

## MILITARY SPECIFICATION

SEALER, HEAT, SEAM TAPE AND PATCH,  
ANTI-EXPOSURE COVERALL

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers the requirements for a seam and patch sealing machine, for use in the modification and repair of flyer's anti-exposure coveralls.

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

## SPECIFICATIONS

## MILITARY

MIL-R-46089 - Rubber, Sponge, Silicone, Closed Cell.

## STANDARDS

## MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.  
MIL-STD-1188 - Commercial Packaging of Supplies and Equipment.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Naval Air Systems Command, Department of the Navy, Washington, DC 20361, attn: 5311B, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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2.1.2 Other Government documents, drawings and publications. The following other Government documents form a part of this specification to the extent specified herein.

## DRAWINGS

- 1525AS101 - Heat Sealer, Seam Tape and Patch, Anti-Exposure Coverall.
- 1525AS102 - Heat Sealer, Seam Tape and Patch, Anti-Exposure Coverall.

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

## 3. REQUIREMENTS

3.1 First article. When specified, a sample shall be subjected to first article inspection (see 4.3 and 6.2.1).

3.2 Materials. The sealer shall be manufactured from materials that will withstand continuous daily operation for extended periods of time (see Drawing 1525AS101).

3.2.1 Replacement parts. All non-repairable parts shall be available from the manufacturer. All replacement parts shall be physically and functionally interchangeable.

3.3 Design and construction. The sealer shall include a stationary anvil upon which the anti-exposure coverall, with seam tape or patch, will be placed. Above the anvil shall be a moveable pressure/heat plate that shall be manually lowered to meet the anvil thus applying pressure and heat to the material and patch. The design and construction of the sealer shall conform to this specification and Drawing 1525AS101.

3.3.1 Anvil. The anvil shall be mounted on a pedestal at least 8 inches high, measured from the base of the machine to the top of the anvil. The anvil head shall be round, measuring 3 inches in diameter by 3/8 inch thick. Two sheets of sponge rubber, conforming to MIL-R-46089, Grade F, 3/8 inch thick, 12 by 12 inches, shall be provided with each sealer for attachment to the anvil head or working area.

3.3.2 Pressure/heat plate. The pressure/heat plate shall be moveable so that it can be manually lowered to meet the anvil. The plate shall be designed so that it will exert pressure on the anvil in varying amounts that can be adjusted and pre-set by the operator. The pressure/heat plate shall lock in the down position and maintain the pre-set pressure, until such time as the operator releases the plate by upward pressure on a control arm or handle. The pressure/heat plate shall have a smooth, flat working surface measuring approximately 8 inches by 6 inches.

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3.3.3 Heating element and thermostat. The pressure/heat plate shall contain a thermostat and heating element capable of maintaining the working surface of the plate at sufficient temperature to bond the seam tape and patches to the material being repaired.

3.3.4 Temperature gage. The sealer shall have a temperature gage affixed that will display temperature readings from 100<sup>o</sup> to 600<sup>o</sup>F, in increments of 100<sup>o</sup> or less.

3.3.5 Timer. The sealer shall have a bell ringing timing device that is capable of being set from 0 to 60 seconds.

3.3.6 Power input. The sealer shall have a 3 wire, grounded type electrical cord that will connect the sealer to 115 V, 60 Hertz, AC power. There shall be an on/off power switch. There shall also be an on-off indicating light.

### 3.4 Performance.

3.4.1 Heat. The pressure heat plate shall be capable of maintaining a temperature within the range of from 100<sup>o</sup>F to 600<sup>o</sup>F. The pressure heat plate shall be capable of maintaining the typical operating temperature of 350<sup>o</sup>F for not less than 90 minutes.

3.4.2 Pressure. The amount of pressure that the pressure/heat plate exerts on the anvil must be adjustable and shall be expressed as a torque value in inch pounds. Pressure shall be applied in a counter clockwise direction to the bolt described in drawing NA 1525AS109 using a torque wrench. The plate shall be manually raised and lowered with a lever or handle and shall lock in the down position, until released by the operator. Lowering the plate or releasing it from the locked position shall require reasonable but not excessive force being applied to the handle or lever by the operator.

