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**SUPERSEDING**  
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**MILITARY STANDARDIZATION HANDBOOK**  
**RUBBER PRODUCTS: RECOMMENDED SHELF LIFE**



**FSC 9320**  
**FSC 5330**

DEPARTMENT OF DEFENSE  
WASHINGTON, DC

MIL-HDBK-695C

Rubber Products: Recommended Shelf Life

1. This standardization handbook was developed by the Department of Defense with the assistance of recognized technical societies in accordance with established procedure.

2. This publication was approved on 27 March 1985 for printing and inclusion in the military standardization handbook series.

3. This handbook provides guidance as to the time periods during which elastomeric products may be stored without deterioration. The handbook covers elastomeric products of Military, Federal and recognized industry specifications. The handbook is not intended to be referenced in purchase specifications except for informational purposes, nor shall it supersede any specification requirements.

4. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to Director, US Army Materials and Mechanics Research Center, ATTN: AMXMR-SMS, Watertown, MA 02172 by using the self-addressed Standardization Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

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PREFACE

This handbook is one of a group which cover metallic and nonmetallic materials used in the design and construction of military equipment. The purpose of this handbook is to provide current technical information and design of direct usefulness to engineers and designers of military equipment.

This handbook provides information on the expected shelf life of elastomeric products described by Military, Federal and recognized industry specifications and standards. This handbook is intended as a guide only. Overage items should be carefully evaluated for possible use as originally intended before being discarded based on the suggested shelf life.

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## 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 shall 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 which are 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) Department of Defense Index of Specifications and Standards (DODISS) (available from the Naval Publications and Forms Center, NPFC 105, 5801 Tabor Avenue, Philadelphia, PA 19120).

(b) Aerospace Materials Specifications (AMS) Index and the Society of Automotive Engineers (SAE) Handbook (both available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096).

(c) National Aerospace Standards (NAS) (published and distributed by the Aerospace Industries Association, 1725 DeSales Street N.W., Washington, DC 20036).

(d) American Society for Testing and Materials (ASTM) Specifications (available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103).

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, hose, rubber coated fabrics, shock mounts and tires.

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.

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(c) Unvulcanized rubber, such as tread repair stock and tank lining sheet stock.

(d) Composites in which the rubber is in admixture with other ingredients, for example, rubber-asbestos packings and rubber-cork gaskets.

(e) Subassemblies, assemblies and systems which contain elastometric items as component parts, such as small arms, weapons, vehicles, aircraft, missiles and space vehicles. Age controls of elastomeric material for aerospace applications are covered in MIL-STD-1523.

(f) Products fabricated from flexible materials which 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 which 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 that careful records be 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 shall govern.

## 2. DEFINITIONS

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

2.2 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 three years. Cure date stated in terms of month of calendar year and the year, i.e., 6-83.

(b) Shelf life in excess of three years. Cure date stated in terms of the quarter of calendar year and the year, i.e., 2Q-83.

2.3 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.

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## 3. GENERAL REQUIREMENTS

3.1 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 which 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.

3.2 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 which related to age resistance, such as resistance to accelerated air aging, resistance to ozone, compression set and cyclic performance at temperature extremes.

(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.

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## 4. DETAILED REQUIREMENTS

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 which 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.

## Custodians:

Army - MR  
Navy - SH  
Air Force - 99

## Preparing Activity:

Army - MR  
Project No. 9320-0434

## Review Activities:

Army - GL, CR, MI, ME, AR  
Navy - AS  
Air Force - 11  
DLA - GS

## User Activities:

Navy - YD, OS

(KBWP# ID-0417A/DISK 0013A FOR AMMRC USE ONLY)



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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 |
|--------------------------------------|-------------------------------|-------------------------|-------------------------|-------------------------|
| Maximum (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                      |
| Fluorophosphonitrilic                | PNF                           | FZ                      | --                      | TB                      |
| Average (5 to 10 Years)              |                               |                         |                         |                         |
| 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                     | -                       | -                       |
| Minimum (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, polyisoprene               | Natural, pale crepe           | NR                      | AA                      | RN                      |
| Cis 1, 4, polyisoprene               | Synthetic natural             | IR                      | AA                      | RN                      |
| Polyester urethane                   | Urethane                      | AU                      | -                       | -                       |

<sup>1</sup>NBR, when compounded for o-ring seals, may have a shelf life as high as 10 years when aging resistance requirements are specified in the specification.

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TABLE II. Military Specifications.

| Number    | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-----------|---|-------------------------------------|--|--|
| MIL-C-17  | Cables, Radiofrequency; Coaxial, Dual<br>Coaxial, Twin Conductor, & Twin Lead<br>Core Dielectric:<br>Types D, E and H<br>Type J<br>Type L<br>Jacket:<br>Type IV<br>Type VI<br>Type VIII | -<br>IIR<br>Q<br><br>CR<br>Q<br>CR  | -<br>-<br>-<br><br>-<br>-<br>-           | 3<br>10<br>20<br><br>8<br>20<br>8        |
| MIL-H-370 | Hose and Hose Assemblies, Non-<br>Metallic; Rubber Liquid Fuel,<br>Non Collapsible<br>Types I and 2   | NBR (Tube)                          | -  | 3  |
| MIL-W-432 | Gasket Nonmetallic, Synthetic<br>Rubber   | -                                   | NBR                                      | 3  |
| MIL-C-442 | Cable, (Wire), Two Conductor, Parallel<br>(Ripcord)<br>Types IV, V and VI   | SBR<br>SBR                          | -<br>-                                   | 3<br>3                                   |
| MIL-L-741 | Leads, Electrical, Arc Welding  | SBR                                 | -  | 3  |
| MIL-O-836 | Overshoe, Rubber (Man's, 5 Buckle Type)<br>Type I and II  | NR or SYN <sup>3</sup>              | -  | 3  |
| MIL-C-882 | Cloth, (Cotton Duck), Laminated, Synthe-<br>tic Rubber Impregnated, Oil Resistant<br>Class I<br>Class II  | CR<br>NBR                           | -<br>-                                   | 5<br>3                                   |
| MIL-R-900 | Rubber Gasket Material, 45 Durometer<br>Hardness  | -                                   | SBR                                      | 3  |

## NOTES:

1If no elastomer is listed, none is required by the specification.

2If no elastomer is listed, the elastomer commonly used is unknown.

3SYN = synthetic (for other abbreviations see Table I).

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TABLE II. Military specifications (cont'd).

| Number     | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|------------|--|-------------------------------------|--|--|
| MIL-M-910  | Mats, Floor, Standing  | -                                   | -  | 3  |
| MIL-C-915  | Cable and Cord, Electrical for Shipboard<br>Use, (Gen. Spec. for)        |                                     |  |  |
|            | Type CVSF  | SYN & CR                            | -  | 5  |
|            | Type DCOP  | SYN & CR                            | -  | 5  |
|            | Type DHOF  | IIR & CR                            | -  | 8  |
|            | Type DSS   | SYN & CR                            | -  | 5  |
|            | Type DLT   | NR & CR                             | -  | 5  |
|            | Type FSCF  | IIR & CR                            | -  | 8  |
|            | Type FHOE  | IIR & CR                            | -  | 8  |
|            | Type FSS   | SYN & CR                            | -  | 5  |
|            | Type JAS   | IIR & CR                            | -  | 8  |
|            | Type MCSC  | SYN & CR                            | -  | 5  |
|            | Type MCOS  | CR                                  | -  | 8  |
|            | Type MSS   | SYN & CR                            | -  | 5  |
|            | Type SDU   | IIR & CR                            | -  | 8  |
|            | Type SSF   | SYN & CR                            | -  | 5  |
|            | Type TCOP  | SYN & CR                            | -  | 5  |
|            | Type THOF  | IIR & CR                            | -  | 8  |
|            | Type TRF   | SYN & CR                            | -  | 5  |
|            | Type TRXF  | CR                                  | -  | 8  |
|            | Type TSS   | SYN & CR                            | -  | 5  |
| MIL-G-1086 | Gasket Material, Synthetic Rubber (For<br>Bolted Steel & Aluminum Tanks) | -                                   | CR                                       | 8  |
|            | Type I   | -                                   | NBR                                      | 3  |
|            | Type II  | -                                   |  |  |
| MIL-R-1149 | Gasket Material Synthetic Rubber, 50<br>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  |
| MIL-R-1229 | Rubber Sheet Packing, Solid, Wire Cloth<br>Inserted Symbol 2354          | -                                   | SBR                                      | 3  |

## NOTES:

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TABLE II. Military specifications (cont'd).

| Number     | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|------------|---|-------------------------------------|--|--|
| MIL-R-1832 | Rubber Band, Parachute Suspension Line<br>Type I  | NR                                  | -  | 3  |
| MIL-T-1956 | Tarpaulin, Waterproof, Special Purpose,<br>10 Feet Long by 8 Feet Wide<br>All Classes   | -                                   | -  | 3  |
| MIL-H-2217 | Hose Assemblies, Wire-Reinforced  | -                                   | -  | 3  |
| MIL-C-2486 | Rubber, Submarine Rescue Chamber<br>Cable, Special Purpose, Electrical<br>WM-46/U   | NR (Tube)<br>SBR                    | -<br>-                                   | 3<br>3                                   |
| MIL-P-2693 | Packing Material, Cold Storage Door<br>Gasketing, Nonwatertight<br>Type A<br>Type B   | -<br>-<br>-                         | CR<br>NR (core)<br>NBR                   | 8<br>2<br>3                              |
| MIL-R-2765 | Rubber Sheet, Strip, Extruded, & Molded<br>Shapes, Synthetic, Oil Resistant   | -                                   | -  | 3  |
| MIL-H-2815 | Hose Assemblies, Rubber, Diver's Breath-<br>ing Air and Gas Supply  | NR (Tube)                           | -  | 3  |
| MIL-J-2829 | Joint Sealing Packing<br>Types I & II - Classes 1 & 2   | -                                   | CR                                       | 8  |
| MIL-B-2885 | Boots, Firemen's  | NR or SYN                           | -  | 3  |
| MIL-P-2911 | Packing Assembly, Hydraulic, Conical &<br>V Types   | -                                   | -  | 3  |
| MIL-S-2912 | Synthetic Rubber Compound, Acid & Oil<br>Resistant (For Lining Battery Compart-<br>ments on Submarines)<br>Class 1 - Types I & II<br>Class 2 - Types I & II | CR<br>NBR                           | -<br>-                                   | 5<br>3                                   |
| MIL-D-2921 | Disks, Rubber (Cellular, Hard)<br>Type A<br>Type B - Class a<br>Type B - Class b  | Reclaim<br>SBR<br>NBR               | -<br>-<br>-                              | 3<br>3<br>3                              |
| MIL-G-3036 | Grommets - Elastic, Hot-Oil & Coolant-<br>Resistant   | -                                   | NBR                                      | 3  |
| MIL-R-3065 | Rubber, Fabricated Products (see MIL-STD-417)   | -                                   | -  | 3  |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

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TABLE II. Military specifications (cont'd).

| Number     | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|------------|--|-------------------------------------|--|--|
| MIL-W-3100 | Wheels, Solid Elastomer Tired, for<br>Track Laying Vehicles  | -                                   | SBR                                      | 5  |
| MIL-C-3133 | Cellular Elastomeric Materials, Molded<br>or Fabricated Parts (See MIL-STD-670)  | -                                   | -  | 3  |
| MIL-D-3377 | Diaphragms, Synthetic Rubber   | -                                   | -  | 3  |
| MIL-C-3432 | Cable, (Power and Special Purpose) and<br>Wire, Electrical (300 and 600 volts)   | SBR                                 | -  | 3  |
|            | Class C  | SBR                                 | -  | 3  |
|            | Class O  | SBR<br>(insulator)                  | -  | 3  |
|            | Class L  | SBR                                 | -  | 3  |
|            | Class D  | SBR<br>(insulator)                  | -  | 3  |
| MIL-R-3533 | Rubber, Synthetic: Sheet, Strip & Molded<br>Types I & II - Classes 1 & 2   | -                                   | NBR                                      | 3  |
| MIL-C-3702 | Cables, Power, Electrical: Ignition,<br>High-Tension   | -                                   | -  | 20                                       |
|            | Grade B  | -                                   | Q  | 10                                       |
|            | Grade C  | -                                   | CSM                                      | 20                                       |
|            | Grade D  | -                                   | Q  | 3  |
| MIL-R-3842 | Rubber Stamp Kit, Food Inspection  | -                                   | -  | 3  |
| MIL-C-3849 | Cord, Electrical (Tinsel)<br>(See MIL-I-3930)  | -                                   | -  | 3  |
| MIL-H-3868 | Hose Assemblies, Nonmetallic: Grease Gun,<br>High & Low Pressure   | -                                   | -  | 3  |
| MIL-C-3885 | Cable Assemblies & Cord Assemblies,<br>Electrical (For Use in Electronic,<br>Communication & Associated Electrical<br>Equipment) | NR or SYN<br>(Jacket)               | -  | 3  |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

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TABLE II. Military specifications (cont'd).

| Number                  | Title  | Elastomers <sup>1</sup><br>Required         | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------------------|--|---|--|--|
| MIL-I-3930              | Insulating & Jacketing Compounds, Electrical (For Cables, Cords & Wires) |   |  |  |
|                         | 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-H-3992              | Hose & Hose Assembly, Rubber: Air & Vacuum Brake, Automotive             |   |  |  |
|                         | All Types & Classes  | -   | -  | 3  |
| MIL-H-4495              | Hose Assembly, Rubber, Aerial Refueling                                  | -   | -  | 3  |
| MIL-H-4497              | Hose, Cotton, Rubber Lined, Water, Braided Construction With Couplings   | -   | -  | 3  |
| MIL-H-4536 <sup>3</sup> | Hose, Rubber Bromochloromethane Resistant                                | -   | -  | 3  |
| MIL-B-4792              | Bumpers, Rubber Duplex Round   |   |  |  |
|                         | Type I   | -   | SBR (core)                               | 3  |
|                         | Type II  | MIL-R-6130,<br>Type II<br>Grade A<br>(core) |  | 3  |
| MIL-I-4997              | Insulating & Jacketing Compounds for Use in Cords, Cordages & Cables     |   |  |  |
|                         | Insulation   | NR  | -  | 3  |
|                         | Jacket   | CR  | -  | 8  |
| MIL-R-5001              | Rubber; Cellular Sheet Molded & Hand-built Shapes; Latex Foam            |   |  |  |
|                         | Composition 1  | NR  | -  | 3  |
|                         | Composition 2  | 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.<sup>3</sup>Cancelled no replacement.

