



AEROSPACE RECOMMENDED PRACTICE

ARP506™

REV. B

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Superseded by AS7928

High Temperature Insulated Terminal Lugs

RATIONALE

ARP506A is hereby canceled. Refer to AS7928 for high temperature insulated terminal lug information.

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1. PURPOSE

This Aerospace Recommended Practice outlines requirements for high temperature insulated crimp style terminal lugs for use in electrical wiring in ground or flight equipment.

2. SCOPE

Two classes of terminal lugs are established which are suitable for use under the following conditions:

Class	Operating Temp.	Maximum Voltage	Wire Range
200	200 C	600	AWG 26-10
260	260 C	600	AWG 26-10

3. GENERAL REQUIREMENTS

3.1 Design and Construction

3.1.1 Wire Ranges - Terminals should accommodate stranded wire sizes AWG 26 through AWG 10 inclusive.

3.1.2 Wire Types - Class 200 terminals should satisfactorily terminate silver plated types E or EE wire in accordance with MIL-M-16878 and MIL-W-7139 Class 1 wire. Class 260 terminals should satisfactorily terminate nickel plated type E or EE wire in accordance with MIL-W-16878 and MIL-W-7139 Class 2 wire.

3.1.3 Insulation Grip - Terminals should be provided with insulation grips which should support the intended wire sizes.

3.1.4 Crimping Tools - Crimping tools may be either hand or power operated types having a positive closure feature.

3.1.5 Marking - Terminals and tools should be marked or color coded in accordance with Table I to indicate the wire range for which they are intended.

TABLE I

WIRE SIZE RANGE	COLOR CODE
26-24	Black
22-20	Green
18-16	Orange
14	White
12-10	Black

3.1.6 Materials - Materials should be capable of withstanding temperature extremes of -55 C to +200 C or +260 C

as applicable. The surface finish of current carrying parts should be as follows:

Class 200--Gold
Class 260--Nickel

3.2 Performance - Terminals should meet the following performance requirements when installed on the specified wire in accordance with the manufacturer's instructions.

3.2.1 Heat Age - The terminal plating and insulation should show no evidence of cracking or splitting after being maintained for 200 hr at the temperature specified in 4.2.2.

3.2.2 Temperature Cycling - Terminals should be subjected to 50 temperature cycles in accordance with 4.2.3. They should show no evidence of cracking or splitting and should meet the voltage drop requirements of 3.2.5 and the dielectric withstanding voltage requirements of 3.2.9.

3.2.3 Vibration - After being vibrated as specified in 4.2.4 terminals should meet the voltage drop requirements of 3.2.5 and tensile strength requirements of 3.2.10.

3.2.4 Salt Spray - After 48 hr of exposure to salt spray in accordance with 4.2.5, terminals should meet the voltage drop requirements of 3.2.5 and tensile strength requirements of 3.2.10.

3.2.5 Voltage Drop - The voltage drop when measured as specified in 4.2.6 should not exceed the millivolt drop of an equivalent length of wire by more than the value specified in Table II.

3.2.6 Low Temperature Crimp - After the low temperature crimp test described in 4.2.7 there should be no evidence of cracking or splitting and the dielectric withstanding voltage requirement of 3.2.9 should be met.

3.2.7 Immersion - Terminals should meet the dielectric withstanding voltage requirement of 3.2.9 after being immersed in fluids as specified in 4.2.8.

3.2.8 Flammability - Insulation should be self-extinguishing within 30 seconds after being subjected to a flame as described in 4.2.9.

3.2.9 Dielectric Withstanding Voltage - The terminal insulation should withstand 1500 volts rms, 60 hertz, for one minute when tested in accordance with 4.2.10.

3.2.10 Tensile Strength - The mechanical strength of crimped terminals should not be less than that listed in Table II when tested in accordance with 4.2.11.

3.2.11 Axial Load - When tested as specified in 4.2.12 the insulation and metal sleeve, if used, should withstand the minimum axial forces specified in Table II without moving more than 1/32 in. from its original position on the terminal barrel.