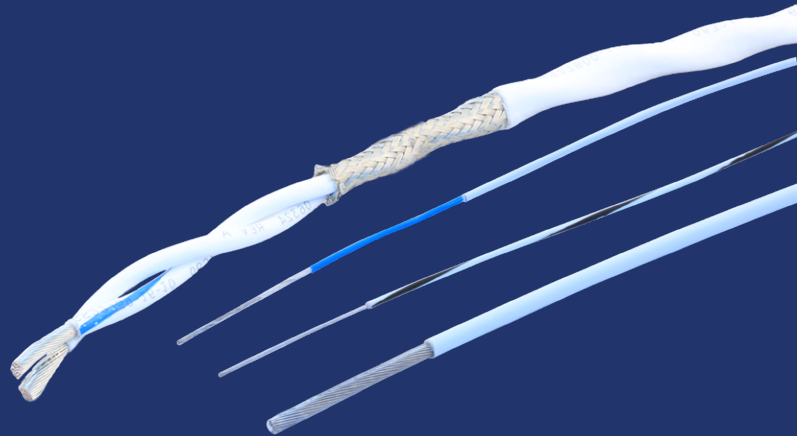


MIL-STARTM

GS22759 AEROSPACE-GRADE WIRE



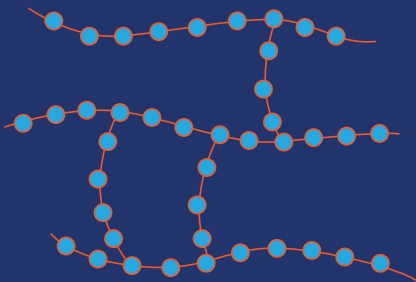
MIL-STAR aerospace-grade hookup wire is fabricated in accordance with AS22759 and AS27500 specifications. Complete baseline qualification test reports are available for all wire types as well as batch testing documentation on every production run.

GLENAIR MIL-STARTM GS22759 HOOKUP WIRE

Glenair MIL-STAR GS22759 hookup wire is built from the ground up for purity, precision, and performance. Each conductor is precision-drawn from high-purity copper to ensure consistent electrical and mechanical characteristics, including low insertion loss and excellent tensile strength. Jacket material is expertly formulated for optimal strength, heat resistance, and life-of-system durability.

CROSS-LINKING ETFE FOR IMPROVED STRENGTH AND SERVICE LIFE

Electron-beam crosslinking (XL) of ETFE insulation enhances the material's performance by creating a three-dimensional polymer network that remains stable under demanding operating conditions. The crosslinked structure delivers significantly improved thermal stability and increased resistance to chemicals and solvents, making the insulation more robust in harsh environments. Mechanical strength is also elevated as the polymer becomes less prone to deformation or creep under load. Additionally, XL-ETFE retains excellent surface characteristics for laser marking, enabling permanent, high-contrast identification. Collectively, these benefits contribute to a longer overall service life for the insulated wire, particularly in aerospace and other mission-critical applications.



LOW-FLUORIDE XL-ETFE FOR WHITE PLAGUE MITIGATION

Low-fluoride XL-ETFE insulation for AS22759 wire is engineered to minimize the formation of fluorochemical fragments that could generate hydrofluoric acid (HF), thereby reducing the risk of white plague corrosion on metal-plated conductors. The manufacturing process begins with carefully formulated ETFE resin that incorporates stabilizers and HF-scavenging additives designed to suppress chain-scission byproducts during processing. The base ETFE is melt-extruded onto the conductor under controlled temperature and shear conditions to limit fluoropolymer degradation. During the subsequent electron-beam crosslinking step, the formulation chemistry ensures that crosslinking is favored over chain breakdown, keeping fluoride generation to extremely low levels. The result is a robust, thermally stable XL-ETFE insulation system that meets the demanding electrical, mechanical, and chemical-resistance requirements of AS22759 while significantly reducing the potential for fluoride-related conductor corrosion.

