

**NOT MEASUREMENT  
SENSITIVE**

**MIL-HDBK-695D  
w/CHANGE 1  
28 April 2004  
SUPERSEDING  
MIL-HDBK-695D  
22 November 1999**

# **DEPARTMENT OF DEFENSE HANDBOOK**

## **RUBBER PRODUCTS: RECOMMENDED SHELF LIFE**



**THIS HANDBOOK IS FOR GUIDANCE ONLY  
DO NOT CITE THIS HANDBOOK AS A REQUIREMENT**

**AMSC: N/A**

**FSC 9320**

**DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.**

## MIL-HDBK-695D

### FOREWORD

1. This handbook is developed by the Department of Defense with the assistance of recognized technical societies in accordance with established procedure. This handbook is approved for use by all Departments and Agencies of the Department of Defense (DOD).
2. This handbook is for guidance only. If cited as a requirement, the contractor does not have to comply. The handbook covers elastomeric products of Military, Federal, and recognized industry specifications. It provides guidance as to the time periods during which these elastomeric products may be stored without deterioration.
3. Comments, suggestions, or questions on this document should be addressed to ASC/ENOI, Bldg 560, 2530 Loop Road West, Wright-Patterson Air Force Base OH 45433-7101 or emailed to [engineering\\_standards@wpafb.af.mil](mailto:engineering_standards@wpafb.af.mil). Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).

## MIL-HDBK-695D

**CONTENTS**

PARAGRAPH	PAGE
1. SCOPE	1
2. APPLICABLE DOCUMENTS	2
3. DEFINITIONS	3
4. GENERAL GUIDANCE	3
5. DETAILED GUIDANCE	4
6. NOTES	4

**LIST OF TABLES**

TABLE I.	Age resistance generally associated with products fabricated from various rubbers. ....	5
TABLE II.	Military specifications.....	6
TABLE III.	Military standards.....	23
TABLE IV.	Federal specifications.....	24
TABLE V.	Aerospace Materials Specifications. ....	29
TABLE VI.	American Society for Testing and Materials Specifications.....	32
TABLE VII.	National Aerospace Standards.....	34
TABLE VIII.	Society of Automotive Engineers Standards.....	37
APPENDIX A - RELATED DOCUMENTS		40

MIL-HDBK-695D

THIS PAGE INTENTIONALLY BLANK

## MIL-HDBK-695D

## 1. SCOPE

### 1.1 Purpose.

This handbook establishes guidelines for time periods for the expected life of elastomeric products during shelf storage. The use of the expected shelf storage lives listed herein is NOT MADE MANDATORY by this handbook. The decision as to whether or not a product will have a limit placed upon the time that it may remain in storage is a function of the agency responsible for the product's ultimate use.

### 1.2 Scope.

The handbook covers only those elastomeric products described by Government specifications and standards or by nationally recognized technical society specifications and standards. The documents defining the items covered by this handbook were selected from the following sources:

- a. *Acquisition Streamlining and Standardization Information System (ASSIST)* (available from <http://assist.daps.dla.mil/quicksearch/> or [www.dodssp.daps.mil](http://www.dodssp.daps.mil) or from the Standardization Document Order Desk, 700 Robbins Avenue, Philadelphia, PA 19111-5094).
- b. *Aerospace Materials Specifications (AMS) Index* and *Society of Automotive Engineers (SAE) Handbook* (both available from Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001).
- c. *National Aerospace Standards (NAS)* (published and distributed by Aerospace Industries Association of America, Inc., 1250 I Street NW, Suite 1100, Washington DC 20005-3924).
- d. *American Society for Testing and Materials (ASTM) Specifications* (available from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959).

#### 1.2.1 Products included.

The types of elastomeric products covered by this handbook are as follows:

- a. Products fabricated solely from rubber. These include solid rubber, cellular rubber and hard rubber (ebonite) items.
- b. Composites in which the rubber is present as a discrete phase. Examples are cables, fabric reinforced gaskets, non-aerospace hose, rubber coated fabrics, shock mounts and tires.
- c. Kits, accessories and outfits. The shelf life for these items should be determined by the component with the earliest expiration date.

#### 1.2.2 Products excluded.

The types of products excluded from this handbook are as follows:

- a. Rubber-base adhesives, coatings, sealers, and liquid rubber materials packaged in cans or tubes.
- b. Rubber tapes.
- c. Aerospace o-rings and other molded seals. Refer to *SAE ARP5316* for recommended shelf lives.
- d. Aerospace bulk hoses and hose assemblies. Consult *SAE ASI933A* for age control limits for acceptance of aerospace bulk hoses and hose assemblies.

## MIL-HDBK-695D

- e. Non-aerospace bulk hoses and hose assemblies (surface vehicle, industrial and marine application). Consult *SAE J517* for age control limits for acceptance of non-aerospace bulk hoses and hose assemblies.
- f. Unvulcanized rubber, such as tread repair stock and tank lining sheet stock.
- g. Composites in which the rubber is in admixture with other ingredients, for example, rubber-asbestos packings and rubber-cork gaskets.
- h. Subassemblies, assemblies and systems which contain elastometric items as component parts, such as small arms, weapons, vehicles, aircraft, missiles and space vehicles.
- i. Products fabricated from flexible materials that are not elastomeric, for example, some plastics.

**1.3 Application.**

The information contained in this handbook is intended as a guide for use by those agencies whose responsibility it is to place control requirements on rubber products, as well as by those activities whose responsibility it is to control the age of products stocked in Government storage facilities. The handbook is not intended for use in controlling the age of rubber products prior to their acceptance by the Government or by Government contractors. The handbook does not make mandatory the disposition of rubber products that have been in storage longer than the periods recommended. The decision as to whether or not to dispose of "overage" products is a function of the storage, supply or using facilities. Responsible activities should make every attempt to limit the procurements of rubber products to the extent that large volumes of "overage" products will not be accumulated in storage. Where feasible and economically practical, "overage" products should be tested to determine whether or not they meet the requirements of the applicable specifications. Procurement documents should require the mold marking of the cure date, such as the year and month on the rubber product (or on its package) and careful records kept of the cure date of all stored rubber products. When age limitations of the detail specification listed herein conflict with the requirements herein, the requirements of the detail specification will govern.

**2. APPLICABLE DOCUMENTS****2.1 General.**

The documents listed below are not necessarily all of the documents referenced herein, but are those needed to understand the information provided by this handbook.

**2.2 Government documents.**

*Department of Defense Index of Specifications and Standards (DODISS)* (available from Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094 or on-line at <http://assist.daps.dla.mil/quicksearch/> or <http://www.dodssp.daps.mil> ).

**2.3 Non-Government publications.**

The following documents form a part of this document to the extent specified herein.

SAE AS 1933	Age Controls for Hose Containing Age-Sensitive Elastomeric Material
SAE ARP 5316	Storage of Aerospace Elastomeric Seals and Seal Assemblies Which Include an Elastomer Element Prior to Hardware Assembly
SAE J517	Hose, Hydraulic

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001 or on-line at <http://www.sae.org> .)

## MIL-HDBK-695D

### 3. DEFINITIONS

**3.1 Age resistance** - Resistance to deterioration in storage by environmental factors, such as heat, light and ozone.

**3.2 Cure date** - The date the rubber is fully cured. Two methods in expressing the cure date are as follows:

- a. Shelf life to a maximum of 3 years. Cure date stated in terms of month of calendar year and the year, i.e., 6-83.
- b. Shelf life in excess of 3 years. Cure date stated in terms of the quarter of calendar year and the year, i.e., 2Q-83.

**3.3 Acceptance Life** - This is the maximum life at the age at acceptance. The age limit at acceptance for hoses and hose assemblies is 32 quarters. See SAE AS1933 for aerospace hoses.

**3.4 Shelf life** - The maximum period of time, from cure date, to the date the elastomeric product is used as a component part in subassemblies, assemblies and systems. During the shelf life time, the stored elastomeric product is expected to retain its characteristics as originally specified.

**3.5 Service Life** - A general term used to quantify the average or mean life of an item while in use. Service life, which is depicted in years, is the number of years of economical service reasonably expected of equipment as established in applicable DoD, Service, and/or Agency manuals, bulletins, regulations, instruction manuals, and/or the technical judgement of the item and/or equipment manager.

### 4. GENERAL GUIDANCE

#### 4.1 Introduction.

The most important factors involved in the shelf life of rubber products are (1) the initial quality level of the product, (2) the quality assurance provisions of the specification under which the item was procured, and (3) the age resistance of the rubber from which the product was fabricated. The relative importance of these factors is difficult to assess, especially because the age resistance of the raw rubber does not always correspond to the age resistance of the finished product. For example, consider two items both fabricated from the same nitrile base polymer, one meeting a specification having comprehensive requirements; the other meeting a specification with loose requirements. In the first instance, it is quite probable that good age resistance will be "built in" to the product by virtue of the optimum compounding ingredients and fabrication techniques that must be employed in order to manufacture the high quality product required by the specification. In the latter instance, it is likely that the product will have lesser resistance, consistent with the minimal demands of the specification.

#### 4.2 Basis for detailed requirements.

The following guidelines were used to establish the expected shelf life periods listed.

- a. It was assumed that each rubber product met the initial requirements of the applicable specification.
- b. It was assumed that each rubber product was packaged and stored in the manner prescribed, in order to minimize deterioration due to such factors as temperature, humidity, ozone, sunlight, oils, solvents, corrosive liquids and fumes, insects and rodents.
- c. The severity of the specification requirements for an item was considered, especially those requirements that related to age resistance, such as resistance to accelerated air aging, resistance to ozone, compression set and cyclic performance at temperature extremes.

## MIL-HDBK-695D

d. The type of rubber from which the item was fabricated was one of the most important criteria used in assigning the expected shelf life value.

## 5. DETAILED GUIDANCE

*Table I* indicates the age resistance generally associated with products based on various types of rubber. *Tables II* through *VIII*, inclusive, give the expected shelf storage life for rubber products defined by military, government and technical society specifications and standards. The shelf life of rubber products that contain two or more different types of rubber (such as the tube and jacket of a wire cable) is generally based on the least age resistant rubber.

## 6. NOTES

(This Section contains information of a general or explanatory nature that may be helpful.)

### 6.1 Intended use.

This handbook is intended to establish guidelines for time periods for the expected shelf life of rubber products during storage. The information contained in this handbook is intended as a guide for use by those agencies whose responsibility is to place control requirements on rubber products, as well as those activities whose responsibility is to control the age of products stocked in Government storage facilities.

### 6.2 Subject term (key word) listing.

Age control  
Elastomeric seal  
Rubber products  
Shelf life

### 6.3 Changes from previous issue.

The margins of this handbook are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations.



## MIL-HDBK-695D

**TABLE I. Age resistance generally associated with products fabricated from various rubbers.**

Type of Rubber	Common or Trade Name	ASTM D1418 Abbreviation	ASTM D2000 Abbreviation	MIL-STD-417 Designation
Up to 20 Years				
Silicone	Silicone	Q	FE	TA
Fluorosilicone	Silastic LS	FVMQ	FK	TA
Polysulfide	Thiokol	T	BK	SA
Fluorocarbons	Fluorel, Viton	FKM	HK	
Polyacrylate	Acrylic	ACM, ANM	DF, DH	TB
Perfluorocarbon	KALREZ	FFKM	-	-
5 to 10 Years				
<sup>1</sup> Butadiene/acrylonitrile	Nitrile, NBR	NBR	BF, BG, CH	SB
Chlorosulfonated polyethylene	Hypalon	CSM	CE	-
Isobutylene/ Isoprene	Butyl	IIR	AA, BA	RS
Polychloroprene	Neoprene	CR	BC, BE	SC
Polyether Urethane	Urethane	EU	BG	
Polypropylene oxide	Propylene oxide	GPO	-	-
Ethylene/propylene diene	Ethylene propylene terpolymer	EPDM	BA, CA	-
Ethylene/propylene	Ethylene propylene copolymer	EPM	BA, CA	
Epichlorohydrin homopolymer	Hydrin 100, Herclor H	CO		
Epichlorohydrin ethylene oxide	Hydrin 200, Herclor C	ECO		
3 to 5 Years				
<sup>1</sup> Butadiene/acrylonitrile	Nitrile, NBR	NBR	BF, BG, BK, CH	SB
Butadiene/styrene	SBR	SBR	AA, BA	RS
Cis-polybutadiene	Butadiene	BR	AA	RN
Cis 1, 4, poly-isoprene	Natural, pale crepe	NR	AA	RN
Cis 1, 4, poly-isoprene	Synthetic natural	IR	AA	RN
<sup>2</sup> Polyester urethane	Urethane	AU	-	-

<sup>1</sup>See table II through VIII.<sup>2</sup>Some polyester urethanes have very poor resistance to water and humidity.

