

SEMIFCABLE — Material and Mould

Shielding Foil Braiding Wire And Jacket Compound

These are the consumables a cable line eats through: shielding tapes, braiding wire and jacket compound. They are sold alongside the cores deliberately, because a shield only performs when the tape, the drain wire and the braid wire are matched to the construction. Every tape here has a stated working band and attenuation figure rather than a general claim.

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Cable Jacket Materials PVC Pellets

The jacket is the layer that decides where a cable is allowed to be installed. We supply compound for coaxial and LAN cable jacketing across the full range — PVC for general indoor work, PE and HDPE for outdoor and buried runs, LSZH where smoke and halogen matter, TPE and PU for flexible or harsh duty, and FEP for high-temperature coaxial. Compounds can be formulated for flexibility, flame retardancy, temperature resistance, weather resistance and colour.

Parameter	Value
Indoor use (home, office)	PVC is most common for both coaxial and LAN cables; LSZH where fire safety is important
Outdoor use (sunlight, rain)	PE or HDPE preferred for both LAN and coaxial cables
Direct burial	PE with water-blocking elements such as flooding gel or tape
Industrial or harsh environments	PU/TPU or TPE for oil, abrasion and mechanical resistance
High-frequency or high-temperature coaxial	FEP or other fluoropolymers
Flame Retardant Options	Can meet UL 94 V-0, IEC 60332 and other fire safety standards
Electrical Insulation	Suitable for low and medium voltage cable insulation
Processing	Well suited to extrusion and injection moulding

Full page: <https://semifcable.com/products/jacket-material.html>

Single-Sided Self-Adhesive Aluminum Foil

This is aluminium foil coated on one side with a pressure-sensitive adhesive and protected by a release liner. It shields, it grounds, and because it sticks, it can be applied by hand as well as on a machine — which is why it is used for shielding repairs and reinforcement as well as production wrapping. Foil thickness runs 6 to 25 µm, adhesive is acrylic or rubber-based, and standard temperature range is -20°C to +120°C.

Parameter	Value
Aluminium Foil Thickness	6 µm – 25 µm
Adhesive Type	Acrylic or rubber-based
PET Thickness	12 µm – 25 µm
Width	5 mm – 50 mm
Core Inner Diameter	53 mm or 76 mm
Temperature Resistance	-20°C to +120°C standard
Release Liner	PET film
Effective Frequency Band	1 – 100 MHz
Shielding Attenuation	Up to 70 dB when used with Mylar foil
Colours	Blue and silver standard; red, green, gold and printed options available

Full page: <https://semifcable.com/products/single-sided-self-adhesive-aluminum-foil.html>

CCS Wire Copper-Clad Steel Wire

CCS wire is a steel core clad in electrolytic copper, so it carries signal on the copper surface while the steel takes the mechanical load. Conductivity sits at roughly 20 to 40 percent IACS depending on copper thickness, and tensile strength is far

above copper or CCA. That combination is why it is used for RG6 and RG59 centre conductors, telecom drop wire and grounding work, including installations where cable theft is a problem.

Parameter	Value
0.12 mm	Braided shielding for coaxial, LAN, HDMI and USB. ABS ϕ 200–250 mm reel, 2–5 kg
0.18 mm	Braiding and flexible stranded wires such as 16×0.18mm. ABS ϕ 250 mm reel, 5–10 kg
0.20 mm	Stranded cores such as 7×0.20mm and 16×0.20mm. ABS ϕ 250 mm reel, 5–10 kg
Conductivity	~20–40% IACS
Tensile Strength	Very high
Weight	Heaviest of the clad wire family
Flexibility	Poor
Corrosion Resistance	Good, copper clad

Full page: <https://semifcable.com/products/ccs-wire-copper-clad-steel-wire.html>

Al-Mg Wire Aluminum-Magnesium Alloy Wire

Al-Mg wire is aluminium alloyed with 0.3 to 5 percent magnesium, which raises tensile strength and corrosion resistance while keeping the weight advantage of aluminium. It is the standard choice for braided shielding where finished cable weight matters, and for overhead runs in coastal or industrial air. It is supplied in hard H18 temper for tensile applications and soft O temper for braiding. It is not solderable, so it belongs in shielding rather than terminated conductors.

