SAE Aerospace
An SAE International Group

# AEROSPACE STANDARD

SAE AS5502B

Issued 2000-11
Revised 2008-09

Superseding AS5502A

# Standard Requirements for Aerospace Sealants

RATIONALE

To add a section to clarify the post packaging testing process for kitted and pre-mixed frozen products.

## 1. SCOPE

This document establishes standard requirements for aerospace sealants, which may be incorporated as part of Aerospace Material Specifications (AMS) for such products. This document provides for commonality of methods and procedures for responsibility for inspection, source inspection, classification of tests, establishment of/and qualification to qualified products lists, approval, reports, resampling and retesting, packaging, and marking.

### 1.1 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

## 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 exemptioin has been obtained.

### 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AS7001 National Aerospace and Defense Contractors Accreditation Program (NADCAP) - Program Description

AS7002 National Aerospace and Defense Contractors Accreditation Program (NADCAP) - Rules for Implementation

AS7003 Nadcap - Program Requirements

AS7200/1 National Aerospace and Defense Contractors Accreditation Program (NADCAP) - Audit and Inspection Procedures and Checklists for the Sealant Manufacturers Accreditation Program

AS7201 National Aerospace and Defense Contractors Accreditation Program (NADCAP) - Requirements for Accreditation of Pass-Thru Distributors

AS7202 National Aerospace and Defense Contractors Accreditation Program (NADCAP) - Requirements for Accreditation of Value Added Distributors

PD 2000 Procedures for an Industry Qualified Product Management Process

2.2 U.S. Government Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, http://assist.daps.dla.mil/quicksearch/.

MIL-S-38714 Sealant Cartridge for Two Component Materials

PPP-C-96 Cans, Metal, 28 Gage and Lighter

PPP-P-704 Pails, Metal (Shipping, Steel, 1 through 12 Gallons)

3. TECHNICAL REQUIREMENTS

For purposes of this standard, sealant shall be synonymous with "sealing compound".

Technical requirements for a specific class of sealant shall be defined by the Aerospace Materials Specification (AMS). In case of conflict in requirement(s), the AMS takes precedence over this Aerospace Standard (AS).

3.1 Date of Packaging

Date of packaging is defined as the date finished material is packaged from its components, base compound and curing agent, into a package and labeled kit or unit by the manufacturer or repackager. Date of packaging (DOP) shall be no more than 90 days from the last day of full quality conformance testing in accordance with the applicable AMS. The manufacturer may retest material at any time to determine conformance to full quality conformance testing in accordance with the applicable AMS. The first surveillance test for a batch may be conducted on, or before the conclusion of the initial 90-day period, by testing the application properties only of the quality acceptance requirements of the pertinent AMS. Any extension testing thereafter shall require full quality acceptance testing in accordance with the applicable AMS, and shall be limited to three 90-day periods from the date of initial batch approval.

3.2 Toxicological Formulations

The material shall have no adverse effects on the health of personnel when used for its intended purpose in accordance with manufacturer’s instructions and with appropriate handling procedures. Questions pertinent to this effect shall be referred by the contracting activity to the appropriate medical service who will act as an advisor to the contracting agency.

3.3 Quality

The base compound and the curing agent, as received by the purchaser, shall each be of uniform blend and shall be free of excessive air, skins, lumps, and gelled or coarse particles. There shall be no separation of ingredients which cannot be easily redispersed.

## 4. QUALITY ASSURANCE PROVISIONS

### 4.1 Responsibility for Inspection

The manufacturer of the sealant shall supply all samples and shall be responsible for performance of all required tests. Purchaser reserves the right to sample and perform any confirmatory testing deemed necessary to ensure that the sealant conforms to the requirements of the AMS.

#### 4.1.1 Source Inspection (NADCAP)

Material procured under this specification shall be third party approved prior to shipment, to ensure that material meets acceptance tests (as defined by the sealant specification). Third party approval shall be by a third party accreditation process in accordance with AS7001, AS7002, AS7003, and AS7200/1. Sealant shall be from a manufacturer that currently holds a third party accreditation and shall be from a batch of material that has been third party source inspected in accordance with AS7200/1. Distributors supplying sealant shall supply material from an accredited manufacturer and from a batch of material that has been third party source inspected. Distributors shall also be third party accredited in accordance with AS7201 or AS7202, whichever is applicable.

#### 4.1.2 Sampling

The minimum number of samples to be tested during shelf-life surveillance and updating is shown in Table 1.

TABLE 1 - SAMPLING

| Items in Stock | Samples to be Tested |
|---|---|
| Up to 100, excl | 3 |
| 100 to 500, incl | 5 |
| Over 500 | 7 |

### 4.2 Classification of Tests

#### 4.2.1 Qualification Tests

All technical requirements are qualification tests and shall be performed prior to or on the initial shipment of the sealant by the manufacturer, when a change in ingredients and/ or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

#### 4.2.2 Preproduction Tests

All technical requirements are preproduction tests and shall be performed prior to or on the initial shipment of the sealant to a purchaser, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

NOTE: The difference between preproduction and qualification testing is that in the case of qualification, the products are listed on a Qualified Products List (QPL) (see 4.7).

#### 4.2.3 Acceptance Tests

Technical requirements that are tested on each batch of material are acceptance tests. Initial acceptance tests are performed after production, but before packaging. Final acceptance tests are performed after packaging.