TABLE II. Military specifications.

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-C-17</i>		Cables, Radio Frequency, Flexible and Semirigid, General Specification for Coaxial, Dual Coaxial, Twin Conductor, & Twin Lead: Core Dielectric:			
		Types D, E and H	-	-	3
		Type J	IIR	-	10
		Type L		-	20
		Jacket:			
		Type IV	CR	-	8
		Type VI	Q	-	20
		Type VIII	CR	-	8
<i>MIL-G-432</i>	Inactivated 1998	Gasket Nonmetallic, Synthetic Rubber		NBR	3
<i>MIL-DTL-442</i>	Inactivated 1997	Cable, (Wire), Two Conductor, Parallel (Ripcord) Types IV, V and VI	SBR	-	3
<i>MIL-L-741</i>	Cancelled 1991	Leads, Electrical, Arc Welding (see <i>J-L-2744</i> )	SBR	-	3
<i>MIL-O-836</i>	Cancelled 1995	Overshoes, Men's Rubber, 5 Buckle Type (see <i>A-A-50362</i> ) Type I and II	NR or SYN <sup>3</sup>	-	3
<i>MIL-C-882</i>		Cloth, Duck, Cotton or Cotton – Polyester Blend, Synthetic Rubber, Impregnated, and Laminated, Oil Resistant			
		Class I	CR	-	5
		Class II	NBR	-	3
<i>MIL-PRF-900</i>		Rubber Gasket Material, 45 Durometer Hardness	SBR	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.<sup>3</sup>SYN - synthetic (for other abbreviations see Table I).

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-M-910</i>		Mats, Floor, Standing			3
<i>MIL-DTL-915</i>		Cable, Electrical, for Shipboard Use, General Specification for			
		Type CVSF	SYN & CR	-	5
		Type DCOP (see <i>MIL-C-24643</i> )	SYN & CR	-	5
		Type DHOF	IIR & CR	-	8
		Type DSS	SYN & CR	-	5
		Type DLT	NR & CR	-	5
		Type FSCF	IIR & CR	-	8
		Type FHOF	IIR & CR	-	8
		Type FSS	SYN & CR	-	5
		Type JAS	IIR & CR	-	8
		Type MCSC	SYN & CR	-	5
		Type MCOS (see <i>MIL-C-24643</i> )	CR	-	8
		Type MSS	SYN & CR	-	5
		Type SDU	IIR & CR	-	8
		Type SSF (see <i>MIL-C-24643</i> )	SYN & CR	-	5
		Type TCOP (see <i>MIL-C-24643</i> )	SYN & CR	-	5
		Type THOF	IIR & CR	-	8
		Type TRF	SYN & CR	-	5
		Type TRXF	CR	-	8
		Type TSS	SYN & CR	-	5
<i>MIL-G-1086</i>	Cancelled 1992	Gasket Material, Synthetic Rubber (For Bolted Steel Tanks) (see <i>MIL-R-6855</i> )			
		Type I	-	CR	8
		Type II	-	NBR	3
<i>MIL-PRF-1149</i>		Gasket Materials, Synthetic Rubber, 50 and 65 Durometer Hardness			
		Class 1 - Types I & II	CR		8
		Class 2 - Types I & II	SBR		3
		Class 3 - Types I & II	IIR		10
		Class 5 - Types I & II	NBR		3
<i>MIL-R-1229</i>	Cancelled 1987	Rubber Sheet Packing, Solid, Wire Cloth Inserted, Symbol 2354 (no superseding document)	-	SBR	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-R-1832</i>	Cancelled 1997	Rubber Band, Parachute Suspension Line Type I (no superseding document)	NR	-	3
<i>MIL-T-1956</i>		Tarpaulin, Waterproof, Special Purpose, 10 Feet Long by 8 Feet Wide All Classes	-	-	3
<i>MIL-DTL-2486</i>	Inactivated 1997	Cable, Special Purpose, Electrical WM-46/U	SBR	-	3
<i>MIL-P-2693</i>	Cancelled 1986	Packing Material, Cold Storage Door Gasketing, Nonwatertight (no superseding document) Type A	-	CR	8
		Type B	-	NR (core)	2
<i>MIL-J-2829</i>	Cancelled 1986	Joint Sealing Packing ( no superseding document) Types I & II - Classes 1 & 2	-	CR	8
<i>MIL-B-2885</i>	Cancelled 1995	Boots, Firemen's (see <i>A-A-50371</i> )	NR or SYN	-	3
<i>MIL-P-2911</i>	Cancelled 1993	Packing Assembly, Hydraulic, Conical & V Types (no superseding document)	-	-	3
<i>MIL-PRF-2912</i>		Synthetic Rubber Compound, Acid & Oil Resistant (For Lining Battery Compartments on Submarines) Class 1 - Types I & II	CR	-	5
		Class 2 - Types I & II	NBR	-	3
<i>MIL-D-2921</i>	Cancelled 1988	Disks, Rubber (Cellular, Hard) (no superseding document) Type A	Reclaim	-	3
		Type B - Class a	SBR	-	3
		Type B - Class b	NBR	-	3
<i>MIL-G-3036</i>	Cancelled 1998	Grommets, Hot-Oil & Coolant-Resistant (see <i>NASM 3036</i> )		NBR	3
<i>MIL-R-3065</i>	Cancelled 2000	Rubber, Fabricated Products (see <i>ASTM-D2000</i> )			
<i>MIL-DTL-3100</i>		Wheel Assemblies, Solid Elastomer Tired, for Track Laying Vehicles		SBR	5
<i>MIL-C-3133</i>	Cancelled 1999	Cellular Elastomeric Materials, Molded or Fabricated Parts (See <i>ASTM-D1056</i> )			3
<i>MIL-D-3377</i>	Cancelled 1986	Diaphragms, Synthetic Rubber	-	-	3
<i>MIL-I-3190</i>		Insulation Sleeving, Electrical, Flexible, Coated, General Specification for			

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
MIL-DTL-3432		Cable, (Power and Special Purpose) and Wire, Electrical (300 and 600 volts)			
		Class C	SBR	-	3
		Class 0		SBR (insulator)	3
		Class L	SBR	-	3
		Class D	SBR (insulator)	-	3
MIL-R-3533	Inactivated 2001	Rubber, Synthetic; Sheet, Strip & Molded Types I & II - Classes 1 & 2	-	NBR	3
MIL-DTL-3702		Cable, Power, Electrical: Ignition, High-Tension			
		Grade B		Q	20
		Grade C		CSM	10
		Grade D		Q	20
MIL-R-3842	Cancelled 1993	Rubber Stamp Kit, Food Inspection (no superseding document)	-	-	3
MIL-C-3849	Cancelled 2000	Cord, Electrical (Tinsel) (no superseding document)			
MIL-H-3868	Cancelled 1994	Hose Assemblies, Nonmetallic: Grease Gun, High & Low Pressure (see SAE-J516 & J517)	-	-	3
MIL-C-3885	Inactivated 1999	Cable Assemblies & Cord Assemblies, Electrical (For Use in Electronic, Communication & Associated Electrical Equipment)	NR or SYN (jacket)	-	3
MIL-I-3930	Cancelled 2003	Insulating & Jacketing Compounds, Electrical (For Cables, Cords & Wires), General Specification for (no superseding document)			
		Type IS	SBR		3
		Type IS-L	SBR		3
		Type IR	NR		3
		Type IL	NR		3
		Type IJ-S	SBR		3
		Type IL-H	NR		3
		Type IL-RN	NR		3
		Type JS	SBR		3
		Type JS-L	SBR		3
		Type JR	NR		3
		Type JN	CR		8
		Type JN-L	CR		5
MIL-DTL-3992		Hose & Hose Assembly, Rubber: Air & Vacuum Brake, Systems			
		All Types & Classes	-	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-H-4497</i>	Cancelled 1996	Hose, Cotton, Rubber Lined, Water, Braided Construction With Couplings (no superseding document)			3
<i>MIL-H-4536</i>	Cancelled 1966	Hose and Hose Assembly, Rubber, Synthetic, Bromochloromethane Resistant	-	-	3
<i>MIL-B-4792</i>	Inactivated 1997	Bumper, Rubber, Duplex Round Type I Type II		SBR (core)	3 3
			<i>MIL-R-6130</i> , Type 11, Grade A (core), (superseded by <i>SAE-AMS-R-6130</i> )		
<i>MIL-I-4997</i>	Inactivated 1997	Insulating & Jacketing Compounds for Use in Cords, Cordages & Cables Insulation Jacket	NR CR	- -	3 8
<i>MIL-R-5001</i>	Cancelled 1998	Rubber, Cellular Sheet, Molded & Hand-built Shapes; Latex Foam (see <i>SAE-AMS-R-5001</i> ) Composition 1 Composition 2	NR NR	- -	3 3
<i>MIL-T-5014</i> <i>MIL-PRF-5041</i>	Cancelled 2001	Inner Tube, Pneumatic Tire, Aircraft (see <i>SAE-AS50141</i> ) Tires, Ribbed Thread, Pneumatic, Aircraft, General Specification for		NR & SYN	5 5
<i>MIL-C-5136</i> <i>MIL-DTL-5423</i>	Cancelled 2000	Cable, Power, Electrical, Polychloroprene Sheathed, Buna Compound Insulated (no superseding document) Boots, Dust & Moisture Seal (For Toggle and Push-Button Switches, Circuit Breakers, & Rotary-Actuated Parts), General Specification for All Types & Styles	SBR (insulation)  Q		5  20
<i>MIL-A-5498</i>	Inactivated 1996	Accumulators, Hydraulic, Cylindrical 3000 psi, Aircraft Type I	-	NBR	3
<i>MIL-T-5579</i> <i>MIL-C-5651</i>	Cancelled 1987	Tank; Self-Sealing Oil Aircraft (no superseding document) Cord, Elastic, Exerciser & Shock Absorber for Aeronautical Use All Types	-  NR	NBR  -	8  3
<i>MIL-W-5664</i> <i>MIL-C-5756</i> <i>MIL-DTL-6000</i>		Webbing, Textile, Elastic (Cotton) Cable, Power, Electric, Portable, General Specification for Hose, Rubber (Fuel, Oil, Coolant Water and Alcohol)	- NR or SYN -	- - -	3 8 4

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life, Years
<i>MIL-R-6130</i>	Cancelled 2001	Rubber, Cellular, Chemically Blown (see <i>ASTM-D6576</i> )			
		Grade A - Types I & II Conditions Soft, Medium & Firm	-	CR	5
		Grade B - Types I & II Conditions Soft, Medium & Firm	-	SBR	3
		Grade C - Types I & II Conditions Soft, Medium & Firm	-	NR	3
<i>MIL-C-6166</i>	Cancelled 1993	Cord: Headset-Microphone, CX-1301/AR (no superseding document)	-	-	3
<i>MIL-C-6183</i>	Cancelled 1998	Cork and Rubber Composition Sheet, for Aromatic Fuel and Oil Resistant Gaskets (see <i>AMS-C-6183</i> )			
<i>MIL-B-6362</i>		Boots, Extreme Cold Weather, N-1B	NR	-	5
<i>MIL-H-6399</i>	Cancelled 1999	Hose, Rubber, Wire-Wound, Synthetic, Ice Eliminating System (use <i>SAE-AS6399</i> )	-	-	3
<i>MIL-H-6439</i>	Cancelled 1999	Hose, Rubber, Aircraft Paint Finish Remover (see <i>SAE-AS6439</i> )	-	-	3
<i>MIL-DTL-6615</i>		Hose Assemblies, Rubber, Fuel and Water with Reattachable Couplings, Low Temperature	CR	-	5
<i>MIL-N-6748</i>	Cancelled 1996	Nipple, Electrical Terminal (no superseding document)	Q		20
<i>MIL-R-6855E</i>	Active	Rubber, Synthetic, Sheets, Strips, Molded or Extruded Shapes, General Specification for (See <i>SAE-AMS-R-6855A</i> )			
		Class 1 - All Grades	-	NBR	10
		Class 2 - All Grades	-	CR	10
		Class 3 - All Grades	-	SBR	3
		Class 4 - All Grades	-	CR	10
		Class 5 - All Grades	-	SBR	3
<i>MIL-R-6891</i>	Cancelled 1950	Rubber, Anodic		NR	3
<i>MIL-H-7365</i>		Hose, Air Duct, For Ground Heaters			3
<i>MIL-M-7585</i>	Cancelled 1983	Mask, Oxygen (use <i>MIL-M-27274</i> , Inactivated 1996)	Q	-	20
<i>MIL-C-7637</i>	Cancelled 1988	Cloth, Coated, Chloroprene, Fiberglass (see <i>SAE-AMS 3783</i> )			
		Types I & II	CR	-	5
<i>MIL-H-7938</i>	Cancelled 1992	Hose, Rubber, Flame-Resistant (no superseding document)	NBR (Tube)		4
<i>MIL-C-7966</i>	Cancelled 1999	Cloth, Coated, Rubber, Nylon Base (no superseding document) Varieties S & P	NR or SYN	-	3
<i>MIL-C-8068</i>	Cancelled 2000	Cloth, Coated, Nylon, Rubber-Coated, Fuel-Resistant (no superseding document)			
		Type I	-	NBR	3
		Type II	-	-	3
<i>MIL-C-8603</i>	Inactivated 1997	Clamps, Loop Type, and Straps, Support			
		Type II, Classes A & B		NBR	3
		Type III	Q	-	20
		Type IV, Classes A & B	CR	-	8

