

Product Evaluation

Product ID: 8132-2
Initiation Date: July 25, 2002
Revision Date: December 6, 2005

RE: Review of Modular Gabions and Mattresses

PRODUCT

The Modular gabions and mattresses consist of rectangular or square wire mesh formed containers filled with rock. The welded wire mesh comes with a resistance weld at each intersection. They are manufactured by Modular Gabion Systems, Division of Shepard Company, Houston, Texas, and are distributed by Cascade Geotechnical Inc. of Edmonton.

VENDOR CLAIMS AND INFORMATION

CLAIMS:

Modular Gabion Systems meet or exceed the specifications of a number of US federal and state agencies.

DESCRIPTION:

A gabions is wire fabric container, uniformly partitioned, with variable size, interconnected with other similar containers and filled with stone at the site of use, to form flexible, permeable, monolithic structures such as retaining walls, sea walls, channel linings, revetments, weirs, etc for erosion and flood control. A mattress is a gabion of relatively small height in relation to the lateral dimensions, generally used for lining channels, bank and shore protection, levee revetment, scour protection aprons, etc.

The wire meets ASTM A90 standards. It is galvanized before welding for superior corrosion prevention. Its dimensionally consistent mesh holds shape – no stretching or straightening is required. The mesh has identical physical and mechanical properties in both axis. It is available in galvanized or PVC coated wire.

The baskets have a height of 12" or greater. Mattresses have a thickness of 12" and less.

POTENTIAL USAGE:

Used in bank protection, channel linings, retaining and MSE walls, shoreline defense, weir and drop structures.

STANDARDS:

ASTM A90 Wire

ASTM A185 Welded wire connections

ASTM A641 Zinc coating

ASTM D792, D1242, D746, D638, D412, D638, G23, B117 PVC coating

Modular Gabion Systems have developed Specifications, Retaining Wall Design Guide and Assembly Guide.

ALBERTA INFRASTRUCTURE and TRANSPORTATION COMMENTS

EXPERIENCE:

Alberta Infrastructure and Transportation has no experience with Modular Gabion Systems.

APPLICATION STANDARDS:

Standards for the gabion materials and rocks can be found in Alberta Transportation Special Provisions SpE007 and Guidelines for Erosion and Sedimentation Control Design (2003), Best Management Practices, BMP#2.

RECOMMENDATIONS:

Modular Gabion and Mattresses be listed as a Proven Product under Alberta Infrastructure and Transportation Product List, Erosion Control Systems – Gabions and Mats – Proprietary, based on their field performance.

TRIAL PROJECTS

Hwy. 43, Eosegun River E. Hill (Gabion Ditch Check) Sept. 2002

Hwy. 3:02, Brocket (Gabion Wall) Nov. 2002

Fred Cheng

cc New Product Evaluation Standing Committee – Roger Skirrow
Joe Filice