# AEROSPACE MATERIAL SPECIFICATION

| AMS3217™/3 | REV. D |
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Issued 1983-07
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Revised 2021-10

Superseding AMS3217/3C

## Test Slabs, Chloroprene (CR) 70 - 80

RATIONALE

Five-Year Review. This standard has been revised to clarify Table 2 and to comply with the current AMS3XXX series template, where applicable.

1. SCOPE

1.1 Form

This specification covers a standard chloroprene (CR) rubber stock in the form of molded test slabs.

1.2 Application

Refer to AMS3217.

2. APPLICABLE DOCUMENTS

Refer to AMS3217.

3. TECHNICAL REQUIREMENTS

3.1 Basic Specifications

The complete requirements for test slabs described herein and their procurement shall consist of this document and the latest issue of the basic specification AMS3217.

3.2 Material

Shall be a chloroprene (CR) compounded to the formulation shown in Table 1.





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***Table 1 - Formulation***

| Ingredients | NIST SRM Number | Parts |
|---|---|---|
| Neoprene WRT® | -- | 100.0 (see 3.2.1) |
| Maglite D® or Equivalent[1] | -- | 2.0 (see 3.2.2) |
| Stearic Acid | 372 | 0.5 (see 3.2.2) |
| Agerite Stalite S® or Equivalent[1] | -- | 2.0 (see 3.2.2) |
| Zinc Oxide | 370 | 5.0 (see 3.2.2) |
| Sid Richardson N550 Carbon Black or Equivalent[1]<br>ASTM D1765, N550 Classification | -- | 50.0 (see 3.2.1) |
| Thiate-U® or Equivalent[1] | -- | 0.7 (see 3.2.2) |
| Press Cure: 20 minutes ± 0.5 minute<br>at 311 °F ± 5 °F (155 °C ± 3 °C) | | |

[1] Equivalent ingredients must be approved by SAE Committee CE.

3.2.1 Weigh parts to the nearest 0.1 gram (see Table 1).

3.2.2 Weigh parts to the nearest 0.02 gram (see Table 1).

3.3 Processing

After the elastomer has banded on the rubber mill, the other ingredients shall be added in the order listed in Table 1.

3.3.1 The stock shall not be allowed to become hotter than can be handled with the bare hands; it is recommended that the stock be removed from the mill and cooled to room temperature before incorporating the final ingredient.

3.3.2 After all ingredients have been incorporated and the stock has been thoroughly milled, the stock shall be passed ten times through a tight mill.

3.3.3 Suitable preforms shall be cut from the freshly milled stock and molded into test slabs as specified in ASTM D3182, Figure 1.

3.4 Properties

Shall be as shown in Table 2.

***Table 2 - Properties***

| Paragraph | Property | Test Sample | Requirement | Test Method |
|---|---|---|---|---|
| 3.4.1 | Hardness, Durometer “A” | BUTTON or plied platen | 75 ± 5 | ASTM D2240 |
| 3.4.2 | Tensile Strength, Minimum | ASTM Platen | 2750 psi (19.0 MPa) | ASTM D412, Die C |
| 3.4.3 | Elongation, Minimum | ASTM Platen | 200% | ASTM D412, Die C |
| 3.4.4 | Specific Gravity | ASTM Platen | 1.42 ± 0.02 | ASTM D297<br>Hydrostatic Method |
| 3.4.5 | Fluid Resistance | | | IRM 901<br>ASTM D471<br>248 °F ± 5 °F (120 °C ± 3 °C) |
| 3.4.5.1 | Volume Change | ASTM Platen | +5 to +15% | 70 hours ± 0.5 hour |

4. QUALITY ASSURANCE PROVISIONS

Refer to AMS3217.

5. PREPARATION FOR DELIVERY

Refer to AMS3217.