BETTER-THAN-QPL MIL-STAR Hookup Wire for Aerospace-Grade Harness Assemblies



IAW AS22759 batch testing and documentation

MIL-STAR GS22759 WIRE SELECTION GUIDES

MIL-STAR TM ORDER NUMBER	CONDUCTOR	PLATING	INSULATION	INSULATION WEIGHT	AVAILABLE WIRE SIZES	TEMPERATURE RATING
GS22759-16	Copper	Tin	ETFE	Medium	24, 22, 20, 18, 16, 14, 12, 10, 8	150°C
GS22759-17	High-Strength Copper Alloy	Silver	ETFE	Medium	26, 24, 22, 20	150°C
GS22759-18	Copper	Tin	ETFE	Light	24, 22, 20, 18, 16, 14, 12, 10	150°C
GS22759-19	High-Strength Copper Alloy	Silver	ETFE	Light	26, 24, 22, 20	150°C
GS22759-32	Copper	Tin	XL-ETFE	Light	30, 28, 26, 24, 22, 20, 18, 16, 14, 12	150°C
GS22759-33	High-Strength Copper Alloy	Silver	XL-ETFE	Light	30, 28, 26, 24, 22, 20	200°C
GS22759-34	Copper	Tin	XL-ETFE	Normal (Dual-Wall)	24, 22, 20, 18, 16, 14, 12, 10, 8	150°C
GS22759-35	High-Strength Copper Alloy	Silver	XL-ETFE	Normal (Dual-Wall)	26, 24, 22, 20	200°C
GS22759-41	Copper	Nickel	XL-ETFE	Normal (Dual-Wall)	26, 24, 22, 20, 18, 16, 14, 12, 10, 8	200°C
GS22759-42	High-Strength Copper Alloy	Nickel	XL-ETFE	Normal (Dual-Wall)	26, 24, 22, 20	200°C
GS22759-43	Copper	Silver	XL-ETFE	Normal (Dual-Wall)	26, 24, 22, 20, 18, 16, 14, 12, 10, 8	200°C
GS22759-44	Copper	Silver	XL-ETFE	Light	28, 26, 24, 22, 20, 18, 16, 14, 12	200°C
GS22759-45	Copper	Nickel	XL-ETFE	Light	28, 26, 24, 22, 20, 18, 16, 14, 12	200°C
GS22759-46	High-Strength Copper Alloy	Nickel	XL-ETFE	Light	28, 26, 24, 22, 20	200°C
GS22759-51	High-Strength Copper Alloy	Silver	XL-ETFE Low-fluoride	Light	30, 28, 26, 24, 22, 20	200°C
GS22759-52	Copper	Silver	XL-ETFE Low-fluoride	Light	30, 28, 26, 24, 22, 20, 18, 16, 14, 12	200°C
GS22759-53	High-Strength Copper Alloy	Silver	XL-ETFE Low-fluoride	Normal (Dual-Wall)	30, 28, 26, 24, 22, 20	200°C
GS22759-54	Copper	Silver	XL-ETFE Low-fluoride	Normal (Dual-Wall)	30, 28, 26, 24, 22, 20	200°C

		NON-CROSSLINKED ETFE		CROSSLINKED ETFE		LOW FLUORIDE XL-ETFE	
Conductor Material	Plating	Medium Weight	Light Weight	Normal Weight	Light Weight	Normal Weight	Light Weight
Soft Copper	Tin	GS22759-16	GS22759-18	GS22759-34	GS22759-32	—	—
	Silver	GS22759-17	GS22759-19	GS22759-43	GS22759-44	GS22759-54	GS22759-52
	Nickel	—	—	GS22759-41	GS22759-45	—	—
High-Strength Copper Alloy	Silver	—	—	GS22759-35	GS22759-33	GS22759-53	GS22759-51
	Nickel	—	—	GS22759-42	GS22759-46	—	—

80 MICROINCH SILVER CONDUCTOR PLATING FOR RED PLAGUE MITIGATION

Red plague is a corrosion phenomenon that occurs in silver-plated copper conductors when the silver layer is damaged or porous enough to expose the underlying copper. In the presence of moisture and oxygen, galvanic action between the noble silver and the more active copper accelerates corrosion. The exposed copper oxidizes to form cuprous oxide (red) and—when more oxygen is present—cupric oxide (black). These corrosion products migrate to the silver surface and become visible as “red plague.” This degradation progressively reduces both the electrical conductivity and the mechanical integrity of the conductor. Thin silver coatings below about 1 μm (~40 μin), are more easily compromised during manufacturing and handling, increasing susceptibility to red plague. Using thicker 2 μm (~80 μin) silver plating significantly reduces the likelihood of red plague formation.

Mod Code 1304B

RED PLAGUE
MITIGATION

MIL-STARTM

GS27500 MULTI-CONDUCTOR CABLE

Glenair MIL-STAR multi-conductor 27500 type cables are built from in-house manufactured GS22759 hookup wire, available with industry qualification as well as Glenair GS signature part numbering. GS27500 constructions for shielded and unshielded cable are:

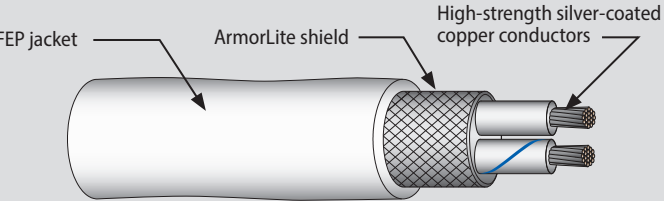
- Made and tested IAW ANSI/NEMA WC 27500
- 1–5 hook-up wires
- Insulation types including crosslinked ETFE
- Industry-standard and weight-saving Glenair signature shielding materials
- Standard and signature jacket compounds

MIL-STARTM 27500 MULTI-CONDUCTOR CABLES

ANSI/NEMA WC 27500 and Glenair signature multi-conductor cables. Each series supports M22759-16 thru -46 wire types with wire count, gauge, shield, and jacket options as allowed.

