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AERONAUTICAL STANDARD **AS 608**

HIGH PRESSURE COMPRESSED GAS HOSE ASSEMBLIES FOR
AIRCRAFT AND MISSILE GROUND SUPPORT EQUIPMENT

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Revised

1. SCOPE:

This Aeronautical Standard covers the performance and test requirements for high pressure compressed gas hose assemblies for use with aircraft and missile ground support equipment. These hose assemblies are for use in connecting aircraft and missile compressed gas systems to their ground pressure sources and for use on ground support equipment when required. These hose assemblies shall be suitable for use with compressed air, nitrogen and helium in the temperature range of -65 F to +160 F.

1.1 Types: Hose assemblies shall be of two different types.

Type I: Synthetic or natural rubber inner tube.

Type II: Polytetrafluoroethylene or Polytetrafluoroethylene compounded inner tube.

2. APPLICABLE DOCUMENTS, SPECIFICATIONS, DRAWINGS, ETC.:

OASD Handbook H-4

ANA Bulletin 438, Age Control for Synthetic Rubber Parts

ARP 611, Hose Assembly Cleaning Methods

3. DESIGN AND PERFORMANCE REQUIREMENTS:

3.1 General: The hose assemblies shall be as uniform in quality and free from defects as is consistent with good manufacturing practice. Materials shall conform to the requirements of this AS and all materials not specifically described herein shall be of the highest quality and suitable for the purpose intended.

3.2 Design and Construction:

3.2.1 Type I Hose Assemblies: The hose in Type I assemblies shall consist of a synthetic or natural rubber inner tube compounded to permit the least amount of effusion of compressed gases as is consistent with the other requirements of this AS. The inner tube shall be reinforced with multiple layers of steel or stainless steel wire braids and/or spiral plies. The outer cover shall be resistant to commonly encountered fluids, abrasion, and ozone and shall be constructed to permit any gas that may effuse through the inner tube to escape to atmosphere. If non-corrosion resistant wire is used for reinforcement it shall be suitably protected if the cover construction permits the entrance of moisture.

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- 3.2.2 Type II Hose Assemblies: The hose in Type II hose assemblies shall consist of a Polytetrafluoroethylene inner tube compounded and processed to permit the least amount of effusion of compressed gases as is consistent with the other requirements of this AS. The inner tube shall be reinforced with multiple steel or stainless steel wire braids and/or spiral plies. The outer cover shall be resistant to commonly encountered fluids, abrasion, and ozone and shall be constructed to permit any gas that may effuse through the inner tube to escape to atmosphere. If non-corrosion resistant wire is used for reinforcement it shall be suitably protected if the cover construction permits the entrance of moisture.
- 3.2.3 Hose End Fittings: Hose end fittings shall be of corrosion resistant materials or materials suitably protected from corrosion. Hose end fittings may be of the permanently applied or field attachable type, however, because of the hazardous nature of high pressure compressed gas it is recommended that hose assemblies be purchased completely fabricated from qualified manufacturers. The type of connection (threaded, flanged, etc.) shall be as specified by the user or on the applicable drawing but in any case shall be designed to withstand the minimum burst pressure of the hose without failure.
- 3.3 Working Pressure: Hose assemblies shall not be used at working pressures that exceed 25% of the specified minimum burst pressure of the hose.
- 3.4 Temperature Range: Hose assemblies shall be designed to function properly in the temperature range of -65 F to +160 F.
- 3.5 Hose Dimensions: Hose dimensions shall be held to the minimum OD, consistent with the other requirements of this AS. It is recommended that for standardization purposes the following I.D. sizes be adhered to:

<u>Hose Dash Size</u>	<u>Type I I.D. (MIN.)</u>	<u>Hose Dash Size</u>	<u>Type II I.D. (MIN.)</u>
-3	.188	-4	.219
-4	.219	-6	.313
-6	.344	-8	.406
-8	.438	-10	.500
-12	.688	-12	.625
-16	.875	-16	.875