

Standard Parts / Mechanical Parts

FNHA-1-C-300.00

Grommets - Rubber

1. SCOPE

1.1 This standard is intended to cover complete general requirements for rubber grommets.

This designation applies to nominal diameter sized up to and including those for 3.35 in. dia. (85.0 mm) holes.

1.2 The grommets covered by this specification are intended for use as protection from abrasion or vibration for rods, wire cables and hoses passing through walls, bulkheads, partitions, and thin-walled metal structures.

These grommets are to be used in New Holland products where high dielectric strength and abrasion resistance are required; and where the ability to withstand hot petroleum based oil or coolant is required.

2. RELATED STANDARDS

2.1 REFERENCE STANDARDS

ASTM D412 - Rubber properties in Tension

ASTM D518 - Rubber Deterioration - Surface Cracking

ASTM D573 - Rubber Deterioration in an Air Oven

ASTM D746 - Brittleness Temperature of Plastics and Elastomers by Impact

ASTM D1149 - Rubber Deterioration - Surface Ozone Cracking in a Chamber (Flat Specimen)

2.2 This standard replaces the following company standards:

New Holland
Versatile

2.09.5
1-B-157

3. METRIC CONVERSION

3.1 Metric equivalents when shown in this standard, are provided to acquaint the reader with metric (S1) terminology which is to be fully adopted in Canada in the 1980's.

3.2 This standard is an interim document which will eventually be replaced by a fully metric standard time as the increased use of metric grommets makes that action appropriate.

4. PHYSICAL REQUIREMENTS

4.1 MATERIAL

4.1.1 Material used in the manufacture of these grommets shall be synthetic rubber with good dielectric strength, set and abrasion resistance.

4.1.2 Material used in the manufacture of petroleum resistant grommets shall be synthetic rubber conforming to the additional requirements in Table 1.

4.2 PERFORMANCE REQUIREMENTS

4.2.1 The material shall withstand heat and cold and be resistant to heat aging.

4.2.2 The material in petroleum resistant grommets shall exhibit the additional performance properties in use in Table 2.

					NAME	STD RUBBER GROMMETS		
					 NEW HOLLAND		ENGINEERING SPECIFICATION	
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5. SUPPLIER

5.1 Supplier name and number will not be included on this drawing

Table 1

	Spec.	ASTM Test Method
Tensile Strength	1500 psi	D412
Elongation	400%	D412
Ozone resistance °F (°C)	122 (50)	D518, D1149
Heat Aging °F (°C)	70 hr @ 212 (100)	D573
Low Temp. Brittleness °F (°C)	- 67 ± (-55 ± 1)	D746

Table 2

Hardness	Durometer 50 ± 5 to 70 ± 5
Compression set °F (°C)	35% @ 212°F (100°C) for 70 hr.
Resistant to Heat Aging, °F (°C)	After 70 hr. @ 212°F (100°C) hardness increase ≤ 15 durometer, tensile strength decrease & 20%, elongation decrease & 40%
Hot Petroleum Resistance, °F (°C)	Hot oil or ethylene glycol immersion for 72 hr @ 300 ± 5 (149 ± 3); Shore durometer "A" hardness change within ± 15 points; Volume change within 0 to +15 percent.
Flexibility, °F (°C)	Shall withstand insertion at any temp. between 0 (-18) and 150 (65)
Vibration	The grommets shall show no evidence of cracking, pitting, or material failure after being tested and loaded per ASTM D2231, D1349
Dielectric Strength	The grommets shall withstand a potential of 1500 volts @ 60 Hz reached in a 10 to 30 sec. rise without a disruption discharge; nor any deterioration in the grommet
Workmanship	The grommets shall be hand or machine trimmed or suitably tumbled to remove flash and be free of dirt, oil or foreign matter.



NAME

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