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TABLE II. Military specifications (cont'd).

| Number                  | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------------------|--|-------------------------------------|--|--|
| MIL-T-5014              | Inner Tube, Pneumatic Tire, Aircraft   | -                                   | -  | 5  |
| MIL-T-5041              | Tires, Pneumatic, Aircraft   | -                                   | NR & SYN                                 | 5  |
| MIL-C-5136 <sup>3</sup> | Cable, Power, Electrical, Polychloro-<br>prene Sheathed, Buna Compound<br>Insulated  | SBR<br>(insulation)                 | -  | 5  |
| MIL-P-5315              | Packing, Preformed, Hydrocarbon Fuel<br>Resistant  | -                                   | NBR                                      | 10                                       |
| MIL-B-5423              | Boots, Dust & Water Seal (For Toggle &<br>Pushbutton Switches & Rotary Actuated<br>Parts), General Specification For<br>All Types & Styles | -                                   | -  | 20                                       |
| MIL-A-5498              | Accumulators, Aircraft Hydropneumatic<br>Pressure  | Q                                   | -  | 3  |
| MIL-P-5510              | Type I<br>Packing, Preformed, Straight Thread<br>Tube Fitting Boss   | -                                   | NBR<br>NBR                               | 10                                       |
| MIL-P-5516 <sup>4</sup> | Packing, Preformed Petroleum Hydraulic<br>Fluid Resistant, 160Op   | -                                   | -  | 8  |
| MIL-T-5579              | Tanks; Self-Sealing Oil Aircraft   | -                                   | NBR                                      | 4  |
| MIL-H-5593              | Hose; Aircraft, Low-Pressure Flexible  | -                                   | NBR                                      |  |
| MIL-C-5651              | Cord; Elastic, Exerciser & Shock<br>Absorber for Aeronautical Use  | NR                                  | -  | 3  |
| MIL-W-5664              | All Types<br>Webbing, Textile, Elastic, Cotton   | -                                   | -  | 3  |
| MIL-C-5756              | Cable & Wire, Power, Electric, Portable  | NR or SYN                           | -  | 8  |
| MIL-H-6000              | Hose, Rubber (Fuel, Oil, Coolant Water<br>and Alcohol)   | -                                   | -  | 4  |
| MIL-R-6130              | Rubber, Cellular, Chemically Blown<br>Grade A - Types I & II   | -                                   | CR                                       | 5  |
|                         | Conditions Soft, Medium & Firm   | -                                   | SBR                                      | 3  |
|                         | Grade B - Types I & II   | -                                   | -  |  |
|                         | Conditions Soft, Medium & Firm   | -                                   | NR                                       | 3  |
|                         | Grade C - Types I & II   | -                                   | -  |  |
|                         | Conditions Soft, Medium & Firm   | -                                   | -  |  |
| MIL-C-6166              | Cord: Headset-Microphone, CX-1301/AR   | -                                   | -  | 3  |

## NOTES:

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2If no elastomer is listed, the elastomer commonly used is unknown.

3Cancelled no replacement.

4Class A inactive for new design. Class B cancelled, use MIL-P-25732 or MIL-P-83461.

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TABLE II. Military specifications (cont'd).

| Number                  | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------------------|--|-------------------------------------|--|--|
| MIL-B-6362              | Boots, Extreme Cold Weather, N-lb  | NR                                  | -  | 5  |
| MIL-H-6399              | Hose, Rubber, Wire-Wound, Synthetic, Ice<br>Eliminating System                             | -                                   | -  | 3  |
| MIL-H-6439              | Hose, Rubber, Aircraft Paint Finish<br>Remover   | -                                   | -  | 3  |
| MIL-H-6615              | Hose Assemblies, Rubber, Fuel and Water<br>with Reattachable Couplings, Low<br>Temperature | CR                                  | -  | 5  |
| MIL-N-6748              | Nipple, Electrical Terminal  | Q                                   | -  | 20                                       |
| MIL-R-6855              | Rubber; Synthetic, Sheets, Strips,<br>Molded or Extruded Shapes                            |                                     |  |  |
|                         | 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  |
| MIL-R-6891 <sup>3</sup> | Rubber, Anodic   | -                                   | NR                                       | 3  |
| MIL-H-7061              | Hose, Rubber, Aircraft, Self-Sealing,<br>Aromatic Fuel                                     | -                                   | -  | 8  |
| MIL-R-7362              | Rubber, Synthetic, Solid Sheet & Fab-<br>ricated Parts, Oil Resistant                      |                                     |  |  |
|                         | Type I   | -                                   | NBR                                      | 10                                       |
|                         | Type II  | -                                   | NBR                                      | 3  |
| MIL-H-7365              | Hose, Air Duct, For Ground Heaters   | -                                   | -  | 3  |
| MIL-M-7585 <sup>4</sup> | Mask, Oxygen   | -                                   | -  | 20                                       |
| MIL-C-7637              | Cloth, Coated, Chloroprene, Fiberglass   | Q                                   | -  |  |
|                         | Types I & II   | CR                                  | -  | 5  |
| MIL-H-7938              | Hose, Rubber, Flame-Resistant  | NBR (Tube)                          | -  | 4  |
| MIL-C-7966 <sup>3</sup> | Cloth, Coated, Rubber, Nylon Base<br>Varieties S & P                                       | NR or SYN                           | -  | 3  |
| MIL-C-8068              | Cloth, Coated, Nylon, Rubber-Coated,<br>Fuel Resistant                                     |                                     |  |  |
|                         | Type I   | -                                   | NBR                                      | 3  |
|                         | Type II  | -                                   | -  | 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>Cancelled no replacement.
- <sup>4</sup>Cancelled, use MIL-M-27274.



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TABLE II. Military specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------|---|-------------------------------------|--|--|
| MIL-C-8603  | Clamps, Loop Type, Support<br>Type II, Classes A & B<br>Type III            | -                                   | NBR                                      | 3  |
|             | Type IV, Classes A & B  | Q                                   | -  | 20                                       |
| MIL-W-8777  | Wire, Electrical, Silicone-Insulated,<br>Copper, 600 Volt, 200 C            | CR                                  | -  | 8  |
| MIL-H-8788  | Hose, Hydraulic High Pressure   | Q                                   | -  | 20                                       |
| MIL-H-8790  | Hose Assembly, Rubber, Hydraulic,<br>High Pressure (3,000 psi)              | -                                   | -  | 8  |
| MIL-H-8794  | Hose, Rubber, Hydraulic, Pneumatic, Fuel<br>and Oil Resistant               | -                                   | -  | 8  |
| MIL-H-8795  | Hose Assembly, Rubber, Hydraulic,<br>Fuel & Oil Resistant                   | -                                   | -  | 8  |
| MIL-H-8796  | Hose, Airduct, Flexible, Aircraft   | -                                   | -  | 5  |
| MIL-A-8897  | Accumulators, Hydraulic, Cylindrical<br>3,000 psi                           | -                                   | -  |  |
|             | Aircraft, Type II Systems   | -                                   | -  | 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 | Cables, Special Purpose, Electrical<br>(Multipair Audio Frequency)          | SBR                                 | -  | 3  |
| MIL-F-10135 | Faceblanks, Field Protective Mask,<br>Natural Rubber, General Specification | NR                                  | -  | 3  |
| MIL-C-10351 | Cloth, Laminated & Coated for Waterproof<br>Containers                      |                                     |  |  |
|             | Types I & II  | NR or SYN                           | -  | 3  |
| MIL-C-10369 | Cables, Telephone, Field, For Rapid<br>Payout (MX-306 A/G)                  | -                                   | SBR                                      | 3  |
| MIL-C-10392 | Cables, Electrical (Audio, Miniature)                                       | SBR                                 | -  | 3  |
| MIL-C-10797 | Cloth, Coated, Glass, Silicone Rubber-<br>Coated                            | Q                                   | -  | 20                                       |

## 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.

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TABLE II. Military specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------|---|-------------------------------------|--|--|
| MIL-H-10868 | Hose Assembly, Rubber, Utility, Gasoline<br>(1/4 Inch Inside Diameter)                  | ECO (Tube)                          | -  | 5  |
| MIL-B-11040 | Belt, V: Engine Accessory Drive   | NR or SYN                           | -  | 6  |
| MIL-C-11097 | Cable, Telephone (W-50-A)   | SBR<br>(insulation)                 | -  | 5  |
| MIL-C-11390 | Cloth, Laminated: Cotton, Balloon,<br>3-Ply, Air Retaining, Chloroprene                 | CR                                  | -  | 5  |
| MIL-H-11588 | Hose Assembly, Rubber, Synthetic,<br>Liquid Petroleum Fuels, Dispensing,<br>Collapsible |                                     |  |  |
|             | All Types   |                                     |  |  |
| MIL-P-11719 | Packing, Preformed; Pneumatic Hose  | NBR (Tube)                          | -  | 3  |
|             | Couplings, Universal  | CR                                  | -  | 5  |
| MIL-T-11891 | Track Shoe Assemblies, Track Shoe Pads<br>and Track Shoe Sets, Vehicular:<br>Rubberized |                                     |  |  |
|             | Types I & II  |                                     |  |  |
| MIL-C-11997 | Cord Assembly, Electrical CX-3151()/U<br>Retractable                                    | NR (insulation)                     | SBR NR or BR                             | 3  |
| MIL-S-12100 | Shock Mounts M-447, M-448, M-449 &<br>Bracket FT-512                                    |                                     |  | 3  |
| MIL-C-12189 | Cloth, Coated, Butyl Coated, Toxicological Agents, Protective                           | NR or CR                            | -  | 3  |
|             | All Types & Classes   |                                     |  |  |
| MIL-G-12223 | Gloves Toxicological Agents, Protective   | IIR                                 | -  | 10                                       |
| MIL-E-12397 | Eraser, Rubber-Pumice (For Testing<br>Coated Optical Elements)                          | IIR                                 | -  | 10                                       |
|             | Coated Optical Elements   | -                                   | NR                                       | 3  |
| MIL-P-12420 | Plastic Material Cellular, Elastomeric  | Vinyl, NBR or<br>other rubber       | -  | 3  |
|             | All Types & Classes   |                                     |  |  |
| MIL-C-12423 | Cable, Telephone WD-33/U  |                                     | SBR<br>(insulation)                      | 5  |
| MIL-T-12459 | Tire, Pneumatic: For Military Ground<br>Vehicles  | NR or SYN                           | -  | 5  |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

2 If no elastomer is listed, the elastomer commonly used is unknown.

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TABLE II. Military specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------|---|-------------------------------------|--|--|
| MIL-M-12863 | Mounts, Vibration (Vibration Mounts MT-1177 ( )/U, MT-1178 ( )/U & MT-1179 ( )/U)                             | NR or CR                            | -  | 3  |
| MIL-W-13075 | Wire, Electrical (Wire W-124, W-125 & W-128)  | SBR                                 | -  | 3  |
| MIL-C-13077 | Cable, Special Purpose, Electrical (Cordage CO-212 & Cable, Special Purpose, Electrical WD-32/U)              | SBR                                 | -  | 3  |
| MIL-W-13169 | Wire, Electrical (For Instrument Test Leads)  | SBR                                 | -  | 3  |
| MIL-G-13210 | Gaskets, Rubber   | NR or SYN                           | -  | 3  |
| MIL-C-13273 | Cord, Electrical (Retractable, 2, 3 & 4 Conductor, WD-9/U, WT-2/U, WF-4/U)                                    | NR (insulation)                     | -  | 3  |
| MIL-H-13444 | Hose Rubber: & Hose Assembly Rubber: Fuel & Oil (For Automotive Application)                                  | -                                   | NBR (Tube)                               | 3  |
| MIL-C-13486 | Types I & II<br>Cable, Special Purpose Electrical: Low-Tension, Heavy Duty, Single Conductor & Multiconductor | -                                   | -  | -  |
| MIL-H-13531 | Hose, Rubber & Hose Assemblies: Hydraulic, Flexible   | NBR (Tube)                          | CR (Jacket)                              | 5  |
| MIL-H-13719 | Hose Assembly, Rubber; Hydraulic Brake  | SBR or CR (Tube)                    | -  | 3  |
| MIL-C-13892 | Cable, Telephone (Flexible)(Cords & Cordage, Multipair)   | NR or SBR                           | -  | 3  |
| MIL-C-14055 | Cup, Hydraulic Brake Actuating Cylinder: Synthetic Rubber   | SBR                                 | -  | 3  |
| MIL-R-14328 | Rubber, Synthetic, Medium Soft, General Purpose Gasket Material (For Extreme Climatic Conditions)             | -                                   | SBR                                      | 3  |
| MIL-R-14364 | Rollers, Rubberized, Pneumatic: Bridge Erection   | CR                                  | -  | 5  |
| MIL-C-14366 | Cloth, Coated Nylon Twill, One Side Coated  | NBR                                 | -  | 3  |