3.5 Marking. The sealer shall be marked with a permanent metal identification plate with the following information:

NSN  
HEAT SEALER, SEAM TAPE AND PATCH, ANTI-EXPOSURE COVERALL  
MIL-S-85634 (AS)  
SERIAL NUMBER  
CONTRACT NUMBER  
MANUFACTURERS NAME AND FSCM (Federal Source Code for Manufacturing)  
115 VOLTS/ 60 HERTZ

3.6 Workmanship. The seam tape and patch heat sealer shall be manufactured to be uniform in quality, serviceability and appearance. It shall be of sufficient durability to withstand constant, prolonged daily use. The pressure/heat plate shall be free from burrs, cracks, voids, chips, blisters, sharp edges or other defects that would adversely affect the required smooth working surface. The working surface of the pressure/heat plate shall be covered with a material as specified in Drawing 1525AS102.

## 4. QUALITY ASSURANCE PROVISIONS

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4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections specified herein are classified as follows:

- a. First article inspection - First article inspection consists of examinations and tests performed on samples which are representative of the production item after the award of a contract to determine that the production item meets the requirements of this specification (see 4.3).
- b. Quality conformance inspection - Quality conformance inspection consists of examinations and tests performed on individual products or lots to determine conformance of the products or lots with the requirements set forth in this specification (see 4.4).

4.3 First article inspection. The first article inspection of the seam and patch heat sealing machine shall consist of examinations and tests for all requirements of this specification.

4.3.1 First article samples. Unless otherwise specified, as soon as practicable after the award of the contract or order, the manufacturer shall submit one sealer, to an inspection laboratory designated by the government. The sample shall be representative of the construction, workmanship, components and materials to be used during production. When a contractor is in continuous production of these sealers, from contract to contract, submission of further first article inspection samples on the new contract may be waived at the discretion of the acquiring activity (see 6.2.1). Approval of the first article inspection samples or the waiving of the first article inspection does not waive the requirements for performing the quality conformance inspection. The first article inspection sample shall be furnished to the Government as directed by the contracting officer (see 6.2.1). The sample shall be plainly identified by a securely attached durable tag or label marked with the following information:

SAMPLE FOR FIRST ARTICLE INSPECTION  
 HEAT SEALER, SEAM TAPE AND PATCH, ANTI-EXPOSURE COVERALL  
 MIL-S-85634 (AS)  
 NAME OF MANUFACTURER  
 SERIAL NUMBER  
 CONTRACT OR ORDER NUMBER

4.3.2 Documentation. Upon completion of the first article inspection, all the applicable inspection reports, recommendations and comments pertinent for use in monitoring production will be forwarded to the cognizant Government activity. The machine submitted for first article inspection shall be considered as part of the quantity to be delivered under the contract or order.

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4.4 Quality conformance inspection. The sampling and inspection levels shall conform to MIL-STD-105. The quality conformance inspection shall be as specified in Table I.

4.4.1 Sampling.

4.4.1.1 Inspection lot.

4.4.1.1.1 Sealers. An inspection lot size shall be expressed in units of one sealer made essentially under the same conditions and from the same materials and components. The sample unit shall be one sealer.

4.4.1.1.2 Packaging. An inspection lot size shall be expressed in units of one fully prepared shipping container, containing sealers, fully prepared for delivery from essentially the same materials and components. The sample unit shall be one shipping container, containing sealers, fully prepared for delivery with the exception that it need not be sealed.

4.4.1.2 Sampling for tests and examinations of the sealers and packaging. The sample size, acceptance criteria, tests and examinations required for the sealers or the packaging, as applicable, shall be specified in Table I.

4.5 Inspection methods.

4.5.1 Heat. The sealer shall be tested by any commercially acceptable method to determine conformance with heating requirements specified in 3.4.1.

