

Product Evaluation

RE: Review of Titan TE-BXC Geogrid Composite (TE-BXC18 and TE-BXC30)

PRODUCT

Titan TE-BXC18 and TE-BXC30 Biaxial Geogrid Composites are manufactured and distributed by Titan Environmental Containment, Leduc, Alberta.

VENDOR CLAIMS AND INFORMATION

CLAIMS:

The Titan TE-BXC geogrid Composite is very effective in stabilizing weak soils that are saturated and susceptible to piping. The TE-BXC range creates a composite product solution ideal for combined soil stabilization/reinforcement applications with enhanced separation and filtration properties of a nonwoven geotextile combined with the high-modulus reinforcement properties of Titan's bi-axial geogrids. TE-BXC range further enhances the reinforcement function along with maintaining the drainage capability of the sub-base to maintain a stable structure. Company website: <http://www.titanenviro.ca/>

DESCRIPTION:

Titan's TE-BXC is a composite made of bi-axial polypropylene (PP) geogrid, heat bonded to a long fiber non-woven polyester geotextile that acts as a filter and soil separator. The geogrid is manufactured using a punching and drawing.

POTENTIAL USAGE:

Soil stabilization, Sub-base reinforcement, Foundation support, Heavy duty pavements

STANDARDS:

ASTM D6637 tensile strengths, ASTM D 4218 Carbon Black Content, GRI-GG2 Junction efficiency, ASTM D1388 mod. Flexural rigidity, US Army COE method Aperture stability, ASTM D4595 Tensile Strength, ASTM D4632 Grab strength, ASTM D4491 Permeability

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE:

Alberta Transportation has experience with bi-axial geogrid composites.

APPLICATION STANDARDS:

Alberta Transportation does not have a standard for geogrids. All geogrid applications must be properly designed by a Professional Engineer (registration with APEGA). The use of geogrid reinforcement in MSE bridge abutments or wing walls applications shall conform to the requirements of Alberta Transportation *Standard Specifications for Bridge Construction Section 25, Mechanically Stabilized Earth Walls*.

RECOMMENDATIONS:

Titan TE-BXC18 and TE-BXC30 Biaxial Geogrid Composites be listed as Reviewed Products under Alberta Transportation Products List, Geosynthetics – Composite Geosynthetics - Proprietary, based on the information provided.

TRIAL PROJECTS

Titan TE-BXC30 used at 40:38,40 Kakwa River - Cutbank River (CON0018341) (2019)

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