Parameter	Value
0.12 mm	Braided shielding for coaxial, LAN, HDMI and USB. ABS ϕ 200–250 mm reel, 2–5 kg
0.18 mm	Braiding and flexible stranded wires such as 16×0.18mm. ABS ϕ 250 mm reel, 5–10 kg
0.20 mm	Stranded cores such as 7×0.20mm and 16×0.20mm. ABS ϕ 250 mm reel, 5–10 kg
Conductivity	~50–60% IACS
Tensile Strength	Medium-high, varies by temper
Weight	Lightest of the clad and alloy wire family
Flexibility	Excellent in soft temper
Solderability	Poor — bare aluminium
Corrosion Resistance	Excellent

Full page: <https://semifcable.com/products/al-mg-wire-aluminum-magnesium-alloy-wire.html>

CCAM Wire Copper-Clad Aluminum Magnesium Wire

CCAM is the middle ground in the clad wire family: an aluminium-magnesium alloy core with an electrolytic copper layer, giving 55 to 65 percent IACS with noticeably better tensile strength and fatigue life than plain CCA. It is used where cable is repeatedly moved or bent — HDMI and USB leads, high-speed data cable, automotive and mobile device wiring — and where automated high-speed production would break a weaker conductor.

Parameter	Value
0.12 mm	Braided shielding for coaxial, LAN, HDMI and USB. ABS ϕ 200–250 mm reel, 2–5 kg
0.18 mm	Braiding and flexible stranded wires such as 16×0.18mm. ABS ϕ 250 mm reel, 5–10 kg
0.20 mm	Stranded cores such as 7×0.20mm and 16×0.20mm. ABS ϕ 250 mm reel, 5–10 kg

Conductivity	~55–65% IACS
Tensile Strength	Medium-high, above CCA
Flexibility	Good
Solderability	Good — copper surface
Corrosion Resistance	Better than CCA

Full page: <https://semifcable.com/products/ccam-wire-copper-clad-aluminum-magnesium-wire.html>

CCA Wire Copper-Clad Aluminum Wire

CCA wire is an aluminium core with a uniform copper cladding, typically 8 to 40 percent copper by volume. It gives roughly 60 percent of the conductivity of pure copper at 30 to 50 percent less weight, which is why it dominates price-sensitive LAN, coaxial and speaker cable production. We supply it in the fine diameters used for braiding and stranding, wound on ABS reels sized for automatic machines.

Parameter	Value
0.12 mm	Braided shielding for coaxial, LAN, HDMI and USB. ABS ϕ 200–250 mm reel, 2–5 kg
0.18 mm	Braiding and flexible stranded wires such as 16×0.18mm. ABS ϕ 250 mm reel, 5–10 kg
0.20 mm	Stranded cores such as 7×0.20mm and 16×0.20mm, speaker and audio wire. ABS ϕ 250 mm reel, 5–10 kg
Conductivity	Approximately 60% of pure copper, varying with copper layer thickness
Tensile Strength	Low compared with CCS and CCAM
Solderability	Good — copper surface
Corrosion Resistance	Moderate

Full page: <https://semifcable.com/products/cca-wire-copper-clad-aluminum-wire.html>

Copper Foil Polyester Belt

Copper polyester tape, also called copper-plastic composite tape, is copper foil bonded to PET film with adhesive. Copper gives higher shielding performance than aluminium — around 100 dB attenuation in the 1 to 100 MHz band — and the polyester layer strengthens the foil so it survives the taping process. It is the shield material for high-performance cable: computer cable, signal cable, communication cable, coaxial cable, FPC and soft circuit boards.

