

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS D-7005
		Former Designation: TMS-7005
TITLE: Thread, Nylon Or Dacron		CURRENT REV No.: 1608
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		

1.0 APPLICATION

This specification covers two types of bonded, twisted cord thread: nylon and dacron. These two types of thread, available in two sizes (92 and 138), are both suitable for sewing seat covering materials and other fabrics. Selection of the type of thread is based upon availability and other economic considerations, whereas selection of thread size is based upon the strength requirements and appearance of the seam, as well as economic considerations.

2.0 SCOPE

This specification covers general requirements, property and performance requirements, quality, identification, inspection tests, source approval and quality control.

2.1 Restricted Chemical Substances

Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification

3.0 REFERENCE DOCUMENTS

Unless otherwise specified, the latest issue of all referenced standards shall apply. The following standards, specifications and regulations are referenced in this specification.

Quality System Standard ISO 9001 or TS-16949	ASTM D 204
CFR Title 29, Part 1910	NAVISTAR MPAPS P-9544
NAVISTAR Supplier Packing and Shipping Std. D-13	FMVSS 302
NAVISTAR Engineering Design Std. A-16	NAVISTAR MPAPS GT-31
NAVISTAR MPAPS B-50	

4.0 GENERAL REQUIREMENTS

4.1 Material

Nylon Yarn - The thread shall be made from DuPont Type 331 nylon or equivalent. The raw material shall be a pre-stretched high tenacity Nylon 66 of bright luster, finished into a three or four cord (depending upon size) twisted thread that shall comply with the requirements of this specification. The

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bonding agent shall cause no excessive wiriness, flaking or color change at the needle or otherwise interfere with a satisfactory sewing operation.

4.2 Dacron Yarn - The thread shall be made from three or four plies (depending upon size) of high tenacity Dacron, Type 51 (or equivalent) bright filaments, twisted into a uniform thread that shall comply with the requirements of this specification.

4.3 Color

The color shall be as specified and shall match the color and sheen of standard approved fabric masters in the TDTC Industrial Design Department.

4.4 Characteristics

4.4.1 – Twist Test Method: ASTM D-204

4.4.1.1 Required

Unless otherwise specified, the threads shall be twisted in the left hand or Z direction such that when the thread is held vertically, the spirals shall incline in the same direction as the center portion of the letter Z. Nylon threads shall have 2.3-4.3 turns per cm (6-11 turns per in) and Dacron thread shall have 2.9-4.3 turns per cm (7.5-11 turns per in).

Put Up: 450 or 900 g (1 or 2 lbm) per tube.

4.4.2 Yarn Size:

Nylon

Dacron

92*

97-115 Tex.***

104-114 Tex.

138**

150-170 Tex.

163-177 Tex.

* A four ply cord.

** A three ply cord.

*** Tex. - A unit for expressing linear density, equal to the mass in grams of one kilometer of yarn.

4.4.3 Weight:

Nylon

Dacron

	92	138	92	138
m/kg, minimum	8675	5850	8870	5750
yd/lbm, minimum	4300	2900	4400	2850

4.5 Property And Performance Requirements

4.5.1 Tensile Strength

4.5.1.1 Method

To be performed on a constant rate of traverse type tensile machine with specimen clamps of the smooth drum type not less than 13 mm (1/2 in) diameter. The distance between the bite of the clamps at the start of the tests shall be 254 mm (10 in). Strands of the thread, cut from consecutive positions on the spool, shall be tested individually. The test shall be conducted with the pulling clamp moving at a uniform speed of 305 ± 13 mm per minute ($12 \pm 1/2$ in per minute). If any strand breaks within 13 mm (1/2 in) of the clamps, that result shall be discarded. The average of the results of 10 satisfactory tests from at least five tubes shall be reported.

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