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd)

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
MIL-DTL-8777	Inactivated 1998	Wire, Electrical, Silicone-Insulated, Copper, 600 Volt, 200 Deg C	Q	-	20
MIL-A-8897	Cancelled 1987	Accumulators, Hydraulic, Cylindrical 3,000 psi Aircraft, Type II Systems (see MIL-A-5498, Inactivated 1996)	-	-	3
MIL-C-9074		Cloth, Laminated, Sateen, Rubberized	NR or SYN	-	3
MIL-P-10018		Pail, Collapsible, 10 Quart Capacity	SYN	-	3
MIL-C-10065	Cancelled 2000	Cables, Special Purpose, Electrical (Multipair, Audio Frequency) (no superseding document)	SBR	-	3
MIL-F-10135	Cancelled 1995	Faceblanks, Field Protective Mask, Natural Rubber, General Specification (no superseding document)	NR	-	3
MIL-C-10351	Cancelled 1999	Cloth, Laminated & Coated for Waterproof Containers (no superseding document) Types I & II	NR or SYN		3
MIL-C-10369	Cancelled 2000	Cable, Telephone, Field, For Rapid Payout (MX-306 A/G) (no superseding document)		SBR	3
MIL-C-10392	Inactivated 1997	Cables, Electrical (Audio, Miniature)	SBR	-	3
MIL-C-10797	Cancelled 1998	Cloth, Glass, Silicone Rubber Coated (see A-A-55280)	Q	-	20
MIL-H-10868	Cancelled 1995	Hose Assembly, Rubber, Utility, Gasoline (1/4 Inch Inside Diameter) (no superseding document)	ECO (Tube)	-	5
MIL-B-11040		Belt, V: Engine Accessory Drive	NR or SYN	-	6
MIL-C-11097	Cancelled 1991	Cable, Telephone (W-50-A) (no superseding document)	SBR (insulation)	-	5
MIL-C-11390		Cloth, Laminated: Cotton, Balloon, 3-Ply, Air Retaining, Chloroprene	CR	-	5
MIL-PRF-11588		Hose Assembly, Rubber, Synthetic, Liquid Petroleum Fuels, Dispensing, Collapsible, Standard and Low Temperature All Types	NBR (Tube)	-	3
MIL-P-11719	Cancelled 1997	Packing, Preformed, Pneumatic Hose Couplings, Universal (no superseding document)	CR	-	5
MIL-DTL-11891		Track Shoe Sets, Track Shoe Assemblies, Track Shoe Pads and Track Shoe Bushings, Vehicular Elastomerized Types I & II		SBR NR or BR	3
MIL-C-11997	Inactivated 1999	Cord Assembly, Electrical CX-2151()/U Retractable	NR (insulation)	-	3
MIL-S-12100	Cancelled 1996	Shock Mounts M-447, M-448, M-449 & Bracket FT-512 (no superseding document)	NR or CR	-	3
MIL-C-12189		Cloth, Coated, Butyl Coated, Toxicological Agents, Protective All Types & Classes	IIR	-	10

NOTE:

<sup>1</sup>If the elastomer is not listed, none is required by the specification.<sup>2</sup>If the elastomer is not listed, the elastomer commonly used is unknown.



TABLE II. Military specifications (cont'd)

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
MIL-G-12223		Gloves, Toxicological Agents Protective	IIR	-	10
MIL-E-12397		Eraser, Rubber-Pumice (For Testing Coated Optical Elements)		NR	3
MIL-P-12420	Cancelled 1996	Plastic Material Cellular, Elastomeric (no superseding document)	Vinyl, NBR or other rubber	-	3
MIL-C-12423	Cancelled 2000	All Types & Classes Cable, Telephone WD-33/U (no superseding document)	-	SBR (insulation)	5
MIL-T-12459	Cancelled 1997	Tire, Pneumatic: For Military Ground Vehicles (see SAE-J2014)	NR or SYN	-	5
MIL-M-12863	Cancelled 1996	Mounts, Vibration (Vibration Mounts MT-1177 ()/U, MT-1178 ()/U & MT-1179 ()/U (no superseding document)	NR or CR	-	3
MIL-DTL-13075	Inactivated 2002	Wire, Electrical (W-124, W-125, W-128)	SBR	-	3
MIL-C-13077	Cancelled 2000	Cable, Special Purpose, Electrical (Cordage CO-212 & Cable, Special Purpose, Electrical WD-32/U) (no superseding document)	SBR	-	3
MIL-DTL-13169	Inactivated 1997	Wire, Electrical (For Instrument Test Leads)	SBR	-	3
MIL-G-13210	Inactivated 1996	Gaskets, Rubber	NR or SYN	-	3
MIL-DTL-13273		Cord, Electrical (Retractable, 2, 3 & 4 Conductor, WD-9/U, WT-2/U, WF-4/U)	NR (insulation)	-	3
MIL-DTL-13444		Hose & Hose Assemblies, Rubber: Fuel & Oil (For Automotive Application) Types I & II	-	NBR (Tube)	3
MIL-DTL-13486		Cable, Special Purpose, Electrical: Low-Tension, Heavy-Duty, Single Conductor & Multiple Conductor, Shielded & Unshielded, General Specification for Types I & II		CR (Jacket)	5
MIL-DTL-13531		Hose, Rubber & Hose Assembly, Rubber (Hydraulic, Pneumatic, Flexible)	NBR (Tube)	-	3
MIL-PRF-13719		Types I, II, III Classes A & B Hose Assembly, Rubber; Hydraulic Brake	SBR or CR (Tube)	-	3
MIL-C-13892	Cancelled 2000	Cable, Telephone (Flexible) (Cords & Cordage, Multipair) (no superseding document)	NR or SBR	-	3
MIL-C-14055	Inactivated 1999	Cup, Hydraulic Brake Actuating Cylinder: Synthetic Rubber	SBR	-	3
MIL-R-14328	Cancelled 1997	Rubber Sheet, Synthetic, Medium Soft, General Purpose Gasket Material (For Extreme Climatic Conditions) (no superseding document)		SBR	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd)

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-R-14364</i>	Cancelled 1996	Rollers, Rubberized, Pneumatic: Bridge Erection (no superseding document)	CR		5
<i>MIL-C-14366</i>	Cancelled 1999	Cloth, Coated Nylon Twill, One Side Coated (no superseding document)	NBR		3
<i>MIL-T-14398</i>	Cancelled 1991	Tanks, Fabric Collapsible: Water, Nylon Rubber-Coated (See <i>MIL-T-53048</i> , Inactivated 1998)	EPDM		5
<i>MIL-P-14401</i>	Cancelled 1993	Pads, Cushioning; Personnel-Protection, Vehicular (see <i>A-A-52430</i> )			
		Types I & II, Class CS	-	SBR	3
		Types I & II, Class VS	Vinyl	-	3
		Type I, Class FR	-	NR or CR	3
<i>MIL-C-14505</i>		Cloth, Nylons Polychloroprene Coated (For Pneumatic Floating Equipment)	CR	-	5
<i>MIL-I-14511</i>	Cancelled 1992	Insulation Sheet, Cellular, Plastic, Thermal (see <i>A-A-52404</i> )	-	-	3
<i>MIL-P-14574</i>	Cancelled 1997	Packing (Wiper Ring), Synthetic Rubber Cloth Insertion (no superseding document)	-	CR or NBR	5
<i>MIL-C-14625</i>	Cancelled 1990	Curing Bags & Curing Tubes, Tire Repair, Recapping and Retreading (no superseding document)			
		Type I, Classes 1 & 2	NR (no marking)	-	3
		Type II; Classes 1 & 2	IIR (blue stripe)	-	10
<i>MIL-S-15058</i>	Cancelled 1987	Rubber, Shaft Covering Materials (For Marine Propeller Shafts) (no superseding document)			
		Types I, II & III			
		Class I	CR	-	5
		Class II	SBR	-	3
		Class III	NBR	-	3
<i>MIL-H-0015100</i>	Cancelled 1997	Hose, Rubber, Wire-Reinforced (Oil & Gasoline, Suction & Discharge Smooth-Bore) (no superseding document)			
		Types A & B	NBR (Tube)	-	3
<i>MIL-C-15104</i>		Cloth, Coated, Flame Resistant, Berth & Bedding Cover	-	-	3
<i>MIL-H-15217</i>	Cancelled 1997	Hose, Rubber, Sandblast (see <i>ISO 3861</i> )	NR or SYN (Tube)	-	3
<i>MIL-DTL-15562</i>		Matting or Sheet, Floor Covering, Insulating for High Voltage Application	SYN or Reclaim	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd)

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-PRF-15624</i>		Gasket Material, Rubber, 50 Durometer Hardness (Maximum)			
		Class I	CR	-	8
		Class II	SBR	-	3
		Class III	NBR	-	3
<i>DOD-P-15816</i>	Cancelled 1989	Parts, Hard Rubber for Use with Submarine Storage Batteries (no superseding document)	NR or SYN	-	10
<i>DOD-P-15817</i>	Cancelled 1989	Parts, Synthetic Rubber, For Use with Batteries or In Battery Compartments of Submarines (no superseding document)	-	SBR	3
<i>MIL-C-15987</i>		Cable Assemblies, Power, Electrical (With Grounding for 440-Volt Portable Equipment)	IIR	-	8
<i>MIL-R-16402</i>	Cancelled 1985	Raincoat, Man's, Nylon Rubber Coated, Green (see <i>A-A-55260</i> )	NBR	-	3
<i>MIL-I-16562</i>	Cancelled 1996	Insulation, Synthetic, Rubber-Like, Chemically Expanded, Cellular (Sheet Form) (no superseding document)	-	-	3
<i>MIL-C-16839</i>		Cable, Special Purpose, Electrical (Underwater Use)	NR	-	3
<i>MIL-R-16920</i>	Cancelled 1990	Rubber Facing (For Rammer Heads) (no superseding document)	NR or SYN	-	3
<i>MIL-M-17191</i>		Mounts, Resilient; Portsmouth Bonded Spool Type	CR or SBR	-	3
<i>MIL-C-17415</i>		Cloth, Coated, & Webbing, Inflatable Boat & Miscellaneous Use			
		Natural Coatings	NR	-	3
		Synthetic Coatings	CR	-	5
<i>MIL-DTL-17505</i>		Hose & Hose Assembly, Rubber, Oil & Gasoline, Suction & Discharge	NBR (Tube)	-	3
<i>MIL-M-17508</i>		Mounts, Resilient: Types 6E100, 6E150, 7E450, 6E900, 6E2000, 5E3500, 6E100BB, 6E150BB, 7E450BB, 6E900BB			
		Types 6E200, 6E900, & 7E450	CR or NBR	-	3
		Types 6E150 & 6E100	NR	-	3
<i>MIL-D-17650</i>		Disk, Valve, Rubber, Insert Type	-	-	3
<i>MIL-C-17694</i>		Cable & Cable Assemblies, Special Purpose, Electrical, Magnetic Minesweeping, General Specification for (Quad Cable)	insulation/ SBR or CSM jacket/ CR or CSM	-	5
<i>MIL-B-17901</i>		Bearing Components, Bonded Synthetic Rubber, Water Lubricated	-	-	3
<i>MIL-G-17927</i>		Gaskets, Glass-Metallic Cover, Silicon Core	-	-	3
<i>MIL-W-17965</i>	Cancelled 1987	Webbing, Textile, Knitted, Nylon, Elastic, 4-1/4 Inch Width (no superseding document)	NR	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd)

