

INCH-POUND

A-A-59784

9 DECEMBER 2005

## COMMERCIAL ITEM DESCRIPTION

## E-GLASS CLOTH REINFORCEMENT

The General Services Administration has authorized the use of this Commercial Item Description by all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers E-Glass cloth used as the reinforcement media in the manufacture of advanced composite materials using infusion processes or hand lay-up.

2. **SALIENT CHARACTERISTICS.**

2.1 General. E-Glass Woven Roving Fabric is one of the major fiber materials used in the composite industry as the reinforcing media for low pressure, high performance resin system manufacturing processes such as Resin Transfer Molding (RTM), Vacuum Assisted Resin Transfer Molding (VARTM), Seemans Composite Resin Injection Molding Process (SCRIMP<sup>TM</sup>), prepreg hand lay-up, and/or other infusion processes. Usually, fibers consist of thousands of filaments, each filament having a diameter between 5 and 15 microns, allowing them to be producible using textile machines. The filaments are obtained by pulling the molten glass (silicon + sodium carbonate and calcium carbonate at a temperature greater than 1000°C) through the small orifice of a plate made of platinum alloy. The fibers are normally treated afterwards with sizing and coupling agents. These reduce the effects of fiber-fibre abrasion which can significantly degrade the mechanical strength of the individual fibers. Other treatments may also be used to promote wetting and adherence of the matrix material to the fiber material.

2.2 Performance. Specifications are as follows:

- a. Woven Roving Fabric Cloth shall be free from any chemical splices that might cause laminate defects.
- b. No weave distortion or missed picks in the weave pattern
- c. Fabric shall be compatible with Vinyl ester and Epoxy Resin system
- d. Nominal Weight per Square Yard: 24.0 – 24.25 Oz.
- e. Nominal Roll Width: Minimum dimension of the fabric cut ply, which will depend on the specific part to be made.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent by letter to: US Army Tank-automotive and Armaments Command, ATTN: AMSRD-TAR-E/268, 6501 E. 11 Mile Road Warren, MI 48397-5000.

AMSC N/A

FSC 8305

Distribution Statement A. Approved for public release; distribution is unlimited.

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f. Construction:

1. Warp – 5.0/inch
2. Percent of weight – 55 %
3. Fill – 4.0/inch
4. Percent of Weight – 45 %

3. REGULATORY REQUIREMENT. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. PRODUCT CONFORMANCE.

4.1 Product Conformance. The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards and quality assurance practices and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

4.2 Market Acceptability. The product shall be a standard commercial item or a modified commercial item to minimize design and engineering risk. A commercial item is required to ensure serviceability, reliability and quality of materials. Bid samples may be required for the Epoxy Resin System to ensure product quality.

5. PACKAGING. Preservation, packaging, packing and marking shall be specified in the contract or order.

6. NOTES

6.1 Source of Documents.

6.1.1 Material Safety Data Sheet for Woven Roving Cloth may be obtained from Saint-Gobain Vetrotex America, 3410 Briarfield Blvd, Maumee, OH 43537 or at their website <http://www.vetrotex.com>.

6.1.2 The Code of Federal Regulations (CFR) may be obtained from the U.S. Government Printing Office, 732 Capitol Street NW, Washington, DC 20401 or at their website <http://www.gpoaccess.gov/cfr/index.html>

6.2 Ordering Data. The contract or order should specify the following:

- a. CID document Number
- b. Product conformance provisions
- c. Packaging requirements
- d. Width of roll

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6.3 Products known to meet this CID.

- a. Part Number 324-2407 Woven Roving E-glass fiber cloth  
Mahogany Company of Mays Landing  
5450 Atlantic Avenue  
Mays Landing, NJ 08330
- b. 324-1507 Woven Roving E-glass fiber cloth  
Saint-Gobain Vetrotex America Inc.  
750 East Swedesford Road  
Valley Forge, PA 19482-0101

6.4 Key words.

Woven Roving  
E-glass  
Fiber reinforced composites

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Custodians

Army – AT  
Navy - AS  
Air Force – 11  
DLA - CT

Preparing Activity:  
Army – AT

(Project: 8305-2006-006)

Review Activities

Army – GL, GL1, IH  
Navy – CG  
Air Force – 03