



Technical Information: Cable Materials

Flat ribbon cables employed in cable assemblies are of industry-standard geometry - AWG 26 or AWG 28 conductor size, 0,050 inch (1,27 mm) center-to-center conductor spacing, and PVC insulation material. This geometry is specifically designed to meet the stringent, high-speed, digital signal transmission requirements of the computer and peripheral equipment industries.

The close-tolerance spacing of the parallel-conductor geometry produces the consistently uniform and predictable controlled impedance and capacitance characteristics shown in the table below. The use of PVC insulation uniformly convoluted as measured in a ground-signal-ground configuration.

Cable assemblies also are compatible with industry-standard IDC-mass-termination techniques and maintain excellent impedance continuity at the cable/contact juncture. Their symmetrical convolutions permit reliable termination from either side to accommodate both „stripe-up“ and „stripe-down“ cable configurations.

„Tear-down“ separation between conductors is readily accomplished for circuit routing of separate conductors.

Cables also have excellent flexing characteristics and are easily folded to any required configurations.

Solid conductors in the 0,050-inch-flat-ribbon cable geometry also are available on special order. Send specifications for samples and quotation.

Cable Style No.:	39304	39306	39322
Physical			
Insulation			
Material:	PVC	PVC	PVC
Color:	Gray	Gray	Multi
First Conductor:	Red	Red	Brown
Conductor			
Size:	28 AWG	26 AWG	28 AWG
Stranding:	7 x 36	7 x 34	7 x 36
Material:	Copper	Copper	Copper
Resistance: (Ohms/1000ft.)	65	41	65
Electrical			
Voltage Rating:	300V	300V	300V
Insulation			
Resistance: (Ohms/1000ft.)	>1x10 ¹⁰	>1x10 ¹⁰	>1x10 ⁹
Impedance			
Unbalanced:	108,00 Ohms	89,00 Ohms	105,00 Ohms
Capacitance			
Unbalanced:	12,80 pF/ft.	16,20 pF/ft.	14,10 pF/ft.
Inductance			
Unbalanced:	0,15 µH/ft.	0,13 µH/ft.	0,15 µH/ft.
Propagation Delay			
Unbalanced:	1,40 ns/ft.	1,44 ns/ft.	1,47 ns/ft.
Environmental			
Temperature			
Rating:	-4°C to 105°C	-4°C to 105°C	-4°C to 105°C
Flammability			
Rating:	UL: VW-1 AWM	UL: VW-1 AWM	UL: VW-1 AWM



Technical Information: Contact Materials

All contacts in cable assemblies (Great Jumper) or headers are tempered nickel-silver alloys. This metal was selected for its excellent overall combination of characteristics which provide reliable electrical performance with or without gold plating or cladding.

High Strength

The high content of alloying elements in nickel silvers provide superior strength, hardness, and ductility at lower cost than other high-strength metals. The hardening and the large volume of solute nickel and zinc atoms in the basic crystalline structure of copper. This process eliminates the need for costly heat treating and provides a high work-hardening rate.

Spring Properties

The properties of stiffness and resilience, which combine to create a contact's spring characteristics, are inherent in nickel-silver alloys. The modulus of elasticity (18.000.000 psi) provides excellent stiffness while being sufficiently low when combined with the high yield strength (92.000 to 120.000 psi) to produce superior resilience - resulting in high normal force capabilities for producing gas-tight contact seals.

Surface Finish Materials

No.	Surface (Minimum Thickness 1,27 µm)
00	Base metal (no additional surface)
01	Tinned 2,54 µm
02	Gold 0,25 µm
03	Gold 0,51 µm (available on request)
04	Gold 0,76 µm (available on request)
99	Other contact finishes can be produced. Send specifications for quotation.

Fatigue Strength

Nickel silver possesses a maximum fatigue strength in excess of 25.000 psi for 100.000.000 cycles. This characteristic permits consistent retention of normal forces over a long service life.

Corrosion Resistance

Another invaluable characteristic of nickel silver is its superior resistance to oxidation, fretting, thermal shock, tarnish and corrosive attack by moistures containing dissolved salts.

Solderability

Nickel silver needs only conventional cleaning or fluxing to remove any thin surface film before soldering or brazing by traditional production methods, including wave soldering.

Cladding and Plating

Nickel silver readily accepts any thickness of gold plating and inlay cladding. Both are offered as options on Great Jumpers contacts (see table as above).

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