

Product Evaluation

RE: Review of Tensar Uniaxial Series (UX1100, UX1400, UX1500, UX1600, UX1700, UX1800)

PRODUCT

Tensar Uniaxial Series (UX1100, UX1400, UX1500, UX1600, UX1700, UX1800) geogrids are distributed in Alberta by Nilex Inc.

VENDOR CLAIMS AND INFORMATION

CLAIMS:

Tensar Uniaxial Series geogrids are manufactured using select grades of high-density polyethylene (HDPE) resins that resist elongation (creep) when subjected to high loads for long periods of time. These geogrids carry large tensile loads applied in one direction (along the roll), and their open aperture structure interlocks with natural fill materials. Company website: www.tensarcorp.com.

DESCRIPTION:

These products are composed of materials resistant to physical deterioration and loss of strength caused by aggressive chemical environments.

POTENTIAL USAGE:

In grade separation applications, uni-axial geogrids are used to help soils stand at virtually any desired angle; from 0 to 90 degrees. Geogrids can be combined with a wide variety of facing elements in retaining wall. Other uses are geogrid reinforced soil retaining walls, geogrid reinforced slopes, construction of embankments, bridge approach fills, dikes and causeways over soft soils and wetlands.

STANDARDS:

ASTM D6637 Ultimate tensile strength; tensile strengths at 5%
ASTM D5262 Creep reduced strength
ASTM D5732 Flexural stiffness/stiffness
GRI-GG2 Junction efficiency
GRI-GG4 Maximum allowable (design) strength
EPA 9090 Resistance to long-term degradation

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE:

Alberta Transportation has some experience with this product.

APPLICATION STANDARDS:

All geogrid applications must be properly designed by a Professional Engineer (registration with APEGGA). The use of extensible reinforcement on MSE Bridge abutments and wingwall applications shall conform to requirements of Alberta Transportation *Standard Specifications for Bridge Construction, Section 25, Mechanically Stabilized Earth Wall*.

RECOMMENDATIONS:

The Tensar Uniaxial Series geogrids be listed as a Proven Product under Alberta Transportation Products List, Geosynthetics – Geogrids - Proprietary, based on the information provided.

TRIAL PROJECTS

NE Stoney Trail, Calgary; Glenmore Trail, Calgary; North West LRT, Calgary, AHD/87 Ave Interchange, Edmonton; Anthony Henday SE, Edmonton.

SE Stoney Trail
Hwy 28 TWP Rd 544
City of Edmonton

Fred Cheng

cc New Product Evaluation Standing Committee – Roger Skirrow