



AEROSPACE MATERIAL SPECIFICATION	AMS3217/3	REV. C
	Issued 1983-07 Reaffirmed 2003-11 Revised 2015-08	
Superseding AMS3217/3B		
Test Slabs, Chloroprene (CR) 70 - 80		

RATIONALE

AMS3217/3B is now due for revision. Properties in Table 2 have been revised to reflect discontinuation of M2V synthetic lubricant, replacement with IRM 901 reference oil, and material property values. ASTM test methods for testing properties are cited. Equivalent ingredients for Table 1 changes must be approved by SAE AMS CE Committee.

1. SCOPE

1.1 Form

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

1.2 Application

See AMS3217.

2. APPLICABLE DOCUMENTS

See 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 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 at 311 °F ± 5 (155 °C ± 3).		
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 10 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	Requirement	Test Method
3.4.1	Hardness, Durometer "A" or equivalent	75 ± 5	ASTM D2240
3.4.2	Tensile Strength, minimum	2750 psi (19.0 MPa)	ASTM D412
3.4.3	Elongation, minimum	200 %	ASTM D412
3.4.4	Specific Gravity	1.42 ± 0.02	ASTM D297 Hydrostatic Method
3.4.5	Synthetic Lubricant Immersion		IRM 901 ASTM D471 248 °F ± 5 (120 °C ± 3)
3.4.5.1	Volume Change	+ 5 to +15%	70 hours ± 0.5