## NOTES:

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TABLE II. Military specifications (cont'd).

| Number        | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|---------------|--|-------------------------------------|--|--|
| MIL-T-14398   | Tanks, Fabric Collapsible: Water, Nylon<br>Rubber-Coated                               | EPDM                                | -  | 5  |
| MIL-P-14401   | Pads, Cushioning; Personnel-Protection,<br>Vehicular                                   | -                                   | -  | -  |
|               | Types I & II, Class CS   | -                                   | SBR                                      | 3  |
|               | Types I & II, Class VS   | Vinyl                               | -  | 3  |
|               | Type I, Class FR   | -                                   | NR or CR                                 | 3  |
| MIL-C-14505   | Cloth, Nylons Polychloroprene Coated<br>(For Pneumatic Floating Equipment)             | CR                                  | -  | 5  |
| MIL-I-14511   | Insulation Sheet, Cellular, Plastic,<br>Thermal  | -                                   | -  | 3  |
| MIL-P-14574   | Packing (Wiper Ring), Synthetic Rubber<br>Cloth Insertion                              | -                                   | CR or NBR                                | 5  |
| MIL-C-14625   | Curing Bags & Tubes, Tire Repair, Recapping<br>and Retreading                          | -                                   | -  | -  |
|               | Type I, Classes 1 & 2  | NR<br>(no marking)                  | -  | 3  |
|               | Type II; Classes 1 & 2   | IIR<br>(blue stripe)                | -  | 10                                       |
| MIL-S-15058   | Rubber, Shaft Covering Materials (For<br>Marine Propeller Shafts)                      | -                                   | -  | -  |
|               | Types I, II & III  | CR                                  | -  | 5  |
|               | Class I  | SBR                                 | -  | 3  |
|               | Class II   | NBR                                 | -  | 3  |
|               | Class III  | -                                   | -  | -  |
| MIL-H-0015100 | Hose, Rubber, Wire-Reinforced (Oil &<br>Gasoline, Suction & Discharge Smooth-<br>Bore) | -                                   | -  | -  |
|               | Types A & B  | NBR (Tube)                          | -  | 3  |
| MIL-C-15104   | Cloth, Coated, Fire Resistant, Berth &<br>Bedding Cover                                | -                                   | -  | 3  |
| MIL-H-15217   | Hose, Rubber, Sandblast  | NR or SYN<br>(Tube)                 | -  | 3  |
| MIL-M-15562   | Matting or Sheet, Floor Covering<br>Insulating for High Voltage Application            | SYN or Reclaim                      | -  | 3  |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

2 If no elastomer is listed, the elastomer commonly used is unknown.

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TABLE II. Military specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life,<br>Years |
|-------------|---|-------------------------------------|--|--|
| MIL-R-15624 | Rubber Gasket Materials 50 Durometer<br>Hardness (Maximum)<br>Class I<br>Class II<br>Class III                        | CR<br>SBR<br>NBR<br>NR or SYN       | -<br>-<br>-<br>-                         | 8<br>3<br>3<br>10                        |
| DOD-P-15816 | Parts, Hard Rubber for Use with Sub-<br>marine Storage Batteries  | -                                   | SBR                                      | 3  |
| DOD-P-15817 | Parts, Synthetic Rubber, For Use with<br>Batteries or In Battery Compartments<br>of Submarines                        | -                                   | -  | 3  |
| MIL-C-15987 | Cable Assemblies, Power, Electrical<br>(With Grounding for 440-Volt<br>Portable Equipment)                            | IIR                                 | -  | 8  |
| MIL-R-16402 | Raincoat, Man, Nylon Rubber Coated, Green   | NBR                                 | -  | 3  |
| MIL-I-16562 | Insulation, Synthetic, Rubber-Like,<br>Chemically Expanded, Cellular (Sheet<br>Form)                                  | -                                   | -  | 3  |
| MIL-C-16839 | Cable, Special Purpose, Electrical<br>(Underwater Use)  | NR                                  | -  | 3  |
| MIL-R-16920 | Rubber Facing (For Rammer Heads)  | NR or SYN                           | -  | 3  |
| MIL-M-17191 | Mounts, Resilient; Portsmouth Bonded<br>Spool Type  | CR or SBR                           | -  | 3  |
| MIL-C-17415 | Cloth, Coated & Webbing, Inflatable<br>Boat & Miscellaneous Use<br>Natural Coatings<br>Synthetic Coatings             | NR<br>CR<br>NBR (Tube)              | -<br>-<br>-                              | 3<br>5<br>3                              |
| MIL-H-17505 | Hose & Hose Assembly, Rubber Oil &<br>Gasoline, Suction & Discharge   | -                                   | -  | 3  |
| MIL-M-17508 | Mounts, Resilient; Types 6E2000,<br>6E900, 7E450, 6E150 & 6E100<br>Types 6E200, 6E900, & 7E450<br>Types 6E150 & 6E100 | CR or NBR<br>NR                     | -<br>-                                   | 3<br>3                                   |

## NOTES:

1If no elastomer is listed, none is required by the specification.

2If no elastomer is listed, the elastomer commonly used is unknown.

TABLE II. Military specifications (cont'd).

| Number                   | Title  | Elastomers <sup>1</sup><br>Required               | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|--|---|--|---|
| MIL-D-17650              | Disk, Valve, Rubber, Insert Type   | -   | -  | 3                                       |
| MIL-C-17694              | Cable & Cable Assemblies, Special Purpose, Electrical, Magnetic Minesweeping (Quad Cable)                                | insulation/<br>SBR or CSM<br>Jacket/<br>CR or CSM | -  | 5                                       |
| MIL-B-17901              | Bearing Components, Bonded Synthetic Rubber, Water Lubricated  | -   | -  | 3                                       |
| MIL-H-17902              | Hose Assemblies, Rubber, Aircraft Fueling, Collapsible Type  | -   | -  |   |
|                          | Class I  | CR  | -  | 8                                       |
|                          | Class II   | NBR (Tube)  | -  | 3                                       |
| MIL-G-17927              | Gasket, Asbestos-Metallic Cover, Rubber Core   | -   | -  | 3                                       |
| MIL-W-17965              | Webbing, Textile, Knitted, Nylon, Elastic, 4-1/4 Inch Width  | NR  | -  | 3                                       |
| MIL-I-18057              | Insulation Sleeveing, Electrical, Flexible, Glass Fiber, Silicon Rubber Treated  | Q   | -  | 20                                      |
| MIL-H-18158              | Hose Assembly, Air Duct, Low Pressure, Fabric, Wire Stiffened, Retractable, Naval Shipboard Portable Ventilating Set Use | CR  | -  | 5                                       |
| MIL-M-18351              | Mattresses & Mattress Ticks, Berth, Synthetic Cellular Rubber, Naval Shipboard All Types                                 | CR  | -  | 3                                       |
| MIL-E-18648 <sup>3</sup> | Eye Guards, Rubber, for Optical Instruments  | -   | -  | 3                                       |
| MIL-B-18799 <sup>3</sup> | Bulbs, Flush, Water Closet Tank Cloth, Coated, & Tape, Coated Cloth - Chloroprene on Nylon Pneumatic Life Preserver      | -   | NR or SYN                                | 3                                       |
| MIL-C-19002              | Type I   | -   | -  |   |
| MIL-M-19018              | Mats, Floor, Rubber or Plastic, Light Gray, For Shipboard Shower Stalls  | -   | -  | 5                                       |
|                          |  | -   | -  | 3                                       |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

2 If no elastomer is listed, the elastomer commonly used is unknown.

3 Cancelled, no replacement.

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TABLE II. Military specifications (cont'd).

| Number                   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|---|-------------------------------------|--|---|
| MIL-P-19152              | Packings, Hydraulic, High Pressure (for<br>Hydropneumatic Systems)                                    | -                                   | NBR                                      | 5                                       |
| MIL-I-19254 <sup>4</sup> | Insulation Blanket, Electrical, 20,000<br>Volts Rating, with, Eyelets                                 | NR or SYN                           | -  | 3                                       |
| MIL-M-19379              | Mounts, Resilient, Mare Island Types<br>Types 11M15, 11M25, & 10M50                                   | CR or NBR                           | -  | 3                                       |
| MIL-M-19417              | Mask, Oxygen & Smoke, Full Face   | -                                   | -  | 3                                       |
| MIL-C-19635              | Cloth, Coated, Non-Slip Table Covering  | -                                   | -  | 3                                       |
| MIL-H-19639 <sup>5</sup> | Hose Assemblies, Rubber, Paint Spray<br>Equipment   |                                     |  |   |
|                          | Class I   | CR                                  | -  | 8                                       |
|                          | Class II  | SBR or NBR<br>(Tube)                | -  | 3                                       |
|                          | Class III   | CR (Cover)                          | -  | 5                                       |
| MIL-C-19654              | Cable, Telephone; Submarine   | SBR or SYN<br>(Insulation)          | -  | 5                                       |
| MIL-C-19699              | Cloth, Coated (Nylon Taffeta)   | CR                                  | -  | 5                                       |
| MIL-C-19759              | Cloth, Coated, Twill Nylon, (Low Count)   | CR                                  | -  | 5                                       |
| MIL-G-19769              | Gaskets, Synthetic Rubber, Oil Resist-<br>ant, Slide Valve (For 21-Inch Sub-<br>merged Torpedo Tubes) | NBR                                 | -  | 3                                       |
| MIL-C-19787              | Cable, Electric, Torpedo, 65 Conductor<br>(For Torpedo Control, Electric Setting)                     | CR (Sheath)                         | -  | 5                                       |
| MIL-M-19863              | Mount, Resilient, Type 5B5000   | NR                                  | -  | 3                                       |
| MIL-P-19918              | Packing, V Ring   | -                                   | NBR                                      | 3                                       |
| MIL-H-19992 <sup>3</sup> | Hose Assemblies, Flexible (Pneumatic),<br>High Pressure Oil Resistant                                 | -                                   | NBR                                      | 3                                       |
| MIL-G-20078              | Gaskets, Metal Inserted Rubber, Armored<br>Hatch<br>Type B  | MIL-R-900                           | SBR                                      | 3                                       |

## NOTES:

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2If no elastomer is listed, the elastomer commonly used is unknown.

3Cancelled, no replacement.

4Cancelled: Use ASTM D1048.

5Cancelled: Use ZZ-H-521.

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TABLE II. Military specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-------------|---|-------------------------------------|--|---|
| MIL-R-20092 | Rubber Sheets and Assembled and Molded Shapes, Cellular Synthetic, Open Cell (Foamed Latex)   |                                     |  |   |
|             | Class 1 - Types I & II All Conditions   | CR                                  | -  | 3                                       |
|             | Class 3 - Types I & II All Conditions   | CR                                  | -  | 3                                       |
| MIL-H-20176 | Hose & Hose Assembly, Rubber, Non-collapsible, Smooth Bore, Light Weight, Sewage Discharge and Oily Waste Discharge Bladders, Floation (Navy) | -                                   | NBR                                      | 3                                       |
| MIL-B-20278 | Cloth, Coated, Nylon Waterproof   | NR or SYN                           | -  | 3                                       |
| MIL-C-20696 | Types I & II, Classes 1 & 3   | CR                                  | -  | 5                                       |
| MIL-C-21109 | Cloth, Coated, Nylon Raft Bottom  | NR                                  | -  | 3                                       |
| MIL-R-21252 | Rubber Sheet, Solid, Synthetic, Ship-board Water Evaporator Gasketing   | SBR                                 | -  | 3                                       |
| MIL-H-21291 | Hose Assembly, Non Collapsible, For Aviation Fuels  |                                     |  |   |
|             | Class I   | CR                                  | -  | 8                                       |
|             | Class II  | NBR (Tube)                          | -  | 3                                       |
| MIL-S-21558 | Seals, Oil, Plain or Plain Encased  | -                                   | NBR                                      | 5                                       |
| MIL-G-21569 | Gaskets, Cylinder Liner Seal Synthetic Rubber   |                                     |  |   |
|             | Class I   | NBR                                 | -  | 3                                       |
|             | Class II  | Q                                   | -  | 20                                      |
| MIL-G-21610 | Gaskets, Heat Exchanger, Various Cross Section Ring, Synthetic Rubber   |                                     |  |   |
|             | Type I  | NBR                                 | -  | 3                                       |
|             | Type II   | Q                                   | -  | 20                                      |
| MIL-M-21649 | Mount, Resilient, Type 5M10,000-H   | NR                                  | -  | 3                                       |
| MIL-S-21923 | Synthetic Rubber Compound, Butadiene-Styrene Type, Ozone Resistant, For Low Temperature Service   | SBR                                 | -  | 3                                       |
| MIL-W-21985 | Wheel, Cushion Tread (Semi-Pneumatic) for Mobile Ground Support Equipment   | -                                   | -  | 5                                       |

## NOTES:

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TABLE II. Military specifications (cont'd).