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-I-18057</i>	Cancelled 1986	Insulation Sleeving, Electrical, Flexible, Glass Fiber, Silicon Rubber Treated (see <i>MIL-I-3190</i> )	Q	-	20
<i>MIL-H-18158</i>	Inactivated 1999	Hose Ducting, Low Pressure, Naval Shipboard Portable, Ventilating Set Use	CR	-	5
<i>MIL-M-18351</i>		Mattresses & Mattress Ticks, Berth, Synthetic Cellular Rubber, Naval Shipboard	CR	-	3
<i>MIL-E-18648</i>	Cancelled 1955	All Types Eye Guards, Rubber, for Optical Instruments (no superseding document)	-	-	3
<i>MIL-B-18799</i> <i>MIL-C-19002</i>	Cancelled 1977	Bulbs, Flush, Water Closet Tank (no superseding document) Cloth, Coated, & Strip, Coated Cloth - Polychloroprene on Nylon (Pneumatic Life Preserver)	-	NR or SYN	3
<i>MIL-M-19018</i>	Cancelled 1987	Type I Mats, Floor, Rubber or Plastic, Light Gray, For Shipboard Shower Stalls (no superseding document)	CR -	- -	5 3
<i>MIL-P-19152</i>	Inactivated 1998	Packings, Hydraulic, High Pressure (for Hydropneumatic Systems)	-	NBR	5
<i>MIL-I-19254</i>	Cancelled 1974	Insulation Blankets, Electrical, 20,000 Volts Rating, with Eyelets (see <i>ASTM D1048</i> )	NR or SYN	-	3
<i>MIL-M-19379</i>		Mounts, Resilient, Mare Island Types, Types 11M15, 11M25, & 10M50	CR or NBR	-	3
<i>MIL-M-19417</i> <i>MIL-C-19635</i>	Inactivated 1997 Cancelled 2000	Mask Assemblies, Oxygen & Smoke, Full Face Cloth, Coated, Non-Slip Table Covering (no superseding document)	- -	- -	3 3
<i>MIL-H-19639</i>	Cancelled 1956	Hose Assemblies, Rubber, Paint Spray Equipment (see <i>ZZ-H-521</i> )			
		Class I	CR	-	8
		Class II	SBR or NBR (Tube)	-	3
		Class III	CR (Cover)	-	5
<i>MIL-C-19654</i>	Cancelled 1989	Cable, Telephone; Submarine (no superseding document)	SBR or SYN (insulation)	-	5
<i>MIL-C-19699</i>		Cloth, Coated (Nylon Taffeta)	CR	-	5
<i>MIL-PRF-19759</i>		Cloth, Waterproof	CR	-	5
<i>MIL-G-19769</i>	Inactivated 1995	Gaskets, Synthetic Rubber, Oil Resistant, Slide Valve (For 21-Inch Submerged Torpedo Tubes)	NBR	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-C-19787</i>	Inactivated 1998	Cable, Electric, Torpedo, 65 Conductor (For Torpedo Control, Electric Setting)	CR (Sheath)	-	5
<i>MIL-M-19863</i>		Mount, Resilient, Type 5B5000H	NR	-	3
<i>MIL-P-19918</i>	Cancelled 1996	Packing, V Ring (no superseding document)	-	NBR	3
<i>MIL-H-19992</i>	Cancelled 1975	Hose Assemblies, Flexible (Pneumatic), High Pressure Oil Resistant (no superseding document)	-	NBR	3
<i>MIL-G-20078</i>		Gaskets for Ballistic Doors and Hatches Type B	MIL-R-900	SBR	3
<i>MIL-PRF-20092</i>		Rubber or Plastic Sheets and Assembled and Molded Shapes, Synthetic, Foam or Sponge, Open Cell Class 1 - Types I & II All Conditions Class 3 - Types I & II All Conditions	CR CR		3 3
<i>MIL-DTL-20176</i>		Hose & Hose Assembly, Rubber, Smooth Bore, Light-Weight Sewage Discharge and Oily Waste Discharge		NBR	3
<i>MIL-B-20278</i>	Inactivated 1995	Bladders, Floation (Navy)	NR or SYN	-	3
<i>MIL-PRF-20696</i>		Cloth, Waterproof, Weather Resistant Types I & II, Classes 1 & 3	CR	-	5
<i>MIL-C-21109</i>		Cloth, Coated, Nylon, Raft Bottom	NR	-	3
<i>MIL-R-21252</i>		Rubber Sheet, Solid, Synthetic, Shipboard Water Evaporator Gasketing	SBR	-	3
<i>MIL-S-21558</i>	Inactivated 1995	Seals, Oil, Plain or Plain Encased	-	NBR	5
<i>MIL-G-21569</i>		Gaskets, Cylinder Liner Seal, Synthetic Rubber Class I Class II	NBR Q	- -	3 20
<i>MIL-G-21610</i>		Gaskets, Heat Exchanger, Various Cross Section Rings, Synthetic Rubber Type I Type II	NBR Q	- -	3 20
<i>MIL-M-21649</i>		Mount, Resilient, Type 5M10,000-H	NR	-	3
<i>MIL-S-21923</i>	Cancelled 1996	Synthetic Rubber Compound, Butadiene-Styrene Type, Ozone Resistant, For Low Temperature Service (no superseding document)	SBR	-	3
<i>MIL-W-21985</i>	Cancelled 1998	Wheels - Cushion Tread (Semi-Pneumatic) for Mobile Ground Support Equipment (see <i>SAE-AS21985</i> )	-	-	5
<i>MIL-G-22050</i>		Gasket & Packing Material, Rubber, For Use with Polar Fluids, Steam and Air at Moderately High Temperatures	-	IIR	10
<i>MIL-H-22240</i>		Hose, Rubber, Petroleum Based Fuels and Water Services, Discharge Only, Smooth Bore, Lightweight Buoyant Type Type A & B	NBR (Tube)	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-M-22322</i>	Cancelled 1964	Mounts, Resilient, Shear (For Use in Shipping Containers) (no superseding document)	NR or SYN		3
<i>MIL-C-22524</i>	Cancelled 1968	Cloth, Coated, Fire, Water, Mildew & Weather Resistant (see <i>MIL-C-43006</i> )	CSM	-	10
<i>MIL-DTL-22706</i>		Duct and Scuff Cover, Pneumatic, Flexible	-	-	3
<i>MIL-C-22731</i>	Cancelled 1964	Cables, Controlled Mine (no superseding document)	SBR (insulation)		3
<i>MIL-C-23020</i>	Inactivated 1997	Cable, Coaxial (For Submarine Use)	CR (Jacket)	-	5
<i>MIL-DTL-23053/1</i>	Cancelled 1999	Insulation sleeving, Electrical, Heat Shrinkable, Crosslinked Chlorinated Polyolefin, Flexible (use <i>SAE-AMS-DTL-25053/1</i> )	CR		5
<i>MIL-DTL-23053/10</i>	Cancelled 1999	Insulation sleeving, Electrical, Heat Shrinkable, Silicone Rubber, Flexible (use <i>SAE-AMS-DTL-25053/10</i> )	Q	-	20
<i>MIL-C-23070</i>		Cloth, Laminated, & Tape, Coated Cloth, Polyisoprene, Natural or Synthetic, Rubber on Nylon	NR or IR	-	3
<i>MIL-R-23074</i>	Inactivated 1998	Rubber Tile, Rubber-Air-Lead-Type (RAL)	CR	-	8
<i>MIL-I-23578</i>	Cancelled 1983	Insulation Hose, Electrical & Insulation Hoods, Insulator (see <i>ASTM D1049 &amp; D1050</i> )	NR or SYN	-	3
<i>MIL-G-23621</i>	Cancelled 1992	Guard, Splash, Wheel (see <i>A-A-52402</i> )	NR or SYN		3
<i>MIL-G-23652</i>	Cancelled 1984	Gasket & Packing Material, Petroleum & Phosphate Ester Fluid Resistant (see <i>MIL-R-83248</i> , Inactivated 1997)			
<i>MIL-C-23926</i>	Cancelled 1985	Types I & II Cloth, Coated & Laminated, Polychloroprene on Nylon, & Tape, Polychloroprene, Unsupported (no superseding document)	CR	FKM	20 5
<i>MIL-G-23983</i>	Cancelled 1999	Gasket & Packing Materials Oil Resistant Rubber, Access Hull Applications (no superseding document)	-	CR	5
<i>MIL-H-24135</i>		Hose, Synthetic Rubber, Wire Reinforced for Flexible Hose Assemblies, General Specification For	-	NBR	3
<i>MIL-H-24136</i>		Hose, Synthetic Rubber, Synthetic Fiber Reinforced for Flexible Hose Assemblies, General Specification For	-	BR	5
<i>MIL-H-24520</i>	Cancelled 1989	Hose & Hose Assembly for Water Cooling of Electronic Equipment (no superseding document)	EPDM		5
<i>MIL-H-24580</i>		Hose Assemblies, Synthetic Rubber, Noncollapsible, Fire Fighting Types A & B	EPDM		5
<i>MIL-DTL-25579</i>		Hose Assembly, Polytetrafluoroethylene, High Temperature, Medium Pressure, General Specification For	IIR (Cover)		10

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.\*Future acquisition see: *A-A-59135* Cancelled 1997, *PPP-C-850*, *PPP-C-1120*, *PPP-C-1752*, *PPP-C-1797*, *MIL-PRF-26514*, or *MIL-PRF-83671*

