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| <b>AEROSPACE<br/>STANDARD</b>                  | <b>AS506™</b> | <b>REV. A</b> |
|                                                | Issued        | 2004-12       |
|                                                | Stabilized    | 2019-10       |
| Superseding AS506                              |               |               |
| High Temperature Insulated Terminals & Splices |               |               |

#### RATIONALE

This document has been declared "STABILIZED" by the SAE AE-8C2 Terminating Devices and Tooling Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Users are referred to AS7928 for high temperature insulated terminal lugs.

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## 1. SCOPE:

### 1.1 Description:

This SAE Aerospace Standard (AS) describes the requirements for high temperature insulated crimp style terminal lugs and splices.

### 1.2 Application:

These products are for use in ground or flight equipment under the following conditions:

TABLE 1

| Operating Temperature | Maximum Voltage | Wire Range |
|-----------------------|-----------------|------------|
| 260 °C                | 600             | 26-4/0 AWG |

Terminal lugs and splices are to be applied with the tools recommended by the manufacturer.

## 2. REFERENCES:

### 2.1 Applicable Documents:

The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

#### SPECIFICATIONS

##### MILITARY

|               |                                                                                                |
|---------------|------------------------------------------------------------------------------------------------|
| MIL-PRF-5606  | Hydraulic Fluid, Petroleum Base, Aircraft, Missile                                             |
| MIL-DTL-5624  | Turbine Fuel, Aviation, Grade JP-8+100                                                         |
| MIL-PRF-7808  | Lubricating Oil                                                                                |
| MIL-W-22759   | Wire, Electrical, Fluoropolymer-Insulated, Copper or Copper Alloy                              |
| MIL-PRF-23699 | Lubrication Oil, Aircraft Turbine Engine, Synthetic Base                                       |
| MIL-W-25038   | Wire, Electrical, High Temperature, Fire Resistant, and Flight Critical, General Specification |
| MIL-DTL-81381 | Wire, Electrical, Polyimide-Insulated, Copper or Copper Alloy                                  |

##### SAE PUBLICATIONS

|        |                                |
|--------|--------------------------------|
| AS1241 | Fire Resistant Hydraulic Fluid |
| MA5259 |                                |

##### COMMERCIAL

NEMA Standards Publication No. HP-3-2000 – Electrical and Electronic PTFE (polytetrafluoroethylene) Insulated High Temperature Hook-up Wire; Types ET (250 volts), E (600 volts) and EE (1000 volts)

#### STANDARDS

##### MILITARY

|             |                                                            |
|-------------|------------------------------------------------------------|
| MIL-STD-202 | Test Methods for Electronic and Electrical Component Parts |
|-------------|------------------------------------------------------------|

##### OTHER PUBLICATIONS

|                  |                                                                                 |
|------------------|---------------------------------------------------------------------------------|
| ISO/IEC Guide 22 | General criteria for supplier's declaration of conformity                       |
| ISO/IEC 17025    | General requirements for the competence of testing and calibration laboratories |

### 3. REQUIREMENTS:

#### 3.1 Design and Construction:

- 3.1.1 Wire Ranges: Terminal lugs and splices shall accommodate stranded wire sizes 26 through 4/0 AWG.
- 3.1.2 Wire Types: Terminal lugs and splices shall satisfactorily terminate NEMA Standards Publication No. HP 3-2000 (260 °C wires only) nickel coated copper or copper alloy wire type E or EE and nickel coated copper or copper alloy wire in accordance with MIL-W-22759 (260 °C wire only), MIL-W-25038 and MIL-DTL-81381.
- 3.1.3 Insulation Grip: Terminal lugs and splices in wire sizes 26-10 AWG shall be provided with insulation grips which shall support the intended wire.
- 3.1.4 Crimping Tools: Manufacturers recommended crimping tools as defined in Section 6, shall be used and may be either hand or power operated types having a positive close feature. Crimping tools qualified to the requirements of the SAE specification MA5259 are recommended for termination devices in sizes 8 through 4/0 AWG.
- 3.1.5 Marking: Terminal lugs and splices and tools shall be marked or color coded in accordance with Table 2 to indicate the wire range for which they are intended.

TABLE 2

| Wire size in AWG | Color  |
|------------------|--------|
| 26-24            | Black  |
| 22-20            | Green  |
| 18-16            | Orange |
| 14               | White  |
| 12-10            | Black  |
| 8                | Green  |
| 6                | Orange |
| 4                | White  |
| 2                | Black  |
| 0                | Green  |
| 1/0              | Orange |
| 2/0              | White  |
| 3/0              | Black  |
| 4/0              | Green  |