| Number                   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|---|-------------------------------------|--|---|
| MIL-G-22050              | Gasket & Packing Material, Rubber<br>For Use with Polar Fluids, Steam and<br>Air at Moderately High Temperatures    | -                                   | IIR                                      | 10                                      |
| MIL-H-22240              | Hose, Rubber, Petroleum Based Fuels and<br>Water Services, Discharge Only, Smooth<br>Bore, Lightweight Buoyant Type |                                     |  |   |
|                          | Type A & B  | NBR (Tube)                          |  | 3                                       |
| MIL-H-22279              | Hose Assemblies, Rubber, Aircraft Fuel-<br>ing Collapsible by Negative Pressure                                     | CR                                  | -  | 8                                       |
| MIL-M-22322 <sup>3</sup> | Mounts, Resilient, Shear (For Use in<br>Shipping Containers)  | NR or SYN                           | -  | 3                                       |
| MIL-C-22524 <sup>4</sup> | Cloth, Coated, Fire, Water, Mildew &<br>Weather Resistant   | CSM                                 | -  | 10                                      |
| MIL-D-22706              | Duct and Scuff Cover, Pneumatic, Flexible   | -                                   | -  | 3                                       |
| MIL-C-22731 <sup>3</sup> | Cables, Controlled Mine   | SBR<br>(insulation)                 | -  | 3                                       |
| MIL-C-23020              | Cable, Coaxial (For Submarine Use)  | CR (Jacket)                         | -  | 5                                       |
| MIL-I-23053/1            | Insulation sleeving, Electrical, Heat<br>Shrinkable, Polychloroprene, Flexible                                      | CR                                  | -  | 5                                       |
| MIL-I-23053/10           | Insulation sleeving, Electrical Heat<br>Shrinkable Silicone Rubber Flexible   | Q                                   | -  | 20                                      |
| MIL-C-23070              | Cloth, Laminated, & Tape Coated Cloth<br>Polyisoprene, Natural or Synthetic on<br>Nylon                             | NR or IR                            | -  | 3                                       |
| MIL-R-23074              | Rubber Tile, Rubber-Air-Lead-Type (RAL)   | CR                                  | -  | 8                                       |
| MIL-I-23578              | Insulation Hose, Electrical & Insulation<br>Hoods, Insulator  | NR or SYN                           | -  | 3                                       |
| MIL-G-23621              | Guard, Splash, Wheel  | NR or SYN                           | -  | 3                                       |
| MIL-G-23652 <sup>5</sup> | Gasket & Packing Material, Petroleum &<br>Phosphate Ester Fluid Resistant,<br>Types I & II                          | -                                   | FKM                                      | 20                                      |
| MIL-C-23962 <sup>3</sup> | Cloth Coated & Laminated Polychloroprene<br>on Nylon & Tape Polychloroprene,<br>Unsupport                           | CR                                  | -  | 5                                       |

## NOTES:

1If no elastomer is listed, none is required by the specification.

2If no elastomer is listed, the elastomer commonly used is unknown.

3Cancelled, no replacement.

4Cancelled, use MIL-C-43006.

5Cancelled, use MIL-R-83248.

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TABLE II. Military specifications (cont'd).

| Number       | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------|--|-------------------------------------|--|---|
| MIL-G-23983  | Gasket & Packing Materials Oil Resistant Rubber, Access Hull Applications                              | -                                   | CR                                       | 5                                       |
| MIL-H-24520  | Hose & Hose Assembly for Water Cooling of Electronic Equipment   | EPDM                                | -  | 5                                       |
| MIL-H-24580  | Hose Assemblies Synthetic Rubber, Non-collapsible, Fire Fighting                                       |                                     |  |   |
|              | Types A & B  | EPDM                                | -  | 5                                       |
| MIL-H-25579  | Hose Assembly, Tetrafluoroethylene, High Temperature Medium Pressure, General Requirements for         | IIR (Cover)                         | -  | 10                                      |
| MIL-P-25732  | Packing Preformed Petroleum Hydraulic Fluid Resistant, Limited Service at 275°F (135°C)                | -                                   | NBR                                      | 10                                      |
| MIL-R-258973 | Rubber, Fluorocarbon Elastomer, High Temperature, Fluid Resistant                                      | FKM                                 | -  | 20                                      |
| MIL-R-25988  | Rubber, Fluorosilicone Elastomer, Oil & Fuel Resistant, Sheets Strips, Molded Parts and Extruded Parts | FVMQ                                | -  | 20                                      |
| MIL-D-26124  | Duct and Duct Assembly, Pneumatic, Flexible  | -                                   | -  | 3                                       |
| MIL-T-26385  | Hose, Oxygen and Pressurization, Ozone Resistant   | -                                   | -  | 3                                       |
| MIL-P-26514  | Polyurethane Foam, Rigid or Flexible for AU Packaging, Type I  |                                     |  |   |
| MIL-H-26521  | Hose & Hose Assembly, Nonmetallic, Fuel, Collapsible, Low Temperature, With Reattachable Couplings     | CO, CR                              | -  | 8                                       |
| MIL-H-26633  | Hose Assembly, Polytetrafluoroethylene, Oxygen   | CR (Cover)                          | -  | 8                                       |
| MIL-H-26666  | Hose Assembly, Pneumatic, High Pressure  | CR (Cover)                          | -  | 5                                       |
| MIL-C-26712  | Cloth, Coated, Nylon, Chloroprene-Coated   | CR                                  | -  | 5                                       |
| MIL-C-26861  | Cushioning Material, Resilient Type, General   |                                     |  |   |
| MIL-H-26894  | Hose Assembly, Rubber, Gasoline, Refueling, Low Temperature  | -                                   | -  | 3                                       |
|              |  |                                     | NBR                                      | 3                                       |
| MIL-C-27212  | Cable, Power, Electrical, Airport Lighting Control   | NR (insulation)                     | -  | 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>Cancelled, use MIL-R-83248.

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TABLE II. Military specifications (cont'd).

| Number                   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|---|-------------------------------------|--|---|
| MIL-M-27274              | Mask, Oxygen, MBU-5/P   | Q                                   | -  | 20                                      |
| MIL-S-27332              | Seat Cushion Insert, Polyurethane Foam<br>Plastic, General Spec For   | AU, EU                              | -  | 3                                       |
| MIL-C-27347              | Cloth, Coated, Glass, Aluminum Face,<br>Silicone Rubber Back  | Q                                   | -  | 20                                      |
| MIL-H-27508 <sup>3</sup> | Hose Assembly, Rubber GRK-6/E32R-1  | NBR (Tube)                          | -  | 3                                       |
| MIL-H-27516              | Hose and Hose Assembly, Nonmetallic,<br>Suction and Discharge   | NRB (Tube)                          | -  | 8                                       |
| MIL-H-28523              | Hose Assembly, Rubber, Hydraulic Pneu-<br>matic, Jetting (400 psi Working<br>Pressure)                      | -                                   | -  | 3                                       |
| MIL-H-28596              | Hose Assembly, Rubber, Wire Reinforced<br>200 psig Saturated Steam Service                                  | -                                   | IIR, CR, EPDM                            | 10                                      |
| MIL-H-29210              | Hose Assembly, Rubber, Metal Lined,<br>Wire Reinforced, 250 psig, Standard<br>and Superheated Steam Service | IIR or EPDM<br>(Tube)               | -  | 5                                       |
| MIL-T-36966              | Tubing, Nonmetallic, Rubber   | NR                                  | -  | 3                                       |
| MIL-C-38149              | Cloth, Coated, Chlorobutyl, Metra-Aramid<br>Fuel & Oxidizer Resistant                                       | IIR                                 | -  | 10                                      |
| MIL-S-40000 <sup>4</sup> | Shoes, Gymnasium (Men's & Women's)  | NR<br>(outersole)                   | -  | 3                                       |
| MIL-M-40024              | Mattress, Bed: Foam-Rubber, Ambulance<br>Stretcher  | NR                                  | -  | 3                                       |
| MIL-S-40043              | Soles, Rubber, Shoe<br>Classes 1, 2 and 5<br>Classes 3, 4 and 6   | NR or SYN<br>NR or SYN              | -  | 3<br>3                                  |
| MIL-B-41816              | Boots, Insulated, Cold Weather, Rubber<br>(Wet-Cold/Dry-Cold)   | NR                                  | -  | 5                                       |
| MIL-A-41829              | Apron, Utility, Impermeable, Rubber<br>Coated Fabric (General Purpose)                                      | CR                                  | -  | 5                                       |
| MIL-S-43002              | Shield, Pipe, Space Heater  | Q                                   | -  | 20                                      |
| MIL-C-43006              | Cloth and Strip, Laminated, Vinyl<br>Nylon, High Strength, Flexible   | CSM                                 | -  | 10                                      |
| MIL-C-43062              | Cloth Coated, Cotton, Resin Modified<br>Butyl Coated, Acid & Fuel Resistant                                 | IIR                                 | -  | 8                                       |

## NOTES:

1 If no elastomer is listed, none is required by the specification.

2 If no elastomer is listed, the elastomer commonly used is unknown.

3 Cancelled, use MIL-H-26521.

4 Cancelled, use MIL-S-43961.

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TABLE II. Military specifications (cont'd).

| Number       | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------|---|-------------------------------------|--|---|
| MIL-C-43285  | Cloth Coated (Chloroprene Base Coated,<br>Chlorosulphonated Polyethylene Top<br>Coated)         | CR & CSM                            | -  | 10                                      |
| MIL-C-43303  | Cord, Elastic, Cotton   | NR                                  | -  | 3                                       |
| MIL-C-433793 | Cover Hawk Missile Transport & Launcher   | CR or CSM                           | -  | 10                                      |
| MIL-C-43473  | Cloth Coated Nylon Polyurethane Coated  | AU or EU                            | -  | 3                                       |
| MIL-C-43619  | Cloth, Netting, Cotton, Elasticized,<br>Raschel Knit  | NR or SYN                           | -  | 3                                       |
| MIL-C-43656  | Cloth, Coated, Polyester, Silicone Rubber Q<br>Coated   | NR or SYN                           | -  | 20                                      |
| MIL-S-43961  | Shoes, Gymnasium, Heavy Duty  | NR or SYN                           | -  | -                                       |
| MIL-M-43968  | Mattress Pneumatic, (Insulated)<br>Classes 1 & 2  | NR or SYN                           | -  | 3                                       |
| MIL-S-45005  | Seal, Plain & Seal, Plain, Encased:<br>Fluid, Radial Single & Multiple Lip<br>Seal              | -                                   | NBR                                      | 5                                       |
| MIL-R-45036  | Rubber, Hard (Ebonite) Natural or Syn-<br>thetic, Sheet, Strip, Rod, Tubing &<br>Molded Parts   | NR or SYN                           | -  | 20                                      |
| MIL-B-45326  | Grades A, B, C & D<br>Boot, Dust & Moisture Seal: Hydraulic<br>Brake Cylinder, Synthetic Rubber | -                                   | SBR                                      | 3                                       |
| MIL-M-45907  | Mount, Shipping Container, Resilient:<br>Shock & Vibration Damping                              | NR                                  | -  | 3                                       |
| MIL-H-46089  | Rubber Sponge, Silicone (Closed Cell)   | Q                                   | -  | 20                                      |
| MIL-W-467594 | Wheel, Solid, Rubber, Tire, Rebuild of<br>Rubber, Synthetic, Heat Shrinkable                    | SYN                                 | SBR                                      | 3                                       |
| MIL-R-46846  | Type I  | CR                                  | -  | 5                                       |
|              | Type II   | Q                                   | -  | 20                                      |
|              | Type III  | FKM                                 | -  | 20                                      |
|              | Type IV   | IIR                                 | -  | 5                                       |
|              | Type V  | EPDM                                | -  | 20                                      |
|              | Type VI   | EPDM                                | -  | 20                                      |

## NOTES:

1If no elastomer is listed, none is required by the specification.

2If no elastomer is listed, the elastomer commonly used is unknown.

3Cancelled, no replacement.

4Cancelled, superseded by MIL-W-3100.