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-R-25897</i>	Cancelled 1980	Rubber, Fluorocarbon Elastomer, High Temperature Fluid Resistant (see <i>MIL-R-83248</i> , Inactivated 1997)	FKM	-	20
<i>MIL-D-26124</i>	Cancelled 1990	Duct and Duct Assembly, Pneumatic, Flexible (see <i>MIL-DTL-22706</i> )	-	-	3
<i>MIL-PRF-26385</i>		Hose, Oxygen and Pressurization, Ozone Resistant	-	-	3
<i>MIL-PRF-26514</i>		Polyurethane Foam, Rigid or Flexible, for Packaging, Type I	AU	-	3
<i>MIL-DTL-26521</i>		Hose Assembly, Nonmetallic, Fuel, Collapsible, Low Temperature, With Non-reusable Couplings	CO, CR	-	8
<i>MIL-H-26633</i>		Hose Assembly, Polytetrafluoroethylene, Oxygen	CR (Cover)	-	8
<i>MIL-DTL-26666</i>		Hose Assembly, Pneumatic, High Pressure	CR (Cover)	-	5
<i>MIL-C-26712</i>		Cloth, Coated, Nylon, Chloroprene-Coated	CR	-	5
<i>MIL-C-26861</i>	Cancelled 1995	Cushioning Material, Resilient Type, General *	-	-	3
<i>MIL-DTL-26894</i>		Hose and Hose Assembly, Rubber, Gasoline, Refueling, Low Temperature	-	NBR	3
<i>MIL-C-27212</i>	Cancelled 2000	Cable, Power, Electrical, Airport Lighting Control (no superseding document)	NR (insulation)	-	3
<i>MIL-M-27274</i>	Inactivated 1996	Mask, Oxygen, MBU-5/P	Q	-	20
<i>MIL-S-27332</i>	Inactivated 1997	Seat Cushion Insert, Polyurethane Foam	AU, EU	-	3
<i>MIL-C-27347</i>	Cancelled 1988	Plastic, General Specification for Cloth, Coated, Glass, Aluminum Face, Silicone Rubber Back (see <i>AMS 3673</i> )	Q	-	20
<i>MIL-H-27508</i>	Cancelled 1978	Hose Assembly, Rubber GRK-6/E32R-1 (see <i>MIL-DTL-26521</i> )	NBR (Tube)	-	3
<i>MIL-DTL-27516</i>		Hose and Hose Assembly, Nonmetallic, Suction and Discharge	NRB (Tube)	-	8
<i>MIL-PRF-28523</i>		Hose Assembly, Rubber, Hydraulic Pneumatic, Jetting (400 psi Working Pressure)	-	-	3
<i>MIL-H-28596</i>	Cancelled 1998	Hose and Hose Assembly, Rubber, Steam (see <i>A-A-59159</i> )	-	IIR, CR, EPDM	10
<i>MIL-DTL-29210</i>		Hose Assembly, Rubber, Metal Lined, Wire Reinforced, 250 psig, Saturated Steam Service	IIR or EPDM (Tube)	-	5
<i>MIL-T-36966</i>	Cancelled 1990	Tubing, Nonmetallic, Rubber (see <i>A-A-53848</i> )	NR	-	3
<i>MIL-C-38149</i>	Cancelled 1997	Cloth, Coated, Chlorobutyl, Aramid, Fuel & Oxidizer Resistant (no superseding document)	IIR	-	10
<i>MIL-S-40000</i>	Cancelled 1979	Shoes, Gymnasium (men's & Women's) (use <i>MIL-S-43961</i> , cancelled 1989) (see <i>A-A-50137</i> )	NR (outersole)	-	3
<i>MIL-M-40024</i>	Cancelled 1990	Mattress, Stretcher (see <i>A-A-51305</i> )	NR	-	3
<i>MIL-S-40043</i>		Soles, Rubber, Shoe			
		Classes 1, 2 and 5	NR or SYN	-	3
		Classes 3, 4 and 6	NR or SYN	-	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-B-41816</i>		Boots, Cold Weather, Insulated, Rubber (Wet-Cold; Dry-Extreme Cold)	NR	-	5
<i>MIL-A-41829</i>	Cancelled 1999	Apron, Utility, Impermeable, Rubber Coated Fabric (General Purpose) (see <i>A-A-55063</i> )	CR	-	5
<i>MIL-DTL-43002</i>	Cancelled 1999	Shield, Stovepipe, Tent, Nonmetallic	Q	-	20
<i>MIL-C-43006</i>		Cloth and Strip, Laminated or Coated, Vinyl Nylon or Polyester High Strength, Flexible (see <i>A-A-55308</i> )	CSM	-	10
<i>MIL-C-43062</i>		Cloth Coated, Cotton, Resin Modified Butyl Coated, Acid & Fuel Resistant	IIR	-	8
<i>MIL-C-43285</i>		Cloth Coated (Chloroprene Base Coated, Chlorosulphonated Polyethylene Top Coated)	CR & CSM	-	10
<i>MIL-C-43303</i>	Cancelled 1969	Cord, Elastic, Cotton	NR	-	3
<i>MIL-C-43379</i>		Cover, Hawk Missile, Transport & Launcher (use <i>MIL-DTL-26521</i> )	CR or CSM	-	10
<i>MIL-PRF-43473</i>	Cancelled 1987	Cloth, Waterproof	AU or EU	-	3
<i>MIL-C-43619</i>		Cloth, Netting, Cotton, Elasticized, Raschel Knit (no superseding document)	NR or SYN	-	3
<i>MIL-C-43656</i>	Cancelled 1999	Cloth, Coated, Polyester, Silicone Rubber (no superseding document)	Q	-	20
<i>MIL-S-43961</i>	Cancelled 1989	Shoes, Gymnasium, Heavy Duty (see <i>A-A-50137</i> )	NR or SYN	-	
<i>MIL-M-43968</i>		Mattress Pneumatic, (Insulated) Classes 1 & 2	NR or SYN	-	3
<i>MIL-S-45005</i>	Cancelled 1995	Seal, Plain, & Seal, Plain, Encased: Fluid, Radial, Single & Multiple Lip Sealing Member, Spring-Loaded (see <i>A-A-52524</i> )	-	NBR	5
<i>MIL-R-45036</i>	Cancelled 1996	Rubber, Hard (Ebonite) Natural or Synthetic, Sheet, Strip, Rod, Tubing & Molded Parts (no superseding document) Grades A, B, C & D	NR or SYN	-	20
<i>MIL-B-45326</i>	Cancelled 1993	Boot, Dust & Moisture Seal: Hydraulic Brake Cylinder, Synthetic Rubber (see <i>A-A-52410</i> )	-	SBR	3
<i>MIL-M-45907</i>	Cancelled 1994	Mount, Shipping Container, Resilient: Shock & Vibration Damping (see <i>A-A-52486</i> )	NR	-	3
<i>MIL-H-46089</i>	Cancelled 1999	Rubber Sponge, Silicone, Closed Cell (use <i>ASTM-D1056</i> )	Q	-	20
<i>MIL-W-46759</i>	Cancelled 1974	Wheel, Solid, Rubber, Tire, Rebuild of (See <i>MIL-DTL-3100</i> )	SYN	SBR	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.



TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-PRF-46846</i>		Rubber, Synthetic, Heat Shrinkable			
		Type I	CR	-	5
		Type II	Q	-	20
		Type III	FKM	-	20
		Type IV	IR	-	5
		Type V	EPM	-	20
		Type VI	EPDM	-	20
<i>MIL-B-50015</i>	Inactivated 1996	Bulb, Aspirator	NR	-	3
<i>MIL-F-50070</i>	Cancelled 1995	Faceblank, C17 (no superseding document)	NR	-	3
<i>MIL-H-51059</i>	Cancelled 1996	Hose, Fuel, Flame Thrower, M8 (no superseding document)	NBR (Tube)	-	5
<i>MIL-F-51109</i>	Inactivated 1996	Faceblank, Chemical-Biological Mask, C12R4	NR	-	3
<i>MIL-H-52079</i>	Cancelled 1996	Hose, Preformed: Semi-Flexible Reinforced (see <i>A-A-52546</i> )	-	-	3
<i>MIL-H-52262</i>		Hose Assembly, Elastomeric: Lightweight, Collapsible, 4-inch	NBR (Tube) SYN (Cover)	-	3
<i>MIL-C-52286</i>	Inactivated 2003	Cable Assemblies, Power, Electrical (with Molded on Terminations)	-	-	
<i>MIL-DTL-52471</i>		Hose & Hose Assemblies, Rubber, Hydraulic Pressure Type, General Specification for	NBR (Tube)	-	3
<i>MIL-H-52544</i>	Cancelled 1993	Hose Rubber, Oil Suction, Wire Reinforced (see <i>A-A-52413</i> )	CR (Tube) NBR (Cover)	-	3
<i>MIL-B-52761</i>	Cancelled 1996	Belting, Flat: Conveyor, Rubber Industrial Synthetic Reinforcement (no superseding document)	NR-SYN	-	3
<i>MIL-C-55036</i>	Inactivated 1999	Cable, Telephone, WM-130 (/)G	CR (Jacket)	-	5
<i>MIL-DTL-55040</i>	Inactivated 2000	Cable, Special Purpose, Electrical (Retractable)	-	-	5
<i>MIL-C-55479</i>	Cancelled 1967	Cable, Assembly CX-162(/)G & CX-163(/)G (no superseding document)	-	CR	8
<i>MIL-C-55480</i>	Cancelled 1984	Cable, Telephone WC-534 (no superseding document)	-	CR	8
<i>MIL-C-55483</i>	Cancelled 1999	Cable, Power, Electrical, Flat Three-Conductor (no superseding document)	CR	-	8
<i>MIL-T-62118</i>	Cancelled 1986	Tread, Rubber, Strip Form Stock For Retreading Pneumatic Tires (see ZZ-T-416, cancelled 1995) (see <i>A-A-52518</i> )	NR, IR, SBR BR	-	3
<i>MIL-T-62129</i>	Cancelled 1997	Tire, Tubeless, Pneumatic: For Truck, Logistical Goer Type (no superseding document)	-	-	3
<i>MIL-PRF-62136</i>		Wheel & Tire Assemblies, Foam Inflated Low Speed Highway & Off-Road	-	-	3
<i>MIL-T-62157</i>	Cancelled 1992	Tire, Pneumatic, With Flap, 14.00-20 Run Flat (no superseding document)	-	-	3
<i>MIL-R-81090</i>	Inactivated 1995	Rubber, Electrically Conductive Fuel Resistant (no superseding document)	-	NBR	3

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-H-81581</i>	Inactivated 1997	Hose Assembly, Breathing Oxygen & Air	Q	-	20
<i>MIL-H-82127</i>	Inactivated 1999	Hose Assembly, Rubber (Synthetic): Fuel, Discharge, Collapsible	SYN	-	3
<i>MIL-H-82142</i>	Cancelled 1985	Hood, Rain, Woman's: Nylon, Rubber Coated Green (no superseding document)	NBR	-	3
<i>MIL-R-82190</i>	Cancelled 1985	Raincoat, Woman's, Nylon, Rubber Coated Green (see <i>MIL-C-29381</i> )	NBR	-	3
<i>MIL-G-82242</i>	Cancelled 1999	Glove Shells, Radioactive Contaminants, Protective Cloth, Coated, Synthetic Rubber (Nitrile & Polychloroprene) (no superseding document)	NR	-	3
<i>MIL-C-82255</i>		Types I, II, IV Type III	CR NBR	- -	5 3
<i>MIL-S-82258</i>	Cancelled 1988	Swim Fins, Rubber (no superseding document)	NR or IR	-	3
<i>MIL-T-82270</i>	Cancelled 1989	Trousers, Wet Suit (Chloroprene Foam) (no superseding document)	CR	-	3
<i>MIL-M-82272</i>	Cancelled 1989	Mittens, Wet Suit (Chloroprene Foam) (no superseding document)	CR	-	3
<i>MIL-C-83008</i>	Cancelled 1975	Cloth, Coated, Cotton & Nylon, Polyurethane (Microporus) Coated (no superseding document)	AU or EU	-	3
<i>MIL-R-83285</i>	Cancelled 2002	Rubber, Ethylene-Propylene, General Purpose (see <i>SAE-AMS-R-83285</i> )	EPDM	-	5
<i>MIL-R-83322</i>	Cancelled 1988	Rubber, Carboxy-Nitroso; Nitrogen Tetroxide (N2O4) Resistant (no superseding document)	SYN	-	5
<i>MIL-C-83398</i>	Cancelled 1988	Cloth, Coated, Stretch, Polychloroprene Knitted Nylon (no superseding document)	CR	-	5
<i>MIL-DTL-83797</i>		Hose, Rubber, Lightweight, Medium Pressure, General Specification for	-	NBR	5

## NOTES:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE III. Military standards

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>MIL-STD-417</i>	Cancelled 1995	Classification System and Tests for Solid Elastomeric Materials Rubber Compositions, Vulcanized General (no superseding document) Purpose Solid			
		Class RN with Suffix A	NR	-	3
		Class RS with Suffixes A <sub>1</sub> C <sub>1</sub>	-	IIR or SBR	5
		Class SA	-	T	20
		Class SB	-	NBR	3
		Class SC	-	CR	8
		Class TA	-	Q	20
		Class TB	-	ACM	20
<i>MIL-STD-670</i>	Cancelled 1995	Classification System & Tests for Cellular Elastomeric Materials (no superseding document)			
		Type R - Styles C, E, 0 & U	-	NR or SBR	3
		Class SB - Styles E & 0	-	NBR	3
		Class SC - Styles E & 0	-	CR	3
		Types T - Styles E & 0	-	Q	20
		Types U - Styles C & U	-	AU or EU	3
		Type V - Styles C, E, 0 & U	-	Vinyl	3

## NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.

TABLE IV. Federal specifications.

