

Product Evaluation

RE: Review of Maccaferri Terrawall

PRODUCT

Maccaferri Terrawall is a reinforced soil system that can be used for near vertical retaining wall applications. It is manufactured by Maccaferri Inc. of Williamsport, Maryland, and distributed in Alberta by Maccaferri Canada Ltd.

VENDOR CLAIMS AND INFORMATION

CLAIMS:

Maccaferri Terrawall is a variation of Terramesh, and a derivative of Green Terramesh and Terramesh systems - both systems have been reviewed by the Highway Innovative Technology Evaluation Centre (HITEC). Terrawall is an economical solution to concrete retaining structures. It is long lasting and easy to install. Product website is: www.maccaferri-canada.com.

DESCRIPTION:

Terrawall consists of layers of double twisted wire mesh reinforce the compacted backfill behind the front face of the wall. The soil reinforcing element and front face are made from one continuous piece of mesh. The mesh reinforces the compacted backfill through mechanical interlocking properties of the backfill and the friction between the wire and backfill. With proper design, a wide range of soil types can be used as backfill. Each Terrawall unit is made of double twisted woven wire mesh, a welded wire panel and three steel brackets. A layer of cobble stone behind the facing is the standard facing for the system. Optional facing material may be used at the description of the designer. The wire used to manufacture the units is fabricated from soft tensile heavily galvanized steel with an extruded PVC coating. Standard units are preassembled in their manufacturing facilities.

POTENTIAL USAGE:

Terrawall can be used for transportation embankments, retaining walls, temporary structures and culvert headwalls.

STANDARDS:

ASTMA641-97 Specifications for zinc coated (galvanized) carbon steel wire
ASTMA975-97 PVC coating
ASTMA370-92 Testing of steel products
ASTMA90-93 Weight (mass) of coating on iron and steel articles with zinc
ASTMA313-92 Specifications for chromium-nickel stainless and heat-resisting steel spring wire
ASTMA764-93 Specifications for steel wire, carbon, drawn galvanized and galvanized at size for mechanical springs

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE:

Alberta Transportation has no experience with this product.

APPLICATION STANDARDS:

Design governed by design criteria in AASHTO "Standard Specifications for Highway Bridges" (2002) and FHWA "Mechanically Stabilized Earth Structures and Reinforced Soil Slopes – Design and Construction Guidelines".

RECOMMENDATIONS:

Terrawall be listed as a Proven Product under Alberta Transportation Product List, Earth Retaining Systems – Gabion Wall – Proprietary, based on the information provided.

TRIAL PROJECTS

Highwood Springs Estates (High River)

Fred Cheng

cc New Product Evaluation Standing Committee – Roger Skirrow