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TABLE II. Military specifications (cont'd).

| Number                   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|---|-------------------------------------|--|---|
| MIL-B-50015              | Bulb, Aspirator   | NR                                  | -  | 3                                       |
| MIL-F-50070              | Faceblank, C17  | NR                                  | -  | 3                                       |
| MIL-H-51059              | Hose, Fuel, Flame Thrower, M8   | NBR (Tube)                          | -  | 5                                       |
| MIL-F-51109              | Faceblank, Protective Mask C12R4  | NR                                  | -  | 3                                       |
| MIL-H-52079              | Hose, Preformed: Semi-Flexible,<br>Reinforced   | -                                   | -  | 3                                       |
| MIL-H-52262              | Hose Assembly, Rubber, Lightweight,<br>Collapsible, 4-inch  | NBR (Tube)<br>SYN (Cover)           | -  | 3                                       |
| MIL-C-52286              | Cable & Assemblies, Power, Electrical<br>(with Molded on Terminations)                                    | -                                   | -  |   |
| MIL-H-52471              | Hose & Hose Assemblies, Rubber, Hydrau-<br>lic Pressure Type (Gen. Spec. for)                             | NBR (Tube)<br>CR (Cover)            | -  | 3                                       |
| MIL-H-52544              | Hose Rubber, Oil Suction, Wire<br>Reinforced  | CR (Tube)<br>NBR (Cover)            | -  | 3                                       |
| MIL-C-55036              | Cable, Telephone, WM-130 (/)/G  | CR (Jacket)                         | -  | 5                                       |
| MIL-C-55040              | Cable, Special Purpose, Electrical<br>(Retractable)   | -                                   | -  | 5                                       |
| MIL-C-55479 <sup>3</sup> | Cable, Assembly CX-162 & CX-163   | -                                   | CR                                       | 8                                       |
| MIL-C-55480              | Cable, Telephone WC-534   | -                                   | CR                                       | 8                                       |
| MIL-C-55483              | Cable Power Electrical Flat Three<br>Conductor  |                                     |  |   |
| MIL-T-62118              | Tread, Rubber, Strip Form Stock For<br>Retreading Pneumatic Tires   | CR                                  | -  | 8                                       |
| MIL-T-62129              | Tire, Pneumatic, For Truck, Logistical<br>Type  | NR, IR, SBR,<br>BR                  | -  | 3                                       |
| MIL-W-62136              | Wheel & Tire Assemblies, Foam Inflated<br>Low Speed Highway & Off-Road                                    | -                                   | -  | 3                                       |
| MIL-T-62157              | Tire, Pneumatic, With Flap, 1400-20 Run<br>Flat   | -                                   | -  | 3                                       |
| MIL-R-81090 <sup>3</sup> | Rubber, Electrically Conductive Fuel<br>Resistant   | -                                   | NBR                                      | 3                                       |
| MIL-H-81581              | Hose Assembly, Breathing Oxygen & Air   | Q                                   | -  | 20                                      |
| MIL-P-81716              | Packing, Preformed, Straight Thread Tube<br>Fitting Boss, Type II Hydraulic (Minus<br>65 F to Plus 275 F) | -                                   | -  | 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.<sup>3</sup>Cancelled, no replacement.

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TABLE II. Military specifications (cont'd).

| Number                   | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------------------|--|-------------------------------------|--|---|
| MIL-R-81828              | Rubber, Chlorosulfonated Polyethylene Elastomer, Sheet & Molded Shapes, Ozone Resistant        | CSM                                 | -  | 10                                      |
| MIL-H-82127              | Hose Assembly, Rubber (Synthetic): Fuel, Discharge, Collapsible                                | SYN                                 | -  | 3                                       |
| MIL-H-82142              | Hood, Rain, Woman's: Nylon, Rubber Coated Green  | NBR                                 | -  | 3                                       |
| MIL-R-82190              | Raincoat, Woman's, Nylon, Rubber Coated Green  | NBR                                 | -  | 3                                       |
| MIL-G-82242              | Glove Shells, Radioactive Contaminants, Protective   | NR                                  | -  | 3                                       |
| MIL-C-82255              | Cloth, Coated, Synthetic Rubber (Nitrile & Polychloroprene)<br>Types I, II, IV<br>Type III     | CR<br>NBR<br>NR or IR               | -<br>-<br>-                              | 5<br>3<br>3                             |
| MIL-S-82258              | Swim Fins, Rubber  | CR                                  | -  | 3                                       |
| MIL-T-82270              | Trousers, Wet Suit (Chloroprene Foam)  | CR                                  | -  | 3                                       |
| MIL-M-82272              | Mittens, Wet Suit (Chloroprene Foam)   | CR                                  | -  | 3                                       |
| MIL-C-83008 <sup>3</sup> | Cloth, Coated, Cotton & Nylon, Polyurethane (Microporus) Coated                                | AU or EU                            | -  | 3                                       |
| MIL-R-83248              | Rubber, Fluorocarbon Elastomer; High Temperature Fluid & Compression Set Resistant             | FKM                                 | -  | 20                                      |
| MIL-R-83285              | Rubber, Ethylene-Propylene, General Purpose  | EPDM                                | -  | 5                                       |
| MIL-R-83322              | Rubber, Carboxy-Nitroso; Nitrogen Tetroxide (N2O4) Resistant                                   | SYN                                 | -  | 5                                       |
| MIL-R-83397              | Rubber, Polyurethane, Castable, Humidity Resistant   | AU or EU                            | -  | 3                                       |
| MIL-C-83398              | Cloth, Coated, Stretch, Polychloroprene Knitted Nylon  | CR                                  | -  | 5                                       |
| MIL-R-83412              | Rubber, Ethylene-propylene, Hydrazine Resistant  | EPDM                                | -  | 5                                       |
| MIL-P-83461              | Packing, Preformed, Petroleum Hydraulic Fluid Resistant, Improved Performance at 275 F (135 C) | -                                   | -  | 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.<sup>3</sup>Cancelled, no replacement.

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TABLE II. Military specifications (cont'd).

| Number      | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-------------|--|-------------------------------------|--|---|
| MIL-R-83485 | Rubber, Fluorocarbon Elastomer, Improved<br>Performance at Low Temperature                     | FKM                                 | -  | 20                                      |
| MIL-P-87175 | Packing, Preformed, Petroleum Hydraulic<br>Fluid Resistant, Phosphonitrilic<br>Fluoroelastomer | FZ                                  | -  | 20                                      |

## 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>Cancelled, no replacement.

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TABLE III. Military standards.

| Number       | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|--------------|--|-------------------------------------|--|---|
| MIL-STD-4173 | Classification System and Tests for                  |                                     |  |   |
|              | Solid Elastomeric Materials                          |                                     |  |   |
|              | Rubber Compositions, Vulcanized General              |                                     |  |   |
|              | 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                                       |
| MIL-STD-670  | Class SC   | -                                   | CR                                       | 8                                       |
|              | Class TA   | -                                   | Q  | 20                                      |
|              | Class TB   | -                                   | ACM                                      | 20                                      |
|              | Classification System & Tests for                    |                                     |  |   |
|              | Cellular Elastomeric Materials                       |                                     |  |   |
|              | Type R - Styles C, E, O & U                          | -                                   | NR or SBR                                | 3                                       |
|              | Class SB - Styles E & O                              | -                                   | NBR                                      | 3                                       |
|              | Class SC - Styles E & O                              | -                                   | CR                                       | 3                                       |
|              | Types T - Styles E & O                               | -                                   | Q  | 20                                      |
|              | Types U - Styles C & U                               | -                                   | AU or EU                                 | 3                                       |
|              | Type V - Styles C, E, O & U                          | -                                   | Vinyl                                    | 3                                       |

## NOTE:

1If elastomer is not listed, none is required by the specification.

2If elastomer is not listed, the elastomer commonly used is unknown.

3Inactive for new design. For new design use ASTM D2000.



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TABLE IV. Federal specifications.

| Number                | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|--|-------------------------------------|--|---|
| J-C-96                | Cable, Telephone (W-108-B)   | SBR<br>(insulation)                 | -  | 5                                       |
| J-C-175               | Cable Assembly, Power, Electrical, For<br>125-Volt, 250-Volt, and 125/250-Volt,<br>50-6-Hz. Equipment  | -                                   | CR                                       | 3                                       |
| J-C-580               | Cord, Flexible, & Wire, Fixture (Elec-<br>trical, 0 to 600-Volt Service)<br>Types C, K, P, P-2, PD, PO-2, PW<br>PW-2, S, SO, SJ, SJO, SP-2, AFS,<br>HC, HPD, HS, HSJ, HSJO, HSO, HPN,<br>SP-3, SV, SVO, E, EO, SRD, SRDT,<br>RF-2, FF-2, RFH-2 and FFH-2<br>Types SF-2 & SFF-2 | CR (Outer<br>Jacket)                | -  | 3                                       |
| J-L-231               | Lead, Storage - Battery<br>Type II   | Q                                   | -  | 20                                      |
| L-H-520               | Hose & Hose Assemblies, (Nonmetallic,<br>Rubber, Plastic)  | NR or SYN                           | -  | 3                                       |
| L-P-386               | Plastic Material, Cellular, Urethane<br>Flexible   | AU, EU                              | -  | 3                                       |
| DD-B-599              | Bottle, Stopper, Vaccine, Round & Stop-<br>per, Bottle, Rubber   | -                                   | NR                                       | 3                                       |
| GG-C-846 <sup>3</sup> | Cup Set, Polishing, Dental Handpiece<br>(Rubber)   | NR or SYN                           | -  | 3                                       |
| GG-P-655              | Printing Set, Rubber Type  | NR or SYN                           | -  | 3                                       |
| GG-S-727 <sup>3</sup> | Stamp Set, Rubber, Anatomical  | -                                   | -  | 3                                       |
| HH-F-341              | Filler, Expansion Joint: Bituminous<br>(Asphalt & Tar) and Nonbituminous (Non-<br>extruding & Preformed for Concrete)<br>Type II, Class A  | NR or SYN                           | -  | 3                                       |
| HH-G-156              | Gaskets Material, General Purpose;<br>Rubber Sheets Strips & Special Shapes  | NR or SYN                           | -  | 3                                       |
| HH-I-573              | Insulation, Thermal, (Flexible Unicell-<br>ular Sheet & Pipe Covering)   | -                                   | EU, AU                                   | 3                                       |

## NOTE:

1If elastomer is not listed, none is required by the specification.

2If elastomer is not listed, the elastomer commonly used in unknown.

3Cancelled, no replacement.

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TABLE IV. Federal specifications (cont'd).

| Number                | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|---|-------------------------------------|--|---|
| HH-P-151              | Packing; Rubber Sheet, Cloth Insert                             |                                     |  |   |
|                       | Class 1   | NR or SYN                           | -  | 3                                       |
|                       | Class 2   | CR                                  | -  | 3                                       |
|                       | Class 3   | SBR                                 | -  | 3                                       |
|                       | Class 4   | NBR                                 | -  | 3                                       |
| JJ-W-155              | Webbing, Textile, (Cotton, Elastic)                             |                                     |  |   |
|                       | Types I & II, All Classes                                       | NR or SYN                           | -  | 3                                       |
| RR-T-650              | Tread, Metallic & Nonmetallic, Nonskid                          |                                     |  |   |
|                       | Type A  | NR or SYN                           | -  | 3                                       |
| TT-I-600              | Inking Pad, Rubber Stamp  |                                     |  |   |
|                       | Type III  | NR or SYN                           | -  | 3                                       |
| ZZ-B-71               | Bags, Politzer  |                                     |  |   |
|                       | Class A   | NR, IIR, CR,<br>or SBR              | -  | 3                                       |
|                       | Class B   | CR                                  | -  | 5                                       |
| ZZ-B-101              | Bandages, Rubber  | NR                                  | -  | 3                                       |
| ZZ-B-117              | Band, Ligature, Dental, Rubber                                  | NR                                  | -  | 3                                       |
| ZZ-B-190              | Belt, V, Engine-Accessory-Drive,<br>Minus 40°F (Gen. Spec. For) | NR                                  | -  | 3                                       |
| ZZ-B-206 <sup>3</sup> | Belting, Flat, Conveyor; Rubber<br>All Types                    | NR or SYN                           | -  | 6                                       |
| ZZ-B-215              | Belt, V, Light Duty or Fractional<br>Horsepower                 | NR, IIR, CR,<br>or SBR              | -  | 5                                       |
| ZZ-B-220 <sup>4</sup> | Belting, V, Adjustable Link<br>Type I                           | NR or SYN                           | -  | 6                                       |
| ZZ-B-225              | Belt, V, Industrial (Multiple Drive)                            | NR                                  | -  | 6                                       |
| ZZ-B-530              | Boots, Knee & Hip (Rubber)                                      | -                                   | -  | 6                                       |
|                       | Type I & II   |                                     |  |   |
| ZZ-B-586              | Bags, Ice and Hot Water   | NR or SYN                           | -  | 3                                       |
|                       |   | NR, CR, or<br>SBR                   | -  | 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.
- <sup>3</sup>Cancelled, use MIL-B-52761.
- <sup>4</sup>Cancelled, no replacement.

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TABLE IV. Federal specifications (cont'd).

| Number                | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|---|-------------------------------------|--|---|
| ZZ-B-616              | Bowl, Plaster of Paris Mixing   | NR or SYN                           | -  | 3                                       |
| ZZ-C-101              | Catheters, Urethral, Rubber<br>All Types  | NR                                  | -  | 3                                       |
| ZZ-C-450              | Cloth, Coated (Rubber & Plastic) &<br>Plastic Sheeting for Hospital Use<br>Type I   | NR or SYN                           | -  | 3                                       |
| ZZ-C-766              | Cushions, Chair and Stool   | NR or SYN                           | -  | 3                                       |
| ZZ-C-796              | Cushions; Ring, Inflatable  | NR or SYN                           | -  | 3                                       |
| ZZ-C-811              | Cushion (Underlay), Carpet & Rug, Sponge<br>Rubber and Synthetic Rubber<br>Types I & II   | NR or SYN                           | -  | 3                                       |
| ZZ-D-800              | Dustpan (Rubber)  | NR or SYN                           | -  | 10                                      |
| ZZ-E-661              | Erasers, Rubber & Rubber Substitute<br>Types I, II, III & IV a  | NR or SYN                           | -  | 3                                       |
| ZZ-F-375              | Finger Pads, Rubber<br>Grade A .<br>Grade B   | NR<br>NR or SYN                     | -<br>-                                   | 3<br>3                                  |
| ZZ-F-1299             | Finger Cot, Surgical Disposable   | NR                                  | -  | 3                                       |
| ZZ-G-100              | Gloves, Rubber, Autopsy<br>Class 1<br>Class 2   | NR<br>CR                            | -<br>-                                   | 3<br>5                                  |
| ZZ-G-381              | Gloves, Rubber, Industrial<br>Type I<br>Type II & III   | NR or SYN<br>-                      | -<br>NR                                  | 3<br>3<br>3                             |
| ZZ-G-401              | Gloves, Rubber (For) Electrical Workers<br>(For Use in Connection with Apparatus<br>or Circuits not Exceeding 5,000 Volts<br>to Ground) | -                                   | -  | 3                                       |
| ZZ-H-130 <sup>3</sup> | Heel, Orthopedic, Cast  | NR or SYN                           | -  | 3                                       |
| ZZ-H-141              | Heel, Rubber<br>Classes 1, 2, 3, 5 & 6  | NR or SYN                           | -  | 3                                       |
| ZZ-H-421              | Hose and Hose Assembly, Chemical<br>(Industrial & Fire Fighting)  | -                                   | NR                                       | 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.<sup>3</sup>Cancelled, no replacement.