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>J-C-96</i>	Cancelled 2000	Cable, Telephone (W-108-B) (no superseding document)	SBR (insulation)	-	5
<i>J-C-175</i>	Inactivated 2000	Cable Assembly, Power, Electrical, For 125-Volt, 250-Volt, and 125/250-Volt, 50-60 Hz, Equipment (see <i>UL817</i> )	-	CR	3
<i>J-C-580</i>	Cancelled 2001	Cord, Electrical & Wire, Electrical (0- to 600-Volt Service) (see <i>UL62</i> )	CR (Outer Jacket)	-	3
<i>J-L-231</i>	Cancelled 1998	Types SF-2 & SFF-2 Lead, Storage - Battery (see <i>A-A-59215</i> ) Type II	Q	-	20
<i>L-H-520</i>	Cancelled 1998	Hose & Hose Assemblies, Nonmetallic (Rubber, Plastic) (see <i>A-A-59270</i> )	NR or SYN	-	3
<i>L-P-386</i>		Plastic Material, Cellular, Urethane Flexible	AU, EU	-	3
<i>DD-B-599</i>		Bottle, Stopper, Vaccine, Round & Stopper, Bottle, Rubber	-	NR	3
<i>GG-C-846</i>	Cancelled 1958	Cup Set, Polishing, Dental Handpiece (Rubber) (no superseding document)	NR or SYN	-	3
<i>GG-P-655</i>	Cancelled 1996	Printing Set, Rubber Type (see <i>A-A-2991</i> )	NR or SYN	-	3
<i>GG-S-727</i>	Cancelled 1953	Stamp Set, Rubber, Anatomical (no superseding document)	-	-	3
<i>HH-F-341</i>		Filler, Expansion Joint: Bituminous (Asphalt & Tar) and Nonbituminous (Preformed for Concrete)			
<i>HH-G-156</i>		Type II, Class A Gaskets Material, General Purpose, Rubber Sheets, Strips, & Special Shapes	NR or SYN	-	3
<i>HH-I-573</i>	Cancelled 1983	Insulation Sleeving, Thermal (see <i>ASTM-C-534</i> )	-	EU, AU	3
<i>HH-P-151</i>		Packing; Rubber Sheet, Cloth Insert			
		Class 1	NR or SYN	-	3
		Class 2	CR	-	3
		Class 3	SBR	-	3
		Class 4	NBR	-	3
<i>JJ-W-155</i>		Webbing, Textile, (Cotton, Elastic) Types I & II, All Classes	NR or SYN		

NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.

TABLE IV. Federal specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>RR-T-650</i>		Tread, Metallic & Nonmetallic, Skid-Resistant Type A	NR or SYN	-	3
<i>TT-1-600</i>		Inking Pad, Rubber Stamp Type III	NR or SYN		
<i>ZZ-B-71</i>	Cancelled 1993	Bags, Politzer (no superseding document) Class A	NR, IIR, CR, or SBR	-	3
<i>ZZ-B-101</i>	Cancelled 1944	Class B Bandage, Rubber and Synthetic-Rubber (no superseding document)	CR NR	- -	5 3
<i>ZZ-B-117</i>	Cancelled 1989	Band, Ligature, Dental, Rubber (no superseding document)	NR	-	3
<i>ZZ-B-190</i>	Cancelled 1993	Belt, V, Engine-Accessory-Drive, Minus 40°F, General Specification for (see <i>A-A-52155</i> )	NR or SYN	-	6
<i>ZZ-B-206</i>	Cancelled 1966	Belting, Flat, Conveyor; Rubber All Types (see <i>MIL-B-52761</i> , cancelled - no superseding document)	NR, IIR, CR, or SBR	-	5
<i>ZZ-B-215</i>	Cancelled 1994	Belt, V, Light Duty or Fractional Horsepower (see <i>A-A-52490</i> )	NR or SYN	-	6
<i>ZZ-B-220</i>	Cancelled 1968	Belting, V, Adjustable Link (no superseding document) Type I	NR	-	6
<i>ZZ-B-225</i>	Cancelled 1995	Belt, V, Industrial (Multiple Drive) (see <i>A-A-52160</i> )	-	-	6
<i>ZZ-B-530</i>	Cancelled 1990	Boots, Knee & Hip (Rubber) (see <i>A-A-50063</i> ) Type I & II	NR or SYN	-	3
<i>ZZ-B-586</i>	Cancelled 1989	Bags, Ice and Hot Water (see <i>A-A-50982</i> & <i>A-A-51294</i> )	NR, CR, or SBR	-	3
<i>ZZ-B-616</i>	Cancelled 1990	Bowl, Plaster of Paris Mixing (see <i>A-A-50908</i> )	NR or SYN	-	3
<i>ZZ-C-101</i>	Cancelled 1988	Catheters, Urethral, Rubber (no superseding document) All Types	NR	-	3
<i>ZZ-C-450</i>	Cancelled 1997	Cloth, Coated (Rubber & Plastic) and Plastic Sheeting for Hospital Use (no superseding document) Type I	NR or SYN	-	3
<i>ZZ-C-766</i>	Cancelled 1993	Cushions, Chair and Stool (see <i>A-A-2800</i> )	NR or SYN	-	3
<i>ZZ-C-796</i>	Cancelled 1991	Cushions; Ring, Inflatable (see <i>A-A-54367</i> , cancelled 1992) (no superseding document))	NR or SYN	-	3
<i>ZZ-C-811</i>	Cancelled 1998	Cushion, Underlay, Carpet & Rug, Sponge Rubber (no superseding document) Types I & II	NR or SYN	-	3
<i>ZZ-D-800</i>	Cancelled 1987	Dustpan (Rubber) (no superseding document)	NR or SYN	-	10
<i>ZZ-E-661</i>	Cancelled 1986	Erasers, Rubber & Rubber Substitute (see <i>A-A-132</i> ) Types I, II, III & IV a	NR or SYN	-	3

NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.

TABLE IV. Federal specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>ZZ-F-375</i>	Cancelled 1986	Finger Pads, Rubber (see <i>A-A-134</i> )			
		Grade A	NR	-	3
		Grade B	NR or SYN	-	3
<i>ZZ-F-1299</i>	Cancelled 1991	Finger Cot, Surgical Disposable (see <i>A-A-50855</i> )	NR	-	3
<i>ZZ-G-100</i>		Gloves, Rubber, Autopsy			
		Class 1	NR	-	3
		Class 2	CR	-	5
<i>ZZ-G-381</i>	Cancelled 2000	Gloves, Rubber, Industrial (see <i>MIL-DTL-32066</i> )			
		Type I	NR or SYN	-	3
		Type II & III	-	-	3
<i>ZZ-G-401</i>	Cancelled 1990	Gloves, Rubber (For) Electrical Workers (For Use in Connection with Apparatus or Circuits not Exceeding 5,000 Volts to Ground) (see <i>ASTM-D120</i> )	-	NR	3
<i>ZZ-G-710</i>		Gasket Material, Rubber 35 Durometer Hardness	-	-	3
<i>ZZ-H-130</i>	Cancelled 1958	Heel, Orthopedic, Cast (no superseding document)	NR or SYN	-	3
<i>ZZ-H-141</i>	Cancelled 1995	Heel, Rubber (see <i>A-A-55204</i> )			
		Classes 1, 2, 3, 5 & 6	NR or SYN	-	3
<i>ZZ-H-421</i>	Cancelled 1983	Hose and Hose Assembly, Chemical (Industrial & Fire Fighting) (no superseding document)	-	NR	3
<i>ZZ-H-428</i>	Cancelled 2002	Hose, Non-metallic and Hose, Preformed: (For The Coolant Systems of Automotive and Other Liquid-Cooled Engines) (see <i>SAE-J20</i> )			
		Class 1		NBR	3
		Class 2		CR	8
		Class 3		EPDM	10
		Class 4		IIR	10
<i>ZZ-H-451</i>	Cancelled 1998	Hose, Fire, Woven Jacketed Rubber or Latex or Rubber Coated Fabric Lined, with Couplings (see <i>A-A-59226</i> )	-	-	3
<i>ZZ-H-461</i>	Cancelled 1997	Hose and Hose Assembly, Rubber, Gas (Acetylene, Hydrogen, Air and Oxygen) (see <i>RMA IP-7 &amp; CGA-E1</i> )			
		All Grades & Types	SBR	-	3
<i>ZZ-H-466</i>	Cancelled 1993	Hose Assembly, Metal, (Rubber Covered), Hydrocarbon Conveying (no superseding document)	NR or SYN	-	3
<i>ZZ-H-500</i>	Cancelled 2001	Hose, Rubber & Hose Assemblies, Rubber: Pneumatic (Yarn or Fabric Reinforced) (see <i>A-A-59565</i> )		CR	8
<i>ZZ-H-515</i>	Cancelled 1969	Hose, Rubber (Sleeve, Dredging) (no superseding document)	-	-	3
<i>ZZ-H-521</i>	Cancelled 2001	Hose and Hose Assemblies, Nonmetallic, Spray (see <i>A-A-59613</i> )	NR or SYN	-	3

NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.

TABLE IV. Federal specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
ZZ-H-561	Cancelled 2001	Hose, Rubber, and Hose Assemblies, Rubber, Smooth Bore, Water Suction and Discharge (see A-A-59566)	-	CR	5
ZZ-H-601	Cancelled 2001	Hose and Hose Assemblies, Rubber (Yarn or Fabric Reinforced) Water Service (see A-A-59567)			
		Grade 1	EPDM	-	10
		Grade 2	EPDM	-	10
		Grade 3	-	-	3
ZZ-H-617	Inactivated 2003	Hose, Rubber, Windshield Wiper			
		Type I	-	-	3
		Type II	NR or SYN	-	3
ZZ-I-550		Inner Tube, Pneumatic Tire			
		All Classes & Groups	NR or IIR	-	5
ZZ-M-42	Cancelled 1990	Mats, Floor, Dental-Chair, Rubber (no superseding document)	NR or SYN	-	3
ZZ-M-46	Cancelled 1997	Mat, Floor (Link-Type) (see A-A-2854)			
		Classes 1, 2, 3 & 4	NR or SYN	-	3
ZZ-M-71	Cancelled 1997	Matting, Rubber and Vinyl			
		All Classes & Styles (no superseding document)	SYN or Reclaim	-	3
ZZ-M-81	Cancelled 1984	Matting, Rubber & Plastic (Special Dielectric)			
		Classes A & B (no superseding document)	-	-	3
ZZ-M-85	Cancelled 1990	Matting Floor, Rubber, Sponge Base Anti-Fatigue (no superseding document)	-	-	3
ZZ-M-91	Cancelled 1995	Mattress, Bed, Latex Foam (no superseding document)	NR or SYN	-	3
ZZ-M-001033	Cancelled 1984	Matting Floor, Rubber, Aperture Surface (no superseding document)	NR or SYN	-	3
ZZ-P-46	Cancelled 1978	Pads, Operating Table (Sectional) (no superseding document)	NR or SYN	-	3
ZZ-P-75	Cancelled 1990	Pads, Typewriter, Sponge Rubber (see A-A-2704)	NR or SYN	-	3
ZZ-P-351	Cancelled 1944	Pillows: Air, Rubber and Synthetic-Rubber 08 (no superseding document)	NR or IIR	-	3
ZZ-R-00675	Cancelled 1964	Rubber Band, Four Way (no superseding document)	NR or SYN	-	3
ZZ-R-690	Cancelled 1989	Rubber Dam, Dental (see A-A-53986)	-	NR	3
ZZ-R-768		Rubber for Mountings (Unbonded-spool) & Compression Types	NBR	-	3
ZZ-R-785	Cancelled 1968	Rubber Sheet, Cellular Hardboard (no superseding document)	SYN or Reclaim	-	3
ZZ-R-800		Rubber Stamp, Band Type	NR or SYN	-	3
ZZ-R-804		Rubber Stamp, Fixed Type	NBR, NR or SYN	-	3

NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.

TABLE IV. Federal specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
ZZ-R-001207	Cancelled 1996	Rubber Stamp, Fixed Type, Pre-inked (no superseding document)	NR or SYN	-	3
ZZ-R-1415		Rubber Band	NR, SBR, IR or SYN	-	3
ZZ-S-666	Cancelled 1995	Squeegees, Floor & Window (no superseding document)	NR or SYN	-	3
ZZ-S-751	Cancelled 1990	Stoppers, Bottle, Rubber (see A-A-54194)			
		All Types & Grades	NR or SYN	-	3
ZZ-T-351	Cancelled 1990	Tips, Cane and Crutch, Rubber (see A-A-30081)	NR or SYN	-	3
ZZ-T-381	Inactivated 1998	Tires, Pneumatic, Vehicular (Highway)			
		All Types, Groups & Classes	NR or SYN		5
ZZ-T-401	Cancelled 1961	Tire, Pneumatic; Inner Tube, Pneumatic Tire; (Bicycle) (no superseding document)			
		Tires, Classes A & B	NR or SYN		5
		Tubes	IIR		10
ZZ-T-410	Inactivated 1998	Tires, Pneumatic, Industrial	NR or SYN		5
ZZ-T-441	Inactivated 1998	Tire, Pneumatic: Retreaded & Repaired			3
		All Types & Classes	NR or SYN		
ZZ-T-721	Cancelled 1957	Tube; Inner, Pneumatic, for Tires (Automobiles, Trucks, Motorcycles, and Other Ground Vehicles) (no superseding document)	IIR	-	10
ZZ-T-751	Cancelled 1961	Tubes; Colon, Surgical	NR or SYN	-	3
ZZ-T-791	Cancelled 1988	Tube, Stomach, Surgical (Formerly Tubes, Lavage & Stomach) (see A-A-51779)	NR or SYN	-	3
ZZ-T-831	Cancelled 1993	Tubing, Rubber and Plastic (see A-A-52047)			
		Grade A	NR or SYN	-	3
		Grade B	SYN	-	3
		Grade C & L	NR	-	3
		Grade D	NR or SYN	-	3
ZZ-T-1083	Inactivated 1998	Tire, Pneumatic, Low Speed, Off Highway	NR or SYN	-	3
BBB-C-606	Cancelled 1946	Coats & Trousers, Rubber-Coated (Foul-Weather-Clothing) (no superseding document)	NR or SYN	-	3
GGG-R-00620	Cancelled 1996	Roller, Hand (Rubber Roller) (see A-A-3034)	NR or SYN	-	3

NOTE:

<sup>1</sup>If elastomer is not listed, none is required by the specification.<sup>2</sup>If elastomer is not listed, the elastomer commonly used is unknown.