Parameter	Value
Copper Foil Thickness	12, 15, 18 and 20 μ m
Polyester Film Thickness	12, 15, 19 and 23 μ m
Colour	Copper
Minimum Slitting Width	2 mm
Conventional Slitting Width	5 mm
Bore Size	52 mm or 76 mm
Maximum Winding Outer Diameter	800 mm
Packaging	Shaft packing form, carton packaging
Effective Frequency Band	1 – 100 MHz
Shielding Attenuation	100 dB

Full page: <https://semifcable.com/products/copper-foil-polyester-belt.html>

Double-Sided Self-Adhesive Aluminum Foil

This composite carries a high-performance pressure-sensitive adhesive on both faces, usually over a central carrier such as polyester film for strength and stability. Because both sides bond, it does two jobs at once: it shields, and it laminates one layer

to another. That makes it useful beyond cable — insulation bonding and sealing, heat and vapour barriers in HVAC and construction, and vibration and noise reduction in automotive and industrial equipment.

Parameter	Value
Structure	Two aluminium foil layers with pressure-sensitive adhesive on both sides
Carrier	Typically polyester film for added strength and stability
Shielding	EMI and RFI shielding
Thermal Performance	Thermal insulation with superior thermal conductivity through the foil
Resistance	Moisture, chemical and UV resistant
Liner	Clean-removal release liner
Applications	Cable shielding and grounding, insulation bonding, HVAC vapour barrier, vibration damping

Full page: <https://semifcable.com/products/double-sided-self-adhesive-aluminum-foil.html>

PET Polyester Belt Mylar Tape

Mylar tape, also called polyester tape, is made from bi-axially oriented polyester film with high tensile strength and excellent electrical insulation. In cable manufacturing it is the binder and separator: wrapping cores, bundling pairs and insulating internal components so the construction holds its geometry through the next process. It is supplied transparent, slit to 2 mm minimum with 5 mm as the standard width.

Parameter	Value
Material	Bi-axially oriented polyester (Mylar) film
Colour	Transparent
Minimum Slitting Width	2 mm
Standard Slitting Width	5 mm
Core (Bore) Diameter	52 mm or 76 mm
Maximum Roll Outer Diameter	800 mm
Packing Form	Shaft packing
Outer Packaging	Cartons for safe handling and transportation

Full page: <https://semifcable.com/products/pet-polyester-belt.html>

Double-Sided Aluminum Foil Composite Material

This is a three-layer laminate: a PET film sandwiched between two layers of aluminium foil, bonded by adhesive or extrusion lamination. Shielding works from both sides, and the PET core carries tensile load so the tape does not elongate or break during cable twisting and extrusion. It is used as the shield layer in Cat5e to Cat7 LAN cable, coaxial cable, instrumentation and control cable, automotive and EV cable and general communication cable.

Parameter	Value
Structure	Aluminium foil / PET film / aluminium foil
Bonding Method	Adhesive or extrusion lamination
Shielding	Dual-layer EMI and RFI protection
Effective Frequency Band	1 – 100 MHz
Shielding Attenuation	Up to 70 dB when used with Mylar foil
Barrier Properties	Water vapour, chemical corrosion and oxidation
Typical Applications	LAN Cat5e/Cat6/Cat7, coaxial, instrumentation, automotive and EV cable

Full page: <https://semifcable.com/products/double-sided-aluminum-foil-composite-material.html>

Single Side Aluminum Foil Composite Tape

Single side aluminium foil composite, usually called AL/PET tape, is a soft aluminium foil bonded to a polyester film. It is produced by intaglio coating, slitting and rolling, and it is the everyday shielding wrap in communication, data, coaxial, internet and signal cable. The polyester layer carries the tensile load so the foil does not tear during taping, and the finished tape can also be cut for assembly-level shielding and grounding.

Parameter	Value
Structure	Aluminium foil laminated to polyester (PET) film, single sided
Primary Function	EMI shielding
Effective Frequency Band	1 – 100 MHz
Shielding Attenuation	Up to 70 dB when used with Mylar foil
Standard Colours	Blue and silver
Optional Colours	Red, green, gold and others to customer requirement
Printing	Printing and printed twill available to customer requirement
Typical Use	Communication, data, coaxial, internet and signal cables

Full page: <https://semifcable.com/products/single-side-aluminum-foil-composite.html>

All figures are the published specification for each product. Values outside these tables are confirmed in writing before order rather than estimated. Cores are supplied unjacketed and unprinted unless otherwise agreed.