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TABLE IV. Federal specifications (cont'd).

| Number   | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------|--|-------------------------------------|--|---|
| ZZ-H-428 | Hose Nonmetallic and Hose Preformed,<br>(For The Coolant Systems of Auto-<br>motive and other liquid Cooled Engines) | -                                   | NBR                                      | 3                                       |
|          | Class 1  | -                                   | CR                                       | 8                                       |
|          | Class 2  | -                                   | EPDM                                     | 10                                      |
|          | Class 3  | -                                   | IIR                                      | 10                                      |
|          | Class 4  | -                                   |  |   |
| ZZ-H-451 | Hose, Fire Woven Jacketed Rubber or<br>Latex or Rubber Coated Fabric Lined,<br>with Couplings                        | -                                   | -  | 3                                       |
| ZZ-H-461 | Hose and Hose Assembly, Rubber, Gas<br>(Acetylene, Hydrogen, Air and Oxygen)   | -                                   | -  |   |
|          | All Grades & Types   | SBR                                 | -  | 3                                       |
| ZZ-H-466 | Hose Assembly, Metal, (Rubber Covered),<br>Hydrocarbon Conveying   | NR or SYN                           | -  | 3                                       |
| ZZ-H-500 | Hose, Rubber & Hose Assemblies, Rubber<br>Pneumatic (Yarn or Fabric Reinforced)                                      | -                                   | CR                                       | 8                                       |
| ZZ-H-515 | Hose, Rubber (Sleeve, Dredging)  | -                                   | -  | 3                                       |
| ZZ-H-521 | Hose and Hose Assemblies, Nonmetallic,<br>Spray  | NR or SYN                           | -  | 3                                       |
| ZZH-561  | Hose, Rubber, and Hose Assemblies,<br>Rubber, Smooth Bore, Water Suction<br>and Discharge                            | -                                   | CR                                       | 5                                       |
| ZZ-H-601 | Hose and Hose Assemblies, Rubber (Wrapped<br>or Braided, Water Service   | EPDM                                | -  | 10                                      |
|          | Grade 1  | EPDM                                | -  | 10                                      |
|          | Grade 2  | -                                   | -  | 3                                       |
|          | Grade 3  | -                                   | -  |   |
| ZZ-H-617 | Hose, Rubber, Windshield Wiper<br>Type I   | -                                   | -  | 3                                       |
|          | Type II  | NR or SYN                           | -  | 3                                       |
| ZZ-I-550 | Inner Tube, Pneumatic Tire   | NR or IIR                           | -  | 5                                       |
|          | All Classes & Groups   | NR or SYN                           | -  | 3                                       |
| ZZ-M-42  | Mats, Floor, Dental-Chair, Rubber  |                                     |  |   |

## NOTE:

1If elastomer is not listed, none is required by the specification.

2If elastomer is not listed, the elastomer commonly used is unknown.

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TABLE IV. Federal specifications (cont'd).

| Number      | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-------------|---|-------------------------------------|--|---|
| ZZ-M-46     | Mats, Floor (Link-Type)<br>Classes 1, 2, 3 & 4                      | NR or SYN                           | -  | 3                                       |
| ZZ-M-71     | Matting, Rubber and Vinyl<br>All Classes & Styles                   | SYN or<br>Reclaim                   | -  | 3                                       |
| ZZ-M-81     | Matting, Rubber & Plastic (Special<br>Dielectric)                   | -                                   | -  | 3                                       |
| ZZ-M-85     | Classes A & B<br>Matting Floor, Rubber, Sponge Base<br>Anti-Fatigue | -                                   | -  | 3                                       |
| ZZ-M-91     | Mattress, Bed, Latex Foam   | NR or SYN                           | -  | 3                                       |
| ZZ-M-001033 | Matting Floor, Rubber, Aperture Surface                             | NR or SYN                           | -  | 3                                       |
| ZZ-P-463    | Pads, Operating Table (Sectional)                                   | NR or SYN                           | -  | 3                                       |
| ZZ-P-75     | Pads, Typewriter, Sponge Rubber                                     | NR or SYN                           | -  | 3                                       |
| ZZ-P-3513   | Pillows: Air, Rubber  | NR or IIR                           | -  | 3                                       |
| ZZ-R-006753 | Rubber Band, Four Way   | NR or SYN                           | -  | 3                                       |
| ZZ-R-690    | Rubber Dam, Dental  | -                                   | NR                                       | 3                                       |
| ZZ-R-710    | Rubber Gasket Material 35 Durometer<br>Hardness                     | -                                   | -  | 3                                       |
| ZZ-R-765    | Rubber Silicone   | Q                                   | -  | 20                                      |
| ZZ-R-768    | Rubber for Mountings (Unbonded-spool &<br>Compression Types)        | NBR                                 | -  | 3                                       |
| ZZ-R-7853   | Rubber Sheet, Cellular Hardboard                                    | SYN or<br>Reclaim                   | -  | 3                                       |
| ZZ-R-800    | Rubber Stamp, Band Type   | NR or SYN                           | -  | 3                                       |
| ZZ-R-804    | Rubber Stamp, Fixed Type  | NBR, NR or<br>SYN                   | -  | 3                                       |
| ZZ-R-001207 | Rubber Stamp, Fixed Type, Pre-inked                                 | NR or SYN                           | -  | 3                                       |
| ZZ-R-1415   | Rubber Band   | NR, SBR, IR<br>or SYN               | -  | 3                                       |
| ZZ-S-666    | Squeegees, Floor & Window   | NR or SYN                           | -  | 3                                       |
| ZZ-S-751    | Stoppers, Bottle, Rubber<br>All Types & Grades                      | NR or SYN                           | -  | 3                                       |
| ZZ-T-351    | Tips, Cane and Crutch, Rubber                                       | NR or SYN                           | -  | 3                                       |

## NOTE:

1If elastomer is not listed, none is required by the specification.

2If elastomer is not listed, the elastomer commonly used is unknown.

3Cancelled, no replacement.

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TABLE IV. Federal specifications (cont'd).

| Number                 | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|------------------------|--|-------------------------------------|--|---|
| ZZ-T-381               | Tires, Pneumatic, Vehicular (Highway)  | NR or SYN                           | -  | 5                                       |
| ZZ-T-401               | All Types, Groups & Classes<br>Tire, Pneumatic; Inner Tube, Pneumatic<br>Tire; (Bicycle)                                       | NR or SYN                           | -  | 5                                       |
|                        | Tires, Classes A & B   | IIR                                 | -  | 10                                      |
| ZZ-T-410               | Tires, Pneumatic, Industrial   | NR or SYN                           | -  | 5                                       |
| ZZ-T-441               | Tires<br>Tire, Pneumatic: Retreaded & Repaired   | NR or SYN                           | -  | 3                                       |
| ZZ-T-721               | All Types & Classes<br>Tube, Inner, Pneumatic, for Tires (Auto-<br>mobiles, Trucks, Motorcycles, and<br>Other Ground Vehicles) | IIR                                 | -  | 10                                      |
| ZZ-T-751 <sup>3</sup>  | Tubes; Colon, Surgical   | NR or SYN                           | -  | 3                                       |
| ZZ-T-791               | Tube, Stomach, Surgical (Formerly Tubes,<br>Lavage & Stomach)  | NR or SYN                           | -  | 3                                       |
| ZZ-T-831               | Tubing, Rubber and Plastic   | NR or SYN                           | -  | 3                                       |
|                        | Grade A  | SYN                                 | -  | 3                                       |
|                        | Grade B  | NR                                  | -  | 3                                       |
|                        | Grade C & L  | NR or SYN                           | -  | 3                                       |
|                        | Grade D  | NR or SYN                           | -  | 3                                       |
| ZZ-T-1083              | Tire, Pneumatic, Low Speed, Off Highway  | NR or SYN                           | -  | 3                                       |
| BBB-C-606 <sup>3</sup> | Coats & Trousers, Rubber-Coated (Foul-<br>Weather-Clothing)  | NR or SYN                           | -  | 3                                       |
| GGG-R-00620            | Roller, Hand (Rubber Roller)   | 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 in unknown.<sup>3</sup>Cancelled, no replacement.

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TABLE V. Aerospace Materials Specifications

| Number   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------|---|-------------------------------------|--|---|
| AMS 3193 | Silicone Rubber Sponge, Closed Cell, Medium, Extreme Low Pressure     | Q                                   | -  | 20                                      |
| AMS 3194 | Silicone Rubber Sponge, Closed Cell, Firm, Extreme Low Temperature    | Q                                   | -  | 20                                      |
| AMS 3195 | Sponge, Silicone Rubber, Closed Cell, Medium                          | Q                                   | -  | 20                                      |
| AMS 3196 | Sponge, Silicone Rubber, Closed Cell, Firm                            | Q                                   | -  | 20                                      |
| AMS 3197 | Sponge, Chloroprene-Rubber, Soft                                      | CR                                  | -  | 3                                       |
| AMS 3198 | Sponge, Chloroprene-Rubber, Medium                                    | CR                                  | -  | 3                                       |
| AMS 3199 | Sponge, Chloroprene-Rubber, Firm                                      | CR                                  | -  | 3                                       |
| AMS 3200 | Rubber Nitrile, Petroleum Base Hydraulic Fluid Resistant (55-65)      | NBR                                 | -  | 3                                       |
| AMS 3201 | Rubber Nitrile, Dry Heat Resistant (35-45)                            | NBR                                 | -  | 3                                       |
| AMS 3202 | Rubber Nitrile, Dry Heat Resistant (55-65)                            | NBR                                 | -  | 3                                       |
| AMS 3204 | Rubber Synthetic, Low Temperature Resistant (25-35)                   | -                                   | NBR                                      | 3                                       |
| AMS 3205 | Rubber Synthetic, Low Temperature Resistant (45-55)                   | -                                   | NBR                                      | 3                                       |
| AMS 3207 | Chloroprene Rubber, Weather Resistant, (25-35)                        | CR                                  | -  | 8                                       |
| AMS 3208 | Chloroprene Rubber, Weather Resistant, (45-55)                        | CR                                  | -  | 8                                       |
| AMS 3209 | Chloroprene Rubber, Weather Resistant, (65-75)                        | CR                                  | -  | 8                                       |
| AMS 3210 | Chloroprene Rubber, Electrical Resistant, (65-75)                     | CR                                  | -  | 8                                       |
| AMS 3212 | Nitrile Rubber, Aromatic Fuel Resistant (55-65)                       | NBR                                 | -  | 5                                       |
| AMS 3213 | Nitrile Rubber, Aromatic Fuel Resistant (75-85)                       | NBR                                 | -  | 5                                       |
| AMS 3214 | Acrylonitrile Butadiene (NBR) Rubber, Aromatic Fuel Resistant (35-45) | NBR                                 | -  | 5                                       |

## 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.

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

| Number   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------|---|-------------------------------------|--|---|
| AMS 3215 | Nitrile Rubber, Aromatic Fuel Resistant<br>(65-75)                                      | NBR                                 | -  | 5                                       |
| AMS 3216 | Fluorocarbon Rubber - Fuel & Oil Resistant  | FKM                                 | -  | 20                                      |
| AMS 3220 | Synthetic Rubber General Purpose, Fluid<br>Resistant (55-65)                            | -                                   | CR                                       | 5                                       |
| AMS 3222 | Synthetic Rubber, Hot Oil Resistant, High<br>Swell (45-55)                              | -                                   | CR                                       | 5                                       |
| AMS 3226 | Acrylonitrile Butadiene (NBR) Rubber, Hot<br>Oil & Coolant Resistant, Low Swell (45-55) | NBR                                 | -  | 3                                       |
| AMS 3227 | Acrylonitrile Butadiene (NBR) Rubber, Hot<br>Oil & Coolant Resistant, Low Swell (55-65) | NBR                                 | -  | 3                                       |
| AMS 3228 | Acrylonitrile Butadiene (NBR) Rubber, Hot<br>Oil & Coolant Resistant (65-75)            | NBR                                 | -  | 3                                       |
| AMS 3229 | Acrylonitrile Butadiene (NBR) Rubber, Hot<br>Oil Resistant, Low Swell (75-85)           | NBR                                 | -  | 3                                       |
| AMS 3237 | Butyl Rubber, Phosphate Ester Resistant<br>(35-45)                                      | IIR                                 | -  | 10                                      |
| AMS 3238 | Butyl Rubber, Phosphate Ester Resistant<br>(65-75)                                      | IIR                                 | -  | 10                                      |
| AMS 3239 | Butyl Rubber, Phosphate Ester Resistant<br>(85-95)                                      | IIR                                 | -  | 10                                      |
| AMS 3240 | Chloroprene Rubber, Weather Resistant,<br>Type (35-45)                                  | CR                                  | -  | 8                                       |
| AMS 3241 | Chloroprene Rubber, Weather Resistant,<br>Type (55-65)                                  | CR                                  | -  | 8                                       |
| AMS 3242 | Chloroprene Rubber, Weather Resistant,<br>Type (75-85)                                  | CR                                  | -  | 8                                       |
| AMS 3243 | Chloroprene Rubber, Flame Resistant,<br>Type (55-65)                                    | CR                                  | -  | 8                                       |
| AMS 3244 | Chloroprene Rubber, Flame Resistant,<br>Type (65-75)                                    | 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.