TABLE V. Aerospace Materials Specifications.

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
AMS 3193		Silicone Rubber Sponge, Closed Cell, Medium, Extreme Low Temperature			20
AMS 3194		Silicone Rubber Sponge, Closed Cell, Firm, Extreme Low Temperature			20
AMS 3195		Silicone Rubber Sponge Closed Cell, Medium			20
AMS 3196		Sponge, Silicone Rubber, Closed Cell, Firm			20
AMS 3197		Sponge, Chloroprene (CR) Rubber, Soft	CR		3
AMS 3198		Sponge, Chloroprene (CR) Rubber, Medium Stiffness	CR		3
AMS 3199		Sponge, Chloroprene (CR) Rubber, Firm	CR		3
AMS 3200		Butadiene Acrylonitrile (NBR) Rubber Petroleum-Base Hydraulic Fluid Resistant 55 - 65	NBR		3
AMS 3201		Butadiene Acrylonitrile (NBR) Rubber Dry Heat Resistant 35 - 45	NBR		3
AMS 3202		Butadiene Acrylonitrile (NBR) Rubber Dry Heat Resistant 55 - 65	NBR		3
AMS 3204		Synthetic Rubber Low-Temperature Resistant 25 - 35	NBR		3
AMS 3205		Synthetic Rubber Low-Temperature Resistant 45 - 55	NBR		3
AMS 3207		Chloroprene (CR) Rubber, Weather Resistant 25 - 35	CR		8
AMS 3208		Chloroprene (CR) Rubber, Weather Resistant 45 - 55	CR		8
AMS 3210		Chloroprene (CR) Rubber, Electrical Resistant 65 - 75	CR		8
AMS 3220		Synthetic Rubber General Purpose, Fluid Resistant 55 - 65	CR	-	5
AMS 3222		Synthetic Rubber, Hot Oil Resistant, High Swell 45 - 55	CR	-	5
AMS 3228	Cancelled	Acrylonitrile Butadiene (NBR) Rubber, Hot Oil & Coolant Resistant, Low Swell (65 - 75) (no superseding document)	NBR	-	3
AMS 3270		Chloroprene (CR) Rubber Sheet, Cotton Fabric Reinforced, Weather Resistant	CR	-	5
AMS 3273		Chloroprene (CR) Rubber Sheet, Nylon Cloth Reinforced, Weather Resistant	CR	-	5
AMS 3274		Acrylonitrile Butadiene (NBR) Rubber Sheet and Molded Shapes Nylon Cloth Reinforced, Fuel Resistant	NBR	-	3
AMS 3315		Silicone (VMQ) Rubber Sheet, Glass Cloth Reinforced		-	20
AMS 3320		Silicone (VMQ) Rubber Sheet, Glass Cloth Reinforced, Heat & Weather Resistant 60 - 80	Q	-	20

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE V. Aerospace Materials Specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
AMS 3332		Silicone Rubber, Extreme Low-Temperature Resistant 15 - 30	Q	-	20
AMS 3344	Cancelled 1970	Silicone Rubber 1800 psi 45 - 55 (no superseding document)	Q	-	20
AMS 3386		Hose, Aircraft Fueling, Acrylonitrile Butadiene (NBR) Rubber, Textile Reinforced, Chloroprene Covered, Collapsing	-	NBR	3
AMS 3387		Hose, Aircraft Fueling, Acrylonitrile Butadiene (NBR) Rubber Textile Reinforced, Chloroprene Covered Noncollapsing	NBR	-	3
AMS 3388		Hose, Aircraft Fueling, Acrylonitrile Butadiene (NBR) Rubber Single Wire Braid Reinforced, Chloroprene Covered, Noncollapsing	-	NBR	3
AMS 3389		Hose, Aircraft Fueling, Acrylonitrile Butadiene (NBR) Rubber, Double Wire Braid Reinforced, Chloroprene Covered, Noncollapsing	-	NBR	3
AMS 3570		Foam, Flexible Polyurethane Open Cell, Medium Flexibility	AU, EU	-	3
AMS 3650		Rods, Sheets, and Molded Shapes, Polychlorotrifluoroethylene (PCTFE) Unplasticized	PCTFE		
AMS-C-6183		Cork and Rubber Composition Sheet, for Aromatic Fuel and Oil Resistant Gaskets		NBR	
AMS-R-6855A		Elastomer, Synthetic, Sheets, Strips, Molded or Extruded Shapes, General Specification for			
		Class 1 - All Grades	-	NBR	10
		Class 2 - All Grades	-	CR	10
		Class 3 - All Grades	-	SBR	3
		Class 4 - All Grades	-	CR	10
		Class 5 - All Grades	-	SBR	3
AMS 7261		Rings, Sealing, Phosphonitrilic (FZ) Fluoroelastomer High- Temperature-Fluid Resistant	FZ		20
AMS 7263		Rings, Packing, Synthetic Rubber - Phosphate Ester Hydraulic Fluid Resistant (85-95) Butyl Type (Reference document)	IIR		10
AMS 7275	Cancelled	Rings, Sealing, Synthetic Rubber-Synthetic Lubricant Resistant (65-85) Fluorocarbon Type (no superseding document)	FKM		20
AMS 7277	Cancelled	Rings, Sealing, Synthetic Rubber Phosphate Ester Hydraulic Fluid Resistant (70-85) Butyl Type (no superseding document)	IIR		10

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

**TABLE V. Aerospace Materials Specifications (cont'd).**

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>AMS 7278</i>	Cancelled	Rings, Sealing, Synthetic Rubber High Temperature Fluid Resistant (70-80) Fluorocarbon Type (see <i>AMS 7276</i> referenced in <i>SAE ARP5316</i> )	FKM		20
<i>AMS 7279</i>	Cancelled	Rings, Sealing, Synthetic Rubber High Temperature Fluid Resistant (85-95) Fluorocarbon Type (see <i>AMS 7259</i> referenced in <i>SAE ARP5316</i> )	FKM		20
<i>AMS 7280</i>	Inactivated	Rings, Sealing, Fluorocarbon Rubber, High Temperature Fluid Resistant, Low Compression Set, FKM Type (70-80) (see <i>AMS 7276</i> referenced in <i>SAE ARP5316</i> )	FKM		20

## NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.

<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VI. American Society for Testing and Materials Specifications.

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>ASTM C443</i>		Joints For Concrete Pipe and Manholes, Using Rubber Gaskets	NR or SYN		
<i>ASTM D178</i>		Rubber Insulating Matting			
<i>ASTM D296</i>	Cancelled 1984	Rubber-Lined Fire Hose with Woven Jacket			
<i>ASTM D353</i>	Cancelled 1995	Natural Rubber Performance Insulation for Wire & Cable 60 C Operation	NR		
<i>ASTM D469</i>	Cancelled 1995	Natural Rubber Heat-Resisting Insulation for Wire & Cable, 75 C Operation	NR		
<i>ASTM D532</i>	Cancelled 1996	Natural Rubber Jacket For Wire & Cable			
<i>ASTM D574</i>	Cancelled 1984	Ozone-Resisting Insulation for Wire & Cable			
<i>ASTM D752</i>	Cancelled 1984	Heavy-Duty Black Polychloroprene for Wire & Cable (see <i>ASTM D4247</i> )	C		8
<i>ASTM D753</i>	Cancelled 1984	General Purpose Polychloroprene for Wire & Cable (see <i>ASTM D4247</i> )	C		8
<i>ASTM D754</i>	Cancelled 1984	Synthetic Rubber Insulation for Wire & Cable 75 C Operation (no superseding document)	-	-	3
<i>ASTM D755</i>	Cancelled 1984	Synthetic Rubber Insulation for Wire & Cable 60 C Operation (no superseding document)	-	-	3
<i>ASTM D866</i>		Crosslinked Styrene-Butadiene (SBR) Synthetic Rubber Jacket for Wire & Cable	SBR	-	3
<i>ASTM D1048</i>		Rubber Insulating Blankets	NR or IR	-	3
<i>ASTM D1050</i>		Rubber Insulating Line Hose	-	-	3
<i>ASTM D1055</i>		Flexible Cellular Materials - Latex Foam Grades RC & RU	-	NR	3
<i>ASTM D1056</i>		Flexible Cellular Materials-Sponge or Expanded Rubber Types I & II Class A	-	NR	
		Types I & II Class B	NBR		
		Types I & II Class C	NBR		
		Types I & II Class D	CR		

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VI. American Society for Testing and Materials Specifications (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>ASTM D1330</i>		Rubber Sheet Gaskets	NR or SYN		3
<i>ASTM D1352</i>		Ozone-Resisting Butyl Rubber Insulation for Wire & Cable	IIR	-	10
<i>ASTM D1520</i>	Cancelled 1984	Synthetic Rubber Heat or Moisture Resisting Insulation for Wire & Cable (see <i>ASTM D1679</i> )	-	-	3
<i>ASTM D1521</i>	Cancelled 1976	Synthetic Rubber Performance, Moisture Resisting Insulation for Wire & Cable (no superseding document)	-	-	3
<i>ASTM D1523</i>		Synthetic Rubber Insulation for Wire & Cable 90 Degrees C Operation	-	-	3
<i>ASTM D1564</i>	Cancelled 1979	Flexible Urethane Foam (see <i>ASTM D3574</i> ) Grades US & UU	AU, EU	-	3
<i>ASTM D1565</i>	Cancelled 1998	Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Open-Cell Foam) (no superseding document) Grades VC, VU & VO	Viny Vinyl	- -	3 3
<i>ASTM D1667</i>		Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam)	-	-	3
<i>ASTM D1679</i>		Synthetic Rubber Heat- & Moisture-Resisting Insulation for Wire & Cable, 75 Degrees C Operation	-	-	3
<i>ASTM D1869</i>		Rubber Rings for Asbestos-Cement Pipe	NR or SYN		3
<i>ASTM D1931</i>		Fully Cured Silicone Rubber-Coated Glass Fabric & Tapes for Electrical Insulation	Q		20
<i>ASTM D2000</i>		Rubber Products In Automotive Applications Classification System for			
		Material Designation AA with Suffix A13	-	NR, SBR or IIR	3
		Material Designation AK	-	T	20
		Material Designation BA with Suffices A14 & C12	-	SBR or IIR	3
		Material Designation BC	-	CR	8
		Material Designation BE	-	CR	8
		Material Designation BF	-	NBR	3
		Material Designation BG	-	AU, EU	3
		Material Designation BK	-	T	20
		Material Designation CE	-	CSM	10
		Material Designation CH	-	NBR	3
		Material Designation DH	-	ACM	20
		Material Designation FC	-	Q	20
		Material Designation FK	-	FVMQ	20
		Material Designation GE	-	Q	20
		Material Designation HK	-	FKM	20
<i>ASTM D2903</i>		Crosslinked Chlorinated Polyolefin Heat-Shrinkable Tubing for Electrical Insulation	CR	-	5
<i>ASTM D3574</i>		Flexible Cellular Materials-Slab, Bonded, and Molded Urethane Foams	AU, EU	-	3

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VII. National Aerospace Standards.

