlement and/or enhance stability. GEOFOAM EPS can protect underlying culverts, ducts, pipelines and other buried materials against unacceptable levels of stress while maintaining a predictable amount of resistance against the overlying structure, preventing movement or subsidence. Product Web Link:

<http://www.beaverplastics.com/Geotechnical/documents/Geofoam.pdf>

DESCRIPTION

GEOFOAM EPS is manufactured from inert closed cell expanded polystyrene. GEOFOAM EPS is approximately 1% the weight of other lightweight fill alternatives. GEOFOAM EPS can be easily cut and shaped on a project site.

POTENTIAL USAGE

GEOFOAM 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. GEOFOAM EPS is available in the following compressive strengths: 15kPa, 25kPa, 40kPa, 50kPa and 75kPa at 1% strain.

STANDARDS

ASTM D6817 – Rigid Cellular Polystyrene Geofoam

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE

Alberta Transportation has no experience with this 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:

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

TRIAL PROJECTS

Hwy 727, Howard and Ksituan River Crossing project, Hwy 43:06, muskeg area, Km 15.5, Hwy 43:08 (Km 15.5) Gonika Muskeg Soft Grounds area

Joe Filice

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