

Electrical Suppliers for homebuilt aircraft

Excellent wiring tutorial at

<https://teamkitfox.com/Forums/threads/11670-Avionics-Wiring-Harness-A-Tutorial>

[Aircraft Spruce](#)

All manner of aircraft parts. Stocks the commonest electrical supplies.

[Allied Electronics](#)

wide variety of electrical components

American Wire and Cable normally sell in 1,000' rolls but they have a [Bargain Bin](#), click "MIL-Spec Wire & Cable", then "M22759" or "M27500". I saw prices a lot lower at Skygeek though.

[Digi-Key](#)

Littelfuse and Bussmann products as well as a wide variety of other electrical components.

[EDMO](#)

aviation focused electrical supplier

[Maven](#)

hot rod parts including round aluminum bulkhead connectors

[Mouser](#)

wide variety of electrical components

[Newark](#)

wide variety of electrical components

[Skygeek](#)

All manner of aircraft parts including wire. **Wire cheaper than Aircraft Spruce or American Wire and Cable Bargain Bin.**

Wiremasters beats them if you want something like 250'.

[Steinair](#)

avionics, panels, electrical components, wire

[WireMasters](#)

great source for M22759/16 hookup wire and M27500 type TG cable

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Airframe wiring is done with:

- Individual conductors:
 - M22759/16 Tefzel insulated. The /16 means tinned copper wire with Tefzel insulation of the thickness used for individual wires (wires in a cable use the thinner /18 insulation). PN is M22759/16 - awg - color. For instance, M22759/16-22-4 is 22 awg yellow; the color code is the same as resistors.
 - Smaller than 22 awg is not used because it's fragile. 20 awg can also be chosen as the smallest used and will fit any D-Sub standard density Size 20 contacts.
 - If wire gauge is not indicated on this schematic it is in a purchased harness. (Although some wire gauges in purchased harnesses are known and indicated.)
 - A multitude of colors are impractical to stock in an OBAM shop so nominally they are red for power, black for ground, white for everything else.
- Cables of two or more wires jacketed or un-jacketed, shielded or unshielded:
 - M27500 TG cable containing M22759/18 Tefzel insulated wires (/18 wire has thinner insulation versus /16).
 - Wires are "spirally laid". (Which means two-conductor cables are twisted pair).
 - Numbering: M27500, wire color (- is commonest and means color striped), AWG, wire spec (TG means M22759/18), wire count, shield (T is commonest if shield is required, tinned copper round-wire single shield; U is unshielded), jacket material (14 is single Tefzel white jacket, 00 is no jacket).
 - We use M27500, -, awg, TG, wire count, T or U, 14 or 00
 - Examples:
 - M27500-22TG5T14 has color-striped 22 gauge M22759/18 wires, five of them in a shielded single Tefzel white jacket.
 - M27500-22TG5U00 has color-striped 22 gauge M22759/18 wires, five of them unshielded with no jacket.
- Wiremasters.net is a good source for Tefzel wire. Also Aircraft Spruce and SteinAir for smaller quantities.
- Wires 6 awg and larger can be welding cable where bending flexibility is required.
 - Specs and insulation choices are numerous but B&C is a trusted source and sells EPDM insulated Flex-A-Prene which is rated to 105 C. They only offer 4 awg. The B&C website says it's Neoprene insulated but the Flex-A-Prene spec sheet says EPDM.
 - Bob Nuckolls says any brand that's EPDM insulated is good.