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>NAS 11</i>	Inactivated 1957	Valve Assembly - Flapper	<i>AMS 3212</i>	NBR	3
<i>NAS 244</i>	Inactivated 1947	Cap - Rigid Tube or Hose Fitting Synthetic	<i>AMS 3208 (CR)</i>	-	8
<i>NAS 485</i>	Inactivated 1951	Hose - Oil & Coolant	-	CR	8
<i>NAS 617</i>		Packing, Preformed, Straight Thread Tube Fitting Boss, Synthetic Lubricant Resistant	<i>MIL-R-7362</i> Comp. A (Inactivated)	NBR	3
<i>NAS 1369</i>		Duct, Air, Flexible & Semi-Rigid Type A	Glass Fabric impreg with CR	-	5
		Type B	Glass Fabric impreg with Q	-	20
<i>NAS 1370 thru</i> <i>NAS 1379</i>		Duct, Air, Flexible, Helix Wire Supported			
		-65 to +275 F	Fiberglass impreg with CR		5
		-75 to +500 F	Fiberglass impreg with		20
<i>NAS 1515</i>		Washers - Plastic & Synthetic Rubber			
		Code Letter A	<i>ZZ-R-765</i> (Referenced in <i>SAE ARP5316</i> )		20
		Code Letter B	<i>ZZ-R-765</i> (Referenced in <i>SAE ARP5316</i> )		20
		Code Letter C	<i>MIL-R-6855</i> Class I Cancelled (see SAE-AMS-R- 6855)	NBR	3
		Code Letter D	<i>MIL-R-6855</i> Class II Cancelled (see SAE-AMS-R- 6855)	CR	8
		Code Letter E	<i>MIL-R-6855</i> Class IV Cancelled (see SAE-AMS-R- 6855)	CR	8

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VII. National Aerospace Standards (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
		Code Letter F	<i>MIL-R-7362</i> Comp A (Inactivated 1997)	NBR	3
		Code Letter J	<i>AMS 3209</i> (Referenced in <i>SAE ARP5316</i> )(CR)		8
		Code Letter K	<i>AMS 3238</i> (Referenced in <i>SAE ARP5316</i> ) (IIR)		10
		Code Letter L	<i>AMS 3650</i> (FKM)		10
		Code Letter M	<i>AMS 3651</i> (FKM) Cancelled (no superseding document)		10
<i>NAS 1570</i>	Inactivated 1981	Gasket - Junction Box	<i>MIL-C-6183</i> (Cancelled 1998) (see <i>AMS-C-6183</i> ) Class I	NBR	3
<i>NAS 1577</i>	Inactivated 1981	Gasket, Switch Fitting Box	<i>MIL-C-6183</i> (Cancelled 1998) (see <i>AMS-C-6183</i> ) Class I	NBR	3
<i>NAS 1593</i>	Inactivated 1973	Packing, Preformed - <i>MIL-R-25897</i> Rubber, 75 Shore O-Ring	<i>MIL-R-25897</i> (Cancelled 1970) (see <i>MIL-R-83248</i> , Inactivated 1997)	FKM	20
<i>NAS 1594</i>	Inactivated 1973	Packing, Preformed - <i>MIL-R-25897</i> Rubber, 90 Shore O-Ring	<i>MIL-R-25897</i> (Cancelled 1970) (see <i>MIL-R-83248</i> , Inactivated 1997)	FKM	20
<i>NAS 1595</i>	Inactivated 1973	Packing, Preformed - Straight Thread Tube Fitting Boss, <i>MIL-R-25897</i> Rubber, 75 Shore O-Ring	<i>MIL-R-25897</i> (Cancelled 1970) (see <i>MIL-R-83248</i> , Inactivated 1997)	FKM	20

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

**TABLE VII. National Aerospace Standards (cont'd).**

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>NAS 1596</i>	Inactivated 1973	Packing, Preformed - Straight Thread Tube Fitting Boss, <i>MIL-R-25897</i> Rubber, 90 Shore O-Ring	<i>MIL-R-25897</i> (Cancelled 1970) (see <i>MIL-R-83248</i> , Inactivated 1997)	FKM	20
<i>NAS 1598</i>	Inactivated 1997	Washer - Sealing Code Y	<i>MIL-R-7362</i> Inactivated 1997 Comp A	NBR	3
		Code R	<i>MIL-R-25988</i> Inactivated 1997	FVMQ	20
		Code N	<i>AMS 3238</i> Referenced in <i>SAE ARP5316</i> (IIR)		10

## NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.



**TABLE VIII. Society of Automotive Engineers Standards.**

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>ARP 610</i>	Cancelled 1969	Synthetic or Natural Rubber Lined Pneumatic Hose Assemblies, Aircraft (no superseding document)			
		Class I	-	-	3
		Class II	-	NR	3
<i>SAE J14</i>	Cancelled 1980	Specifications for Elastomer Compounds for Automotive Applications (see <i>SAE J200</i> )			
		Type R	-	NR, SBR or IIR	3
		Type S, Class SA	-	T	20
		Type S, Class SB	-	NBR	3
		Type S, Class SC	-	CR	8
		Type T, Class TA	-	Q	20
		Type T, Class TB	-	ACM	20
<i>SAE J15</i>	Cancelled 1978	Flexible Foams Made from Polymers or Copolymers of Vinyl Chloride (no superseding document)			
		Grades VC, VU & VO	Vinyl		3
<i>SAE J17</i>		Latex Foam Rubbers			
		Grades RC & RU	-	NR	3
<i>SAE J18</i>		Sponge & Expanded Cellular Rubber Products			
		Type R, Classes 0 & E	-	NR	3
		Type S, Class SB, Classes 0 & E	-	NBR	3
		Type S, Class SC, Classes 0 & E	-	CR	3
<i>SAE J19</i>		Latex-Dipped Goods & Coatings for Automotive Applications			
		Type LR	-	NR	3
		Type LR, Class LSB	-	NR	3
		Type LR, Class LSC	-	CR	5
<i>SAE J20</i>		Coolant System Hoses			
		Class A	-	Q	20
		Class B	-	NBR	3
		Class C	-	CR	8
		Class D	-	EPDM	10
<i>SAE J30</i>		Fuel & Oil Hoses			
		SAE 30R1, 30R2, 30R3 & 30R5	-	NR (Tube)	3

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VIII. Society of Automotive Engineers Standards (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>SAE J50</i>	Cancelled 1987	Windshield Wiper Hose (no superseding document)	-	-	3
<i>SAE J51</i>		Refrigerant 12 Automotive Air-Conditioning Hose	-	NBR	3
<i>SAE J60</i>	Cancelled 1977	Rubber Cups for Hydraulic Activating (see <i>SAE J1601</i> )			
		Cylinders SAE 60R1 & SAE 60R2	-	NR or SBR	3
<i>SAE J80</i>		Automotive Rubber Mats - All Types	-	-	3
<i>SAE J120</i>		Rubber Rings for Automotive Applications			
		Classes 1 & 2	-	NBR	5
<i>SAE J188</i>		Power Steering Pressure Hose-High Volumetric Expansion			3
		Type	SYN	-	
<i>SAE J189</i>		Power Steering Return Hose-Low Pressure	SYN	-	3
<i>SAE J190</i>		Power Steering Pressure Hose-Wire Braid	SYN	-	3
<i>SAE J200</i>		Classification System for Rubber Materials			
		Material Designation AA with Suffix A13	-	NR, SBR or IIR	3
		Material Designation AK	-	T	20
		Material Designation BA with Suffices A14 & C12	-	SBR or IIR	3
		Material Designation BC	-	CR	8
		Material Designation BE	-	CR	8
		Material Designation BF	-	NBR	3
		Material Designation BG	-	AU, EU	3
		Material Designation BK	-	T or NBR	20
		Material Designation CA	-	EPDM	10
		Material Designation CE	-	CSM	10
		Material Designation CH	-	NBR	3
		Material Designation DH	-	ACM	20
		Material Designation FC	-	Q	20
		Material Designation FE	-	Q	20
		Material Designation FK	-	FVMQ	20
		Material Designation GE	-	Q	20
		Material Designation HK	-	FKM	20

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

TABLE VIII. Society of Automotive Engineers Standards (cont'd).

Number	Status	Title	Elastomers <sup>1</sup> Required	Elastomers <sup>2</sup> Commonly Used	Expected Shelf Storage Life Years
<i>SAE J515</i>		Hydraulic O- Ring Materials, Properties, and Sizes for Metric and Inch Stud Ends, Face Seal Fitting and Four-Screw Flange Tube Connections			
		Type I	-	NBR	3
		Type II	-	IIR	10
<i>SAE J517</i>		Hydraulic Hose - All Types	-	-	3
<i>SAE J557</i>	Cancelled 1990	High Tension Ignition Cable (see <i>SAE J2031</i> )	-	-	
		Type HTLR, HTHR, HTS, & HTB	NR (insulation)	-	3
<i>SAE J560</i>		Seven Conductor Electrical Conductor for Truck-Trailer Jumper Cable	-	-	3
<i>SAE J654</i>		Static and Reciprocating Elastomeric Transmission Seals		NBR or ACM	3
<i>SAE J1010</i>	Cancelled 1983	Emission Control Hose (no superseding document)	EPDM	-	5
<i>SAE J1037</i>		Windshield Washer Tubing			
		Type 1	CR	-	5
		Type 2	SYN	-	3
<i>SAE J1401</i>		Road Vehicle - Hydraulic Brake Hose Assemblies for Use with Nonpetroleum-Base Hydraulic Fluids	-	-	3
<i>SAE J1402</i>		Automobile Air Brake Hose and Hose Assemblies	CR	-	3
<i>SAE J1403</i>		Vacuum Brake Hose, Highway Vehicle			
		Class A		SYN	3
		Class B		NR or SYN	3
<i>SAE J1601</i>		Rubber Cups for Hydraulic Actuating Cylinders			
<i>SAE J1603</i>		Rubber Seals for Hydraulic Disc Brake Cylinders	SYN		3
<i>SAE J1604</i>		Rubber Boots for Drum-Type Hydraulic Brake Wheel Cylinders	SYN		3
<i>SAE J1605</i>		Brake Master Cylinder Reservoir Diaphragm Gaskets	SYN	-	3
<i>SAE J2031</i>		High Tension Ignition Cable			

NOTE:

<sup>1</sup>If no elastomer is listed, none is required by the specification.<sup>2</sup>If no elastomer is listed, the elastomer commonly used is unknown.

MIL-HDBK-695D

## APPENDIX A

## RELATED DOCUMENTS

## A.1 SCOPE

## A.1.1 Scope.

This appendix provides related documents prepared by the Government or by the Government contractors. The listed documents pertain to overall aspects of age control of rubber products.

## A.2 APPLICABLE DOCUMENTS

## A.2.1 General.

The following list of documents is provided for reference purposes.

1. Defense Industrial Supply Center, Instruction *DISC-HSI 4140.60*, Identification Control and Utilization of Shelf-Life Items, 16 July 1971.
2. Department of the Air Force Technical Manual *T.O. 00-20K-1*, Inspection and Age Control of USAF Shelf Life Equipment, 15 June 1983.
3. Department of the Air Force Technical Manual *AFML-TR-67-235*, Literature Survey on the Effects of Long-Term Shelf Aging of Elastomer Materials, March 1968.
4. Department of the Army Supply Bulletin *SB-740-60*, Storage, Inspection & Shelf-Life Information for Deteriorating Items.
5. Department of Defense *MIL-STD-1523*, Age Control of Age-Sensitive Elastomeric Materials, 1 February 1984.
6. Defense Documentation Center Report *AD 601284*, Bibliography on Aging of Natural and Synthetic Rubber and Rubber Products, 23 May 1961.
7. International Standard *ISO 2230-1973* (E), Vulcanized Rubber-Guide to Storage.
8. Lockheed Aircraft Corporation Specification *OS10674B*, Age Control of Rubber, 2 October 1967.
9. Marshall Space Flight Center *Standard 105A*, Synthetic Rubber, Age Control Of, 21 December 1962.
10. The American Society of Mechanical Engineers *Paper No. 61-AV-25*, Missile System Elastomers - Predicting Field Life Expectancies, (Prepared by Chrysler Corporation, Missile Division) March 1961.
11. Electric Power Research Institute Report *NP-6408*, Guidelines for Establishing, Maintaining, and Extending the Shelf Life Capability of Limited Life Items (NCIG-13), May 1992.
12. Electric Power Research Institute Report *NP-6608*, Shelf Life of Elastomeric Components, May 1994.

MIL-HDBK-695D

**CONCLUDING MATERIAL**

Custodians:

Army – MR  
Navy – SH  
Air Force – 11

Preparing Activity:

Air Force – 11  
(Project No. 9320-0047)

Review Activities:

Army – AR, CR, CR4, GL, MI  
Navy – AS, OS, YD  
Air Force – 99  
DLA – CC, GS, IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).