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

| Number   | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------|---|-------------------------------------|--|---|
| AMS 3248 | Synthetic Rubber, Phosphate Ester Resistant   | EPDM                                | -  | 8                                       |
|          | Ethylene Propylene Type (55-65)   |                                     |  |   |
| AMS 3249 | Synthetic Rubber, Hydrazine Base Fluid Resis-<br>tant Ethylene Propylene Type (75-85) | EPDM                                | -  | 8                                       |
| AMS 3260 | Rubber, Ethylene-Propylene-Diene, EPDM Type   | EPDM                                | -  | 8                                       |
| AMS 3270 | Chloroprene Rubber Sheet, Cotton Fabric Rein-<br>forced, Weather Resistant            | CR                                  | -  | 5                                       |
| AMS 3273 | Chloroprene Rubber Sheet, Nylon Fabric Rein-<br>forced, Weather Resistant             | CR                                  | -  | 5                                       |
| AMS 3274 | Nitrile Rubber Sheet, Nylon Fabric Rein-<br>forced, Aromatic Fuel Resistant           | NBR                                 | -  | 3                                       |
| AMS 3301 | Silicone Rubber, General Purpose (35-45)  | Q                                   | -  | 20                                      |
| AMS 3302 | Silicone Rubber, General Purpose (45-55)  | Q                                   | -  | 20                                      |
| AMS 3303 | Silicone Rubber, General Purpose (55-65)  | Q                                   | -  | 20                                      |
| AMS 3304 | Silicone Rubber, General Purpose (65-75)  | Q                                   | -  | 20                                      |
| AMS 3305 | Silicone Rubber, General Purpose (75-85)  | Q                                   | -  | 20                                      |
| AMS 3307 | Silicone Rubber, Low Compression Set, Non-<br>Oil Resistant (65-75)                   | Q                                   | -  | 20                                      |
| AMS 3315 | Silicone Rubber Sheet, Glass Fabric Rein-<br>forced, VMQ Type                         | Q                                   | -  | 20                                      |
| AMS 3320 | Silicone Rubber Sheet, Glass Fabric Rein-<br>forced, Heat & Weather Resistant (60-80) | Q                                   | -  | 20                                      |
| AMS 3325 | Silicone Rubber, Fuel & Oil Resistant (55-65)   | FVMQ                                | -  | 20                                      |
| AMS 3326 | Silicone Rubber, Fuel & Oil Resistant (50-65)   | FVMQ                                | -  | 20                                      |
| AMS 3327 | Silicone Rubber, High Temperature Fuel & Oil<br>Resistant (70-80)                     | FVMQ                                | -  | 20                                      |
| AMS 3332 | Silicone Rubber, Extreme Low Temperature<br>Resistant (15-30)                         | Q                                   | -  | 20                                      |
| AMS 3334 | Silicone Rubber, Extreme Low Temperature<br>Resistant (35-45)                         | 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.

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

| Number                | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|---|-------------------------------------|--|---|
| AMS 3335              | Silicone Rubber, Extreme Low Temperature Resistant (45-55)  | Q                                   | -  | 20                                      |
| AMS 3336              | Silicone Rubber, Extreme Low Temperature  | Q                                   | -  | 20                                      |
| AMS 3337              | Silicone Rubber, High & Extreme Low Temperature Resistant (65-75)                                       | Q                                   | -  | 20                                      |
| AMS 3338              | Silicone Rubber, Extreme Low Temperature Resistant (75-85)  | Q                                   | -  | 20                                      |
| AMS 3344 <sup>3</sup> | Silicone Rubber - 1800 psi (45-55)  | Q                                   | -  | 20                                      |
| AMS 3345              | Silicone Rubber - 1000 psi (45-55)  | Q                                   | -  | 20                                      |
| AMS 3346              | Silicone Rubber - 1000 psi (55-65)  | Q                                   | -  | 20                                      |
| AMS 3347              | Silicone Rubber, 1200 psi, High Modulus (45-55)   | Q                                   | -  | 20                                      |
| AMS 3348              | Silicone Rubber, 1150 psi, High Resiliency  | Q                                   | -  | 20                                      |
| AMS 3349              | Silicone Rubber, 1100 psi, High Resilience (65-75)  | Q                                   | -  | 20                                      |
| AMS 3356              | Silicone Rubber, Lubricating Oil & Compression Set Resistant Electrical Grade (55-65)                   | Q                                   | -  | 20                                      |
| AMS 3357              | Silicone Rubber, Lubricating Oil & Compression Set Resistant (65-75)                                    | Q                                   | -  | 20                                      |
| AMS 3386              | Hose, Synthetic Rubber, Aircraft Fueling, Textile Reinforced Collapsing                                 | -                                   | NBR                                      | 3                                       |
| AMS 3387              | Hose, Nitrile Rubber, Aircraft Fueling, Textile Reinforced, Chloroprene Covered Noncollapsing           | NBR                                 | -  | 3                                       |
| AMS 3388              | Hose, Synthetic Rubber, Aircraft Fueling, Single Wire Braid Reinforced, Noncollapsing                   | -                                   | NBR                                      | 3                                       |
| AMS 3389              | Hose, Synthetic Rubber, Aircraft Fueling, Double Wire Braid Reinforced, Noncollapsing                   | -                                   | NBR                                      | 3                                       |
| AMS 3570              | Foam, Flexible Polyurethane Open Cell, Medium Flexibility   | AU, EU                              | -  | 3                                       |
| AMS 7259              | Rings, Sealing, Fluorocarbon Rubber, High-Temperature-Fluid Resistant, Very Low Compression Set (85-95) | 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.<sup>3</sup>Standard inactive for design purposes.

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

| Number                | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|--|-------------------------------------|--|---|
| AMS 7260              | Rings, Packing, Nitrile Rubber - Fuel & Low Temperature Resistant (70-80)  | NBR                                 | -  | 8                                       |
| AMS 7261              | Rings, Phosphonitrilic Fluororelastomer High-Temperature-Fluid Resistant   | FZ                                  | -  | 20                                      |
| AMS 7263 <sup>3</sup> | Rings, Packing, Synthetic Rubber - Phosphate Ester Hydraulic Fluid Resistant (85-95)                                 | IIR                                 | -  | 10                                      |
| AMS 7266              | Butyl Type<br>Rings, Sealing, Fluorosilicone Rubber, General Purpose, High Temperature, Fuel & Oil Resistant (65-75) | FVMQ                                | -  | 20                                      |
| AMS 7267              | Rings, Sealing, Silicone Rubber-Heat Resistant Low Compression Set (70-80)   | Q                                   | -  | 20                                      |
| AMS 7268              | Rings, Sealing Silicone Rubber Low Compression Set, Non-Oil Resistant (65-75)  | Q                                   | -  | 20                                      |
| AMS 7269              | Rings, Sealing, Silicone Rubber-Low Out Gas-ing, Space & Vacuum Service (45-55)                                      | Q                                   | -  | 20                                      |
| AMS 7270              | Rings, Sealing, Nitrile Rubber-Fuel Resistant (65-75)  | NBR                                 | -  | 8                                       |
| AMS 7271              | Rings, Sealing, Nitrile Rubber-Fuel & Low Temperature Resistant (60-70)  | NBR                                 | -  | 8                                       |
| AMS 7272              | Rings, Sealing, Nitrile Rubber-Synthetic Lubricant Resistant (65-75) Buna-N Type                                     | NBR                                 | -  | 8                                       |
| AMS 7273A             | Rings, Sealing, Fluorosilicone Rubber, High Temperature Fuel & Oil Resistant (70-80)                                 | FVMQ                                | -  | 20                                      |
| AMS 7274              | Rings, Sealing, Synthetic Rubber-Oil Resistant (65-75)   | -                                   | NBR                                      | 8                                       |
| AMS 7275 <sup>4</sup> | Rings, Sealing, Synthetic Rubber-Synthetic Lubricant Resistant (65-85) Fluorocarbon Type                             | FKM                                 | -  | 20                                      |
| AMS 7276              | Rings, Sealing, Fluorocarbon Rubber, High Temperature Fluid Resistant, Very Low Compression Set, FKM Type (70-80)    | FKM                                 | -  | 20                                      |

## NOTE:

1If no elastomer is listed, none is required by the specification.

2If no elastomer is listed, the elastomer commonly used is unknown.

3Non-current (Jul 81) use AMS 7261.

4Cancelled, no replacement.

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

| Number    | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------|---|-------------------------------------|--|---|
| AMS 72773 | Rings, Sealing, Synthetic Rubber Phosphate Ester Hydraulic Fluid Resistant (70-85) Butyl Type | IIR                                 | -  | 10                                      |
| AMS 72784 | Rings, Sealing, Synthetic Rubber High Temperature Fluid Resistant (70-80) Fluorocarbon Type   | FKM                                 | -  | 20                                      |
| AMS 72795 | Rings, Sealing, Synthetic Rubber High Temperature Fluid Resistant (85-95) Fluorocarbon Type   | FKM                                 | -  | 20                                      |
| AMS 72806 | Rings, Sealing, Fluorocarbon Rubber, High Resistant, Low Compression Set, FKM Type (70-80)    | 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.
- <sup>3</sup>Non-current (Jul 81), no replacement.
- <sup>4</sup>Non-current (Jan 82), use AMS 7276.
- <sup>5</sup>Non-current (Jul 83), use AMS 7259.
- <sup>6</sup>Inactive for new design, use AMS 7276.

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TABLE VI. American Society for Testing and Materials Specifications.

| Number     | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|------------|--|-------------------------------------|--|---|
| ASTM C443  | Joints For Circular Concrete Sewer & Culvert<br>Pipe, Using Rubber Gaskets   | NR or SYN                           | -  | 3                                       |
| ASTM D178  | Rubber Insulating Matting  | -                                   | -  | 3                                       |
| ASTM D296  | Rubber-Lined Fire Hose with Woven Jacket                                     | -                                   | -  | 3                                       |
| ASTM D353  | Natural Rubber Performance Insulation for<br>Wire & Cable 60 C Operation     | NR                                  | -  | 3                                       |
| ASTM D469  | Natural Rubber Heat-Resisting Insulation for<br>Wire & Cable, 75 C Operation | NR                                  | -  | 3                                       |
| ASTM D532  | Natural Rubber Jacket For Wire & Cable                                       | NR                                  | -  | 3                                       |
| ASTM D574  | Ozone-Resisting Insulation for Wire & Cable                                  | -                                   | -  | 3                                       |
| ASTM D752  | Heavy-Duty Black Polychloroprene for Wire &<br>Cable                         | CR                                  | -  | 8                                       |
| ASTM D753  | General Purpose Polychloroprene for Wire &<br>Cable                          | CR                                  | -  | 8                                       |
| ASTM D754  | Synthetic Rubber Insulation for Wire & Cable<br>75 C Operation               | -                                   | -  | 3                                       |
| ASTM D755  | Synthetic Rubber Insulation for Wire & Cable<br>60 C Operation               | -                                   | -  | 3                                       |
| ASTM D866  | Styrene-Butadiene (SBR) Synthetic Rubber<br>Jacket for Wire & Cable          | SBR                                 | -  | 3                                       |
| ASTM D1048 | Rubber Insulating Blankets   | NR or IR                            | -  | 3                                       |
| ASTM D1050 | Rubber Insulating Line Hose  | -                                   | -  | 3                                       |
| ASTM D1055 | Flexible Cellular Materials - Latex Foam<br>Grades RC & RU                   | -                                   | NR                                       | 3                                       |
| ASTM D1056 | Flexible Cellular Materials-Sponge or Expanded<br>Type R - Classes O & E     | -                                   | NR                                       | 3                                       |
|            | Type SB - Classes O & E  | -                                   | NBR                                      | 3                                       |
|            | Type SC - Classes O & E  | -                                   | CR                                       | 3                                       |
| ASTM D1330 | Sheet Rubber Gaskets<br>Grades I & II  | NR or SYN                           | -  | 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.

