SAE Aerospace
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AEROSPACE STANDARD

SAE AS1072 | REV. E

Issued 1976-01
Revised 1997-06
Reaffirmed 2013-01

Superseding AS1072D

Sleeve, Hose Assembly, Fire Protection

RATIONALE

AS1072E has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE:

This standard defines the requirements for bulk protective sleeve to provide fire resistance for aircraft hose assemblies, which will enable these assemblies to meet the requirements of AS1055.

NOTE: Use of this sleeve does not eliminate the need to demonstrate that the sleeved assemblies will meet the applicable requirements of AS1055.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AS150	Hose Assembly, Type Classifications of, Basic Performance and Fire Resistance
AS1055	Fire Testing of Flexible Hose, Tube Assemblies, Coils, Fittings and Similar System Components

3. REQUIREMENTS:

3.1 Type:

a. Type 1 - Butyl Rubber Composite (Inactive for New Design)
b. Type 2 - Silicone Rubber Composite

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS1072E

3.2 Quality:

All sleeves furnished under this standard shall comply with the requirements of AS1055 when installed on the appropriate aircraft hose assemblies.

3.2.1 When installed on the appropriate aerospace hose assembly, the cut ends of the sleeving shall be protected with material that is compatible with the cover in order to prevent wicking of fluid to the inside of sleeving (see 3.4).

3.3 Fluid and Temperature Resistance:

3.3.1 Butyl Rubber Composite (Type 1): The coating of the fiberglass firesleeve shall be butyl rubber with minimum .03 in (0.8 mm) thickness, grey or black in color, with green or silver identification markings.

3.3.1.1 Fluid Resistance: This sleeve shall be functional after casual (nonsubmerged) exposure to the following fluids in a normal aircraft environment when tested as required in AS1055:

a. Phosphate ester type hydraulic fluids
b. MIL-H-5606 hydraulic fluid
c. MIL-T-5624 jet fuel
d. MIL-L-7808 lubricating oil
e. MIL-L-23699 lubricating oil
f. MIL-H-83282 hydraulic fluid

NOTE: Butyl is readily affected by typical aircraft fluids.

Caution should be used in the selection of chlorinated cleaning fluids because decomposition of chlorinated solvents can generate HCl or Cl_2 which may endanger equipment and personnel.

3.3.1.2 Temperature: The Type 1 sleeve shall be usable in the range of -65 °F (-54 °C) to +250 °F (+120 °C).

3.3.2 Silicone Rubber Composite (Type 2): The coating of the fiberglass sleeve shall be silicone rubber with minimum .03 in (0.8 mm) thickness, orange or brown in the color with black or white identification markings.

3.3.2.1 Fluid Resistance: This sleeve shall be functional after casual (nonsubmerged) exposure to the following fluids in a normal aircraft environment when tested as required in AS1055:

a. Phosphate ester type hydraulic fluids
b. MIL-H-5606 hydraulic fluid
c. MIL-T-5624 jet fuel
d. MIL-L-6082 lubricating oil
e. MIL-L-7808 lubricating oil
f. MIL-L-23699 lubricating oil
g. MIL-H-83282 hydraulic fluid

NOTE: Casual exposure shall not include immersion or constant wetting.

Caution should be used in the selection of chlorinated cleaning fluids because decomposition of chlorinated solvents can generate HCl or Cl_2 which may endanger equipment and personnel.

3.3.2.2 Temperature: The Type 2 sleeve shall be usable in the range of -65 °F (-54 °C) to +450 °F (+232 °C), intermittent to 500 °F (+260 °C).

3.4 Cut Ends - Sealing:

The cut ends of the fiberglass (sleeve) and the ID of the sleeve shall be protected with an appropriate sealant (such as RTV silicone coating) or sleeve. Internal coverage shall extend approximately .75 in (19.1 mm) or to a point that will be under the clamp. The purpose of this protection/sealing is to minimize the probability of wicking fluid(s) into the body of the sleeve during casual (nonsubmerged) exposures. This may be accomplished by dipping, wiping, brushing, or appropriate sleeve. Any cracks or voids which expose the (white) fiberglass shall be recoated as required.

3.5 Asbestos:

Asbestos shall not be used in the construction of these sleeves.

3.6 Identification:

The sleeves shall be marked on the outer surface, on at least one layline, parallel to the bore, with AS1072, the dash number designating size, the coating description ("BTL", etc.) base construction ("FG", etc.) in nominal .37 in (9.5 mm) high characters (see Figure 1). The marking shall be resistant to rubbing and the fluids called out in 3.3.1.1 or 3.3.2.1. The identification strip shall be repeated every 12 in (305 mm) or less along the entire length of the sleeve.

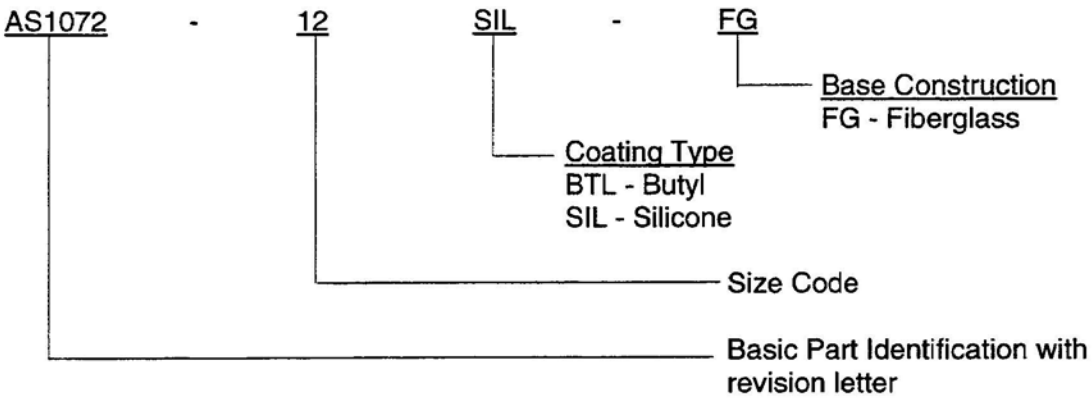

FIGURE 1 - Example of Part Identification

3.7 Sizes:

See Figure 2 and Table 1. In addition to sizes (-XX) shown in Table 1, sizes not shown between -14 and -72 may be manufactured with limits [min ID, OD (max) and wt (max)] computed as the linear interpolation of the values for the next smaller and next larger sizes shown.

4. NOTES:

4.1 The change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document.

4.2 Key Words:

Sleeve, hose assembly, fire resistant

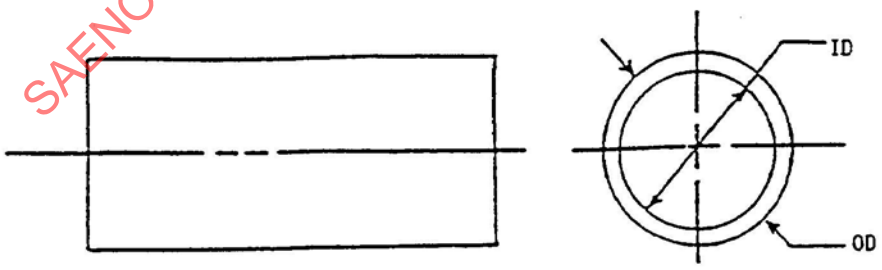

FIGURE 2 - Cross Section