

NCSX

Product Requirements List For the Vacuum Vessel System Boot Seal and Overwrap Fabric Components

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Controlled Document

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Record of Revisions

Revision	Date	ECP	Description of Change
Rev. 0	8/9/06		Initial Release

1 SCOPE

This requirements list covers the procurement of cloth fabric, thread, and gaskets for port boots, port over wrap, and Modular Coil (MC) overwrap for the National Compact Stellarator Experiment (NCSX) Vacuum Vessel (VV). The Sellers shall deliver the fabric and constituent components to the Princeton Plasma Physics Laboratory (Laboratory).

2 REQUIREMENTS

2.1 General

The materials are intended for use in fabric seals (boots) which will be used to contain pelletized insulation within a cryogenic chamber penetrated by pipe members (ports) and also as overwrap around blanket insulation surrounding the ports and the MC.

2.2 Characteristics

2.2.1 Material

2.2.1.1 Fabric

The fabric shall be Nomex ® (trademark for Dupont Aramid fiber)

Recommended source:
Warwick Mills Inc.
301 Turnpike Rd.
New Ipswich, NH. 03071

Warwick Mills product:
Style - T9-1231

2.2.1.2 Thread

The thread shall be 100% Nomex®

Recommended source:
Atlantic Thread & Supply CO., Inc.
8515 Kelso Drive, Units G & H
Baltimore, MD 21221-3140

Atlantic Thread product:
Craq-Spun (CSN) Nomex
Color - Natural

2.2.1.3 Gaskets

The gaskets shall be 100% virgin expanded PTFE

Recommended source:
W. I. Gore & Associates Inc.
Sealant Technologies Group
201 Airport Road
P.O. Box 1488
Elkton, MD 21922-1488

Gore Product: Gore-Tex® Valve Stem Seal

2.2.2 Dimensions and Tolerances

2.2.2.1 Fabric

Nomex fabric - Camo Green in color
Weave pattern - 2X1 Oxford weave
Weight Nominal - 5.8 Oz/sq. yd
65 inch wide rolls

2.2.2.2 Thread

TEX 70

2.2.2.3 Gaskets

Nominal sizes shall be:

0.25 inch diameter

0.375 inch diameter

0.500 inch diameter

0.625 inch diameter

2.3 Operation Parameters

2.3.1 Media

Nitrogen gas.

2.3.2 Pressure

atmospheric

2.4.3 Temperature

77 K to 250 C

3 PREPARATION FOR DELIVERY

3.1 Labeling

Component spools shall be marked with unique serial numbers to provide positive identification. Tags with adhesive/gum backing shall not be applied to the surfaces of the material.

3.2 Packing and Skidding

All components shall be sealed, packaged, and skidded to provide protection against contamination, deterioration and damage during shipment. A plan shall be provided to the Laboratory prior to shipment which includes a description of methods to be used to preserve, package, skid, and identify equipment. The Seller shall contact the Laboratory ten days prior to shipment of the machine to confirm shipping method and route.

3.3 Marking

Each shipping container shall be marked with the name of the Seller, Laboratory Purchase Order Number, the component name, and gross weight. Boxes containing loose parts, attachments, and accessories shall be marked identifying the assembly to which they belong, and where possible, boxes are to be secured to the skid of the unit.