

Product Evaluation

RE: Review of Tough Cell (Formerly listed as PRS-Neoweb Neoloy Tough Cell)

PRODUCT

Tough Cell is manufactured by PRS Mediterranean Ltd. with office in London, United Kingdom and it is distributed in Alberta by Paradox Access Solutions Inc. located in Acheson, Alberta.

VENDOR CLAIMS AND INFORMATION

CLAIMS

Tough Cell is a 3D, cellular confinement system in a honeycombed structure. It can be used for load support either embedded in base layer or in the subgrade; earth retention wall; and slope and channel protection. Manufacturer's website: www.prs-med.com, and the local distributor's website: www.paradoxaccess.com.

DESCRIPTION

PRS manufactures the Tough Cell cellular confinement systems, based on Neoloy, a newly developed polymeric alloy with very long-term durability. The alloy is based on dimensionally stable polymer nano fibers (polyester or nylon) in a polyolefin matrix. Tough Cell comes in four types with varying wall thicknesses and cell dimensions: Type A, Type B, Type C and Type D.

POTENTIAL USAGE

The Toughcell provides long-term stiffness and dimensional stability required for long-term confinement in earth retention wall and roadway pavements applications.

STANDARDS

No specific standards available at present, but can borrow other ASTM standards as a reference: D6992 Accelerated creep rate of polymers; Dynamic Mechanical Analysis; ASTM D3895, ISO 11357-6 Oxidation resistance

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE

Alberta Transportation has some experience with general geocell applications.

APPLICATION STANDARDS

Alberta Transportation does not have a standard for cellular confinement systems.

RECOMMENDATIONS

Tough Cell be listed as a Proven Product under Alberta Transportation Products List – Stabilization (Soil) – Cellular Confinement Systems – Proprietary, based on the information provided.

RESTRICTIONS ON USE:

Caveat: Tough Cell comes with different strengths, cell wall thicknesses, cell wall heights and cell dimensions. A Professional Engineer registered with APEGA shall determine appropriate type of Tough Cell to be used in the project

TRIAL PROJECTS

- Mitchell Beach Road that connects TWP Rd 474 to residential cabins
- 7th Street between 15th and 12th ave. in Nisku, Leduc county
- Road-side Slope Remediation on Cliff Street SW near 23rd Avenue SW Intersection
(Client: The City of Calgary)
- Hwy 40:34 KM16.4 (Geohazard site GP32 S-Curves below grouted rip-rap)

Rishi Adhikari

cc Innovation Evaluation Group – Roger Skirrow