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

| Number                  | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-------------------------|--|-------------------------------------|--|---|
| ASTM D1352              | Ozone-Resisting Butyl Rubber Insulation for Wire & Cable                               | IIR                                 | -  | 10                                      |
| ASTM D1520              | Synthetic Rubber Heat or Moisture Resisting Insulation for Wire & Cable                | -                                   | -  | 3                                       |
| ASTM D1521 <sup>3</sup> | Synthetic Rubber Performance, Moisture Resisting Insulation for Wire & Cable           | -                                   | -  | 3                                       |
| ASTM D1523              | Synthetic Rubber Insulation for Wire & Cable 90 C Operation                            | -                                   | -  | 3                                       |
| ASTM D1564 <sup>4</sup> | Flexible Urethane Foam   |                                     |  |   |
|                         | Grades US & UU   | AU, EU                              | -  | 3                                       |
| ASTM D1565              | Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Open-Cell Foam)    |                                     |  |   |
|                         | Grades VC, VU & VO   |                                     |  |   |
| ASTM D1667              | Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Vinyl) | Vinyl                               | -  | 3                                       |
| ASTM D1679              | Synthetic Rubber Heat & Moisture Resisting Insulation for Wire & Cable, 75 C Operation | -                                   | -  | 3                                       |
| ASTM D1764              | Rubber Latex Products for Automotive Applications                                      |                                     |  |   |
|                         | Type LR  | -                                   | NR                                       | 3                                       |
|                         | Class LSB  | -                                   | NBR                                      | 3                                       |
|                         | Class LSC  | -                                   | CR                                       | 5                                       |
| ASTM D1869              | Rubber Rings for Asbestos - Cement Pipe  | NR or SYN                           | -  | 3                                       |
| ASTM D1931              | Fully Cured Silicone Rubber-Coated Glass Fabric & Tapes for Electrical Insulation      | 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.
- <sup>3</sup>Cancelled, no replacement.
- <sup>4</sup>Cancelled, use ASTM D3574.

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

| Number     | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|------------|--|-------------------------------------|--|---|
| ASTM D2000 | Rubber Products In Automotive Applications,<br>Classification System for |                                     |  |   |
|            | Material Designation AA with Suffix A13                                  | -                                   | NR, SBR or IIR                           | 3                                       |
|            | Material Designation AK  | -                                   | T  | 20                                      |
|            | Material Designation BA with Suffices<br>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                                      |
| ASTM D2903 | Neoprene, Heat Shrinkable Tubing   | CR                                  | -  | 5                                       |
| ASTM D3574 | Flexible Cellular Materials-Slab, Bonded,<br>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.

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TABLE VII. National Aerospace Standards.

| Number                    | Title  | Elastomers <sup>1</sup><br>Required  | Elastomers <sup>2</sup><br>Commonly Used             | Expected Shelf<br>Storage Life<br>Years             |
|---------------------------|--|--|--|---|
| NAS 113                   | Valve Assembly - Flapper   | AMS 3212   | NBR  | 3   |
| NAS 2443                  | Cap - Rigid Tube or Hose Fitting Synthetic   | AMS 3208 (CR)  | -  | 8   |
| NAS 4863                  | Hose - Oil & Coolant   | -  | CR   | 8   |
| NAS 6173                  | Packing, Preformed, String Thread Tube Fitting Boss, Synthetic Lubricant Resistant   | MIL-R-7362<br>Comp. A  | NBR  | 3   |
| NAS 1369                  | Duct, Air, Flexible & Semi-Rigid<br>Type A   | Glass Fabric<br>impreg with CR<br>Glass Fabric<br>impreg with Q  | -<br>-   | 5<br>20   |
| NAS 1370 thru<br>NAS 1379 | Type B<br>Duct, Air, Flexible, Helix Wire Supported<br>-65 to +275 F<br>-75 to +500 F  | Fiberglass<br>impreg with CR<br>Fiberglass<br>impreg with Q  | -<br>-   | 5<br>20   |
| NAS 1515                  | Washers - Plastic & Synthetic Rubber<br>Code Letter A<br>Code Letter B<br>Code Letter C<br>Code Letter D<br>Code Letter E<br>Code Letter F<br>Code Letter J<br>Code Letter K<br>Code Letter L<br>Code Letter M | ZZ-R-765 (Q)<br>ZZ-R-765 (Q)<br>MIL-R-6855<br>Class I<br>MIL-R-6855<br>Class II<br>MIL-R-6855<br>Class IV<br>MIL-R-7362<br>Comp A<br>AMS 3209 (CR)<br>AMS 3238 (IIR)<br>AMS 3650 (FKM)<br>AMS 3651 (FKM) | -<br>-<br>NBR<br>CR<br>CR<br>NBR<br>-<br>-<br>-<br>- | 20<br>20<br>3<br>8<br>8<br>3<br>8<br>10<br>10<br>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.<sup>3</sup>Inactive for new design.



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

| Number                | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------------------|--|-------------------------------------|--|---|
| NAS 1570 <sup>3</sup> | Gasket - Junction Box  | MIL-G-6183                          | NBR                                      | 3                                       |
| NAS 1577 <sup>3</sup> | Gasket, Switch Fitting Box   | MIL-G-6183<br>Class I               | NBR                                      | 3                                       |
| NAS 1593 <sup>3</sup> | Packing, Preformed - MIL-R-25897 Rubber, 75 Shore "O" Ring   | MIL-R-25897<br>Class I              | FKM                                      | 20                                      |
| NAS 1594 <sup>3</sup> | Packing, Preformed - MIL-R-27897 Rubber, 90 Shore "O" Ring   | MIL-R-25897                         | FKM                                      | 20                                      |
| NAS 1595 <sup>3</sup> | Packing, Preformed Straight Thread Tube Fitting Boss, MIL-R-25897 Rubber, 75 Shore "O" Ring        | MIL-R-25897                         | FKM                                      | 20                                      |
| NAS 1596 <sup>3</sup> | Packing, Preformed Straight Thread Tube Fitting Boss, MIL-R-25897 Rubber, 90 Shore "O" Ring        | MIL-R-25897                         | FKM                                      | 20                                      |
| NAS 1598 <sup>3</sup> | Washer - Sealing<br>Code Y   | MIL-R-7362<br>Comp A                | NBR                                      | 3                                       |
| NAS 1611              | Packing, Preformed O-Ring Phosphate Ester Resistant (-65 F to +160 F)                              | MIL-R-25988<br>AMS 3238 (IIR)       | FVMQ                                     | 20                                      |
| NAS 1612              | Packing, Preformed, Straight Thread Tube Fitting Boss, Phosphate Ester Resistant (-65 F to +160 F) | -                                   | EPDM                                     | 10                                      |
| NAS 1613              | Packing, O-Ring, Phosphate Ester Resistant Classes I & II  | -                                   | EPDM                                     | 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.<sup>3</sup>Inactive for new design.

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TABLE VIII. Society of Automotive Engineers Standards.

| Number   | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------|--|-------------------------------------|--|---|
| ARP 6103 | Synthetic or Natural Rubber Lined Pneumatic<br>Hose Assemblies, Aircraft |                                     |  |   |
|          | Class I  | -                                   | -  | 3                                       |
|          | Class II   | -                                   | NR                                       | 3                                       |
| SAE J143 | Specifications for Elastomer Compounds for<br>Automotive Applications    |                                     |  |   |
|          | 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                                      |
| SAE J153 | Flexible Foams Made from Polymers or Copoly-<br>mers of Vinyl Chloride   |                                     |  |   |
|          | Grades VC, VU & VO   | Vinyl                               | -  | 3                                       |
| SAE J17  | Latex Foam Rubbers   |                                     |  |   |
|          | Grades RC & RU   | -                                   | NR                                       | 3                                       |
| SAE J18  | Sponge & Expanded Cellular Rubber Products                               |                                     |  |   |
|          | Type R, Classes O & E  | -                                   | NR                                       | 3                                       |
|          | Type S, Class SB, Classes O & E  | -                                   | NBR                                      | 3                                       |
|          | Type S, Class SC, Classes O & E  | -                                   | CR                                       | 3                                       |
| SAE J19  | Latex Dipped Goods & Coatings for Automotive<br>Applications             |                                     |  |   |
|          | Type LR  | -                                   | NR                                       | 3                                       |
|          | Type LR, Class LSB   | -                                   | NR                                       | 3                                       |
|          | Type LR, Class LSC   | -                                   | CR                                       | 5                                       |

## 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.

<sup>3</sup>Cancelled, no replacement.

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

| Number               | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|----------------------|---|-------------------------------------|--|---|
| SAE J20              | Coolant - System Hoses                                      |                                     |  |   |
|                      | Class A   | -                                   | Q  | 20                                      |
|                      | Class B   | -                                   | NBR                                      | 3                                       |
|                      | Class C   | -                                   | CR                                       | 8                                       |
|                      | Class D   | -                                   | EPDM                                     | 10                                      |
| SAE J30              | Fuel & Oil Hoses  |                                     |  |   |
|                      | SAE 30R1, 30R2, 30R3 & 30R5                                 | -                                   | NR (Tube)                                | 3                                       |
| SAE J50              | Windshield Wiper Hose                                       | -                                   | -  | 3                                       |
| SAE J51              | Automotive Air Conditioning Hose                            | -                                   | NBR                                      | 3                                       |
| SAE J60 <sup>3</sup> | Rubber Cups for Hydraulic Activating                        | -                                   |  |   |
|                      | Cylinders SAE 60R1 & SAE 60R2                               | -                                   | NR or SBR                                | 3                                       |
| SAE J80 <sup>4</sup> | Automotive Rubber Matts - All Types                         | -                                   | -  | 3                                       |
| SAE J120             | Rubber "O" Rings for Automotive Seal & Packing Applications |                                     |  |   |
|                      | Classes 1 & 2   | -                                   | NBR                                      | 5                                       |
| SAE J188             | Power Steering Pressure Hose-High Volumetric Expansion Type | SYN                                 |  |   |
| SAE J189             | Power Steering Return Hose-Low Pressure                     | SYN                                 | -  | 3                                       |
| SAE J190             | Power Steering Pressure Hose-Wire Braid                     | SYN                                 | -  | 3                                       |
| SAE J200             | Rubber Materials for Automotive Applications:               |                                     |  |   |
|                      | Classification System                                       |                                     |  |   |
|                      | Material Designation AA with Suffix A13                     | -                                   | NR, SBR or IIR                           | 3                                       |
|                      | Material Designation AK                                     | -                                   | T  | 20                                      |
|                      | Material Designation BA with Suffixes A14 & C12             | -                                   | SBR or IIR                               | 3                                       |
|                      | Material Designation BC                                     | -                                   | CR                                       | 8                                       |
|                      | Material Designation BE                                     | -                                   | CR                                       | 8                                       |
|                      | Material Designation BF                                     | -                                   | NBR                                      | 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.

<sup>3</sup>SAE J60 series rubber replaced by SAE J1600 series.

<sup>4</sup>Cancelled, no replacement.

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

| Number    | Title   | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------|---|-------------------------------------|--|---|
| SAE J200  | Rubber Materials for Automotive Applications:<br>Classification System (continued)                    |                                     |  |   |
|           | 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                                      |
| SAE J515  | Hydraulic "O" Ring  |                                     |  |   |
|           | Type I  | -                                   | NBR                                      | 3                                       |
|           | Type II   | -                                   | IIR                                      | 10                                      |
| SAE J517  | Hydraulic Hose - All Types  | -                                   |  | 3                                       |
| SAE J557  | High Tension Ignition Cable   |                                     |  |   |
|           | Type HTLR, HTHR, HTS, & HTB   | NR                                  | -  | 3                                       |
|           |   | (insulation)                        |  |   |
| SAE J560  | Seven Conductor Electrical Conductor for<br>Truck-Trailer Jumper Cable                                | -                                   | -  | 3                                       |
| SAE J654  | Seals-Lathe Cut   | -                                   | NBR or ACM                               | 3                                       |
| SAE J1010 | Emission Control Hose   | EPDM                                | -  | 5                                       |
| SAE J1037 | Windshield Washer Tubing  |                                     |  |   |
|           | Type 1  | CR                                  | -  | 5                                       |
|           | Type 2  | SYN                                 | -  | 3                                       |
| SAE J1401 | Road Vehicle - Hydraulic Brake Hose Assemblies<br>for Use with Non-Petroleum Base Hydraulic<br>Fluids | -                                   | -  | 3                                       |

## NOTE:

1 If no elastomer is listed, none is required by the specification.

2 If no elastomer is listed, the elastomer commonly used is unknown.

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

| Number    | Title  | Elastomers <sup>1</sup><br>Required | Elastomers <sup>2</sup><br>Commonly Used | Expected Shelf<br>Storage Life<br>Years |
|-----------|--|-------------------------------------|--|---|
| SAE J1402 | Automobile Air Brake Hose and Hose Assemblies              | CR                                  | -  | 3                                       |
| SAE J1403 | Vacuum Brake Hose  |                                     |  |   |
|           | Class A  | -                                   | SYN                                      | 3                                       |
|           | Class B  | -                                   | NR or SYN                                | 3                                       |
| SAE J1603 | Rubber Seals for Hydraulic Disc Brake Cylinders            | SYN                                 | -  | 3                                       |
| SAE J1604 | Rubber Boots for Drum Type Hydraulic Brake Wheel Cylinders | SYN                                 | -  | 3                                       |
| SAE J1605 | Brake Master Cylinder Reservoir Diaphragm Gaskets          | SYN                                 | -  | 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.

## MIL-STD-695C

## APPENDIX

Related Documents

Documents prepared by the Government or by the Government contractors, pertaining to overall aspects of age control of rubber products, are listed here 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.

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1 DOCUMENT NUMBER  
MIL-HDBK-695C2 DOCUMENT TITLE  
Rubber Products: Recommended Shelf Life

3a. NAME OF SUBMITTING ORGANIZATION

4 TYPE OF ORGANIZATION (Mark one)

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b ADDRESS (Street, City, State, ZIP Code)

## 5 PROBLEM AREAS

a. Paragraph Number and Wording

b Recommended Wording

c Reason/Rationale for Recommendation

## 6 REMARKS

7a NAME OF SUBMITTER (Last, First, MI) - Optional

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