

NOTICE

THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MIL-I-81765/7 AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MIL-I-81765/7. ANY PART NUMBERS ESTABLISHED BY THE ORIGINAL SPECIFICATION REMAIN UNCHANGED.

THE ORIGINAL MILITARY SPECIFICATION WAS ADOPTED AS AN SAE STANDARD UNDER THE PROVISIONS OF THE SAE TECHNICAL STANDARDS BOARD (TSB) RULES AND REGULATIONS (TSB 001) PERTAINING TO ACCELERATED ADOPTION OF GOVERNMENT SPECIFICATIONS AND STANDARDS. TSB RULES PROVIDE FOR (A) THE PUBLICATION OF PORTIONS OF UNREVISED GOVERNMENT SPECIFICATIONS AND STANDARDS WITHOUT CONSENSUS VOTING AT THE SAE COMMITTEE LEVEL, AND (B) THE USE OF THE EXISTING GOVERNMENT SPECIFICATION OR STANDARD FORMAT.

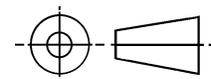
UNDER DEPARTMENT OF DEFENSE POLICIES AND PROCEDURES, ANY QUALIFICATION REQUIREMENTS AND ASSOCIATED QUALIFIED PRODUCTS LISTS ARE MANDATORY FOR DOD CONTRACTS. ANY REQUIREMENT RELATING TO QUALIFIED PRODUCTS LISTS (QPL'S) HAS NOT BEEN ADOPTED BY SAE AND IS NOT PART OF THIS SAE TECHNICAL DOCUMENT.

AS81765/7

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

SAENORM.COM : Click to view the full PDF of as81765-1

THIRD ANGLE PROJECTION



ISSUED 2002-02

CUSTODIAN: SAE AMS "P"



AEROSPACE STANDARD

INSULATING COMPONENTS, MOLDED,
ELECTRICAL, HEAT SHRINKABLE FLUOROPOLYMER
COMPOSITE, SEMI-RIGID, CROSSLINKED

AS81765/7
SHEET 1 OF 4

AS81765/7

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

THE COMPLETE REQUIREMENTS FOR PROCURING THE INSULATING COMPONENTS DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF MIL-I-81765.

REQUIREMENTS:

CONTINUOUS OPERATING TEMPERATURE RANGE: -55°C (-67°F) TO + 150°C (+302°F)

COLOR: UNLESS OTHERWISE SPECIFIED, MOLDED COMPONENTS FABRICATED TO THE REQUIREMENTS HEREIN SHALL BE FURNISHED IN BLACK.

PROPERTIES: PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE I.

TABLE I. PHYSICAL PROPERTIES

Property	Requirement	Test Method (1)
Dimensions, inches As received After shrinkage	Shall be in accordance with the applicable drawing, specification or procurement document	4.6.1 Shrinkage 200°± 5°C 392°± 9°F for 10 minutes
Elastic memory, %, min Expansion Retraction	250 90	4.6.2 200°± 5°C (392°± 9°F) for 5 minute; 4 inch stretch
Tensile strength, psi, (MPa), min	2200 (15.2)	4.6.3 2 inches/ minute
Tensile Stress at 100% Elongation, psi (MPa) max	1600 (11.0)	4.6.3 2 inches/ minute

TABLE I (CONTINUED)

Property	Requirement	Test Method
Ultimate elongation, %, min	300	4.6.3 2 inches/ minute
Low temperature flexibility	No cracking	4.6.4 $-55^{\circ} \pm 1^{\circ}\text{C}$ ($-67^{\circ} \pm 2^{\circ}\text{F}$) for 4 hours
Heat shock	No dripping, flowing or cracking	4.6.5 $225^{\circ} \pm 5^{\circ}\text{C}$ ($437^{\circ} \pm 9^{\circ}\text{F}$) for 4 hours
Heat resistance		4.6.6 $150^{\circ} \pm 3^{\circ}\text{C}$ ($302^{\circ} \pm 5^{\circ}\text{F}$) for 168 hours
Tensile strength, psi, (MPa), min	1800 (12.4)	
Elongation, %, min	250	
Fluid resistance		4.6.7 (2)
Tensile strength, psi, (MPa), min	1800 (12.4)	
Elongation, %, min	250	
Weight increase, %, max	6	
Corrosion	No corrosion	4.6.8 $135^{\circ} \pm 2^{\circ}\text{C}$ ($275^{\circ} \pm 4^{\circ}\text{F}$) for 16 hours
Dielectric strength, volts/mil, (kV/mm), min	200 (7.9)	ASTM D 2671
Volume resistivity, ohm-cm, min	10^{10}	ASTM D 257
Water absorption, %, max	1.0	ASTM D 570 $23^{\circ} \pm 2^{\circ}\text{C}$ ($73^{\circ} \pm 4^{\circ}\text{F}$) for 24 hours
Flammability		
Ave. time of burning, sec., max.	60	ASTM D 635
Ave. extent of burning, in. (mm) max	1 (25.4)	
Fungus resistance	Rating of 1 or less	ASTM G 21
Specific gravity, max	1.6	ASTM D 792

AS81765/7