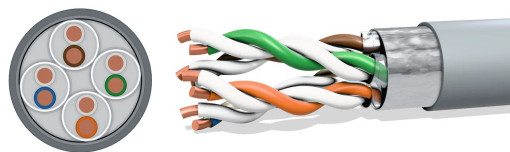


Application

Cat 6A F/FTP is a fully foil-screened four-pair Category 6A data installation cable for structured building cabling, supplied on a reel for horizontal permanent links. Each of the four pairs is built from two solid bare-copper AWG23 conductors insulated with polyethylene (PE / foam-skin PE) and wrapped in its own aluminium/polyester foil; the four foiled pairs are then enclosed by an additional overall aluminium/polyester foil (usually with a tinned-copper continuity/drain wire in contact with it) under a low-smoke zero-halogen (LSZH) outer sheath (F = overall foil screen, FTP = foiled twisted pairs). This double-foil construction is the mainstream Category 6A design shipped by several European makers: the per-pair foils suppress pair-to-pair crosstalk while the overall foil provides an all-round common screen that strongly limits the alien crosstalk between neighbouring cables that constrains 10GBASE-T. It is lighter and smaller than a braid-screened S/FTP while giving excellent alien-crosstalk control, delivers Class EA performance to 500 MHz, supports 10GBASE-T to 100 m, all lower Ethernet grades and Power over Ethernet up to IEEE 802.3bt (Type 4), and terminates on shielded RJ45 modules. The LSZH sheath (CPR Dca or B2ca) suits indoor routing in public buildings (the required class depends on the building use and the type of space, Bbl table 4.42); a PVC-sheathed Eca variant is offered for less demanding environments. A braid-screened S/FTP variant is preferred for heavy-EMI or industrial routes, and a foiled-pair-only U/FTP variant where an overall screen is not required.



CONSTRUCTION

Conductor	Solid bare copper, AWG23 (nominal 0.57 mm).
Insulation	Polyethylene (PE / foam-skin PE); nominal diameter over insulation approx. 1.4 mm.
Pair assembly	Two conductors twisted to a pair; 4 pairs (4 × 2).
Pair screen (IAM)	Aluminium/polyester (Al/PET) foil around each individual pair.
Overall screen (CAM)	Overall aluminium/polyester (Al/PET) foil around all four foiled pairs, usually with a tinned-copper continuity/drain wire.
Sheath	Low-smoke zero-halogen (LSZH); PVC on the Eca variant.
Core identification	Pair colours blue, orange, green, brown (EIA/TIA / EN 50173).
Reel	Supplied on-reel, typically 500 m or 1000 m.

ELECTRICAL & TRANSMISSION PROPERTIES

Category / class	Category 6A, Class EA (ISO/IEC 11801, EN 50173-1).
Frequency range	1-500 MHz.
Characteristic impedance	100 $\Omega \pm 15\%$.
Pairs	4 × 2 × AWG23.
Conductor	Solid bare copper AWG23 (0.57 mm).
Screening	Foil around each pair (IAM) + overall foil with drain wire (CAM).
Transmission performance	NEXT, return loss and insertion loss (attenuation) meet the Class EA / Category 6A limits of ISO/IEC 11801 and EN 50173-1; alien crosstalk (PS ANEXT) strongly suppressed by the per-pair foils and the overall foil.
Reaction to fire (CPR)	Dca-s2,d2,a1 or B2ca-s1a,d1,a1 (LSZH); Eca for the PVC variant (EN 13501-6 / EN 50575).
Flame retardant	IEC/EN 60332-1-2 (single cable); B2ca/Dca additionally to EN 50399.
Halogen-free (LSZH)	IEC 60754-2 (acidity), IEC 61034 (smoke density).
Max. operating temperature	+60 °C (in service).
Temperature range	-20 °C to +60 °C in service; +0 °C to +50 °C during installation.
Min. bending radius	4 × outer diameter installed; 8 × outer diameter during installation.
Termination	Shielded RJ45 keystone / module.

KEY FIGURES

Nominal outer diameter	approx. 7.6 mm.
Cable weight (nominal)	approx. 58 kg/km.
Conductor	4 × 2 × AWG23 (0.57 mm solid).

Transmission characteristics (NEXT, return loss, insertion loss) are the Category 6A / Class EA requirements of ISO/IEC 11801 and EN 50173-1, not manufacturer-specific guarantees. Outer diameter and weight are nominal values of the leading reference source and are indicative and non-binding.