968-001

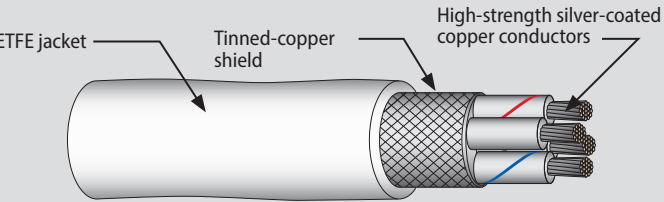
- 27500 type with ArmorLite or AmberStrand lightweight microfilament braided shielding



MIL-STAR GS27500 cables may be specified with signature braided shielding including ArmorLite, ArmorLite CF, and AmberStrand. The ability to supply 27500 type cable in accordance with the ANSI/NEMA standard but optimized for SWaP with lighter weight ArmorLite and AmberStrand shielding is a unique Glenair-only capability.

GS27500

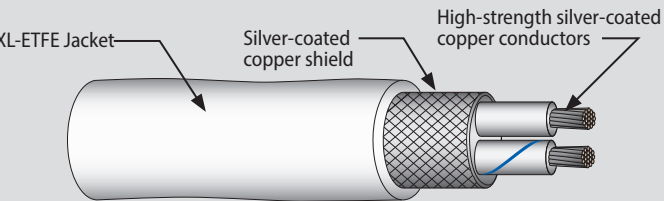
- 27500 type with GS22759-17 wire (silver-plated high-strength copper wire, ETFE insulation), and TC shielding.



This configuration of multi-conductor GS27500 cable is built with GS22759 dash 17 inner wires: silver-plated high-strength copper wire with ETFE insulation. The cable is equipped with an overall tinned-copper EMI/RFI shield and standard fluoropolymer ETFE outer jacket. The superior mechanical properties of high-strength conductors contribute to the overall safety, reliability, and mechanical strength of the cable.

GS27500

- 27500 type with GS22759-33 wire (silver-plated high-strength copper wire, XL-ETFE insulation), and silver-coated copper shielding.



This cross-linked configuration of multi-conductor GS27500 cable is built with GS22759 type dash 33 inner wires: silver-plated high-strength copper wire with cross-linked XL-ETFE insulation. Cable is equipped with an overall silver-plated EMI/RFI shield and cross-linked XL-ETFE outer jacket. This multi-conductor 27500 type cable delivers far superior thermal stability, enhanced chemical resistance, mechanical strength, and electrical properties compared to non-crosslinked versions.

MIL-STAR GS27500 cable part numbering replaces the “M” callout with “GS.” From left to right, how to order variables begin with the color code and shield coverage variable, in this case a dash, which indicates default 85% overall shield coverage, with white inner wires and colored stripes. Code A used in this position would denote 85% shield coverage with solid colored wire, Code C would denote 90% shield coverage with white inner wires with colored stripes. The next variable, 22 in our example, is conductor size, followed by the base wire specification (TE) indicating GS22759-16 wire is to be used in this cable buildup. Final variables include the number of inner wire conductors (2), type of overall shielding (T, for Tinned Copper), and finally jacketing material (14, indicating extruded ETFE in white).

Multi-conductor M27500 type IAW ANSI/NEMA WC 27500								
MIL-STAR Cable Sample Part Number	GS27500	-	22	TE	2	T	14	

Glenair MIL-STAR GS27500 cable may also be constructed with custom inner-conductor cable striping and customer-defined laser marking.

BETTER-THAN-QPL MIL-STAR SHIELDING OPTIONS

Glenair signature lightweight braided cable shield solutions include single and double layers of metal-clad composite microfilament AmberStrand[®], microfilament nickel-clad stainless steel ArmorLite[™], and ArmorLite[™] CF corrosion-resistant. Utilization of ArmorLite microfilament braid results in up to 78% weight savings versus industry-standard nickel-copper braid.

MIL-STAR GS27500 Shielding Options		
Single Shield Code	Double Shield Code	Shield Description
AM	AS	AmberStrand [®] , Round
AR	AL	ArmorLite [™] , Round
AC	AF	ArmorLite [™] CF, Round
U	U	Unshielded

ARMORLITE[™]
AmberStrand[®]