4.5.2 Pressure. The sealer shall be tested by any commercially acceptable method to determine conformance with pressure requirements specified in 3.4.2.

4.5.3 Visual examination.

4.5.3.1 Sealers. Every sealer shall be examined visually for major defects to determine conformance to this specification. Each sealer, selected as a sample unit from the lot, shall be examined visually for minor defects to determine conformance to this specification. The classification of defects, Table II, shall be used to classify the defects found.

4.5.3.2 Packaging. Each of the fully prepared shipping containers, containing sealers, selected as a sample unit from the lot, shall be visually examined to determine that the packaging, packing and marking conform to this specification. The list of defects, Table III, shall be used to enumerate the defects found.

5. PACKAGING

5.1 Packaging, packing and marking. The sealers shall be packaged, packed and marked in accordance with MIL-STD-1188. The level of packaging and packing shall be as specified in the acquisition document (see 6.2.1).

## 6. NOTES

6.1 Intended use. The seam tape and patch heat sealer is intended for use in the repair and modification of the CWU-62/P flyer's anti-exposure coveralls. The sealer will apply heat and pressure to adhesive coated seam tape and patches in order to affix them permanently to the coverall cloth. In this fashion ruptures or defects in the cloth, as well as seam areas, will be made watertight.

### 6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Quantity desired.
- c. Whether first article inspection is waived (see 4.3.1).
- d. Name and address of first article inspection laboratory (see 4.3.1).
- e. Levels of packaging and packing (see 5.1).

6.3 First article. When first article inspection is required, the sealer will be tested and should be an initial production sample. The first article should consist of the samples specified in 4.3.1. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, test and approval of the first article.

Preparing activity:  
Navy - AS

(Project 3540-N131 )

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TABLE I. Sample size, acceptance criteria, tests and examination of the sealers and packaging.

Inspection	Sample size	Acceptance Criteria
Visual examination	Every sealer for major defects. Inspection Level II for minor defects.	Reject all units with any major defect and an acceptable quality level of 6.5 defects per 100 units for minor defects.
Heat	Inspection. Level S-1	An acceptable quality level of 1.5 defects per 100 units.
Pressure	Inspection Level S-1	An acceptable quality level of 1.5 defects per 100 units.
Packaging	Inspection level S-2	An acceptable quality level of 2.5 defects per 100 units.

TABLE II. Classification of defects for the visual examination of the sealers.

Defect	Major	Minor
<u>GENERAL</u>		
a. Color of sealer or any component not uniform or not as specified.		X
b. Any burr, crack, void, chip, blister or sharp edge.	X	
c. Any component not as specified or any defect of a component or defect of assembly not herein specified.	<u>1/</u>	
d. Any component or component part missing.	X	
e. Any dimension not as specified.	<u>1/</u>	
<u>MARKINGS</u>		
a. Missing, incomplete, incorrect or illegible		X

1/ The defect shall be classified as major, when it seriously affects the appearance or serviceability, otherwise it shall be classified as a minor defect.

TABLE III. List of defects for packaging.

Item	Defect
Exterior and interior markings	Missing, incorrect, incomplete, illegible; markings not the same on the interior and exterior containers.
Materials	Any non-conforming component; any component missing, damaged or otherwise defective.
Workmanship	Inadequate application of components, such as incomplete closure of any container flap or loose strapping; bulging or distortion of any container.
Content	Number per container is more or less than required; gross or net weight exceeds the requirements.



**STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL***(See Instructions - Reverse Side)*1. DOCUMENT NUMBER  
MIL-S-85634(AS)2. DOCUMENT TITLE SEALER, HEAT, SEAM TAPE AND PATCH, ANTI-EXPOSURE  
COVERALL

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION *(Mark one)* VENDOR USER MANUFACTURER OTHER *(Specify):* \_\_\_\_\_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*b. WORK TELEPHONE NUMBER *(Include Area Code) - Optional*c. MAILING ADDRESS *(Street, City, State, ZIP Code) - Optional*8. DATE OF SUBMISSION *(YYMMDD)*