

# MICRO CABLES & THEIR TERMINATIONS



## Micro Cables

These very fine stainless steel micro cables have many uses. They will form virtually invisible suspension wires which are ideal for display or theatre use. They make excellent small control

wires for animatronics and special effects. The wires are made from two grades of stainless steel. The smaller wires are made from the stronger 304 grade. The 1 mm wire is made from the more corrosion-resistant 316 grade. Two of the wires that Flints stocks have a fine transparent nylon coating which is almost invisible but provides a very smooth finish and holds the strands neatly together when the wire is being cut.

The 1 mm 7 x 7 construction wire rope will be supplied with a Certificate of Thorough Examination and complies with BS EN 12385 2002. The smaller cables are not issued with certification. We would recommend that you carry out your own tests to establish a minimum breaking load of the finished assembly and then apply a safety factor of at least times five.

To terminate these micro cables we recommend using the Nicopress® system. Flints has had special ferrules developed by Nicopress® to solve the old problem of making secure terminations in these very small wires [see 🗡️]. We also supply small brass ferrules [not Nicopress®]. When using ferrules any nylon covering should be stripped back and the ferrule should be chosen to suit the actual wire diameter.

## NICOPRESS®



Really versatile tools!

**Nicopress® Micro and Small Wire Tools** Effectively terminating our very small Micro Cables used to be a problem. Flints has worked with Nicopress® to develop a range of Micro Ferrules and Stops with special hand tools which completely solve this dilemma. They are simple to use and are supplied complete with instructions. We have also found them suitable for crimping the brass ferrules listed 🗡️.

SPECIFICATION: Length: 210 mm. Weight: 0.3 kg.

The 17-BA size can be hired [page 351].

### Nicopress® Tools

	no of grooves	wire Ø	suits ferrule	suits stop	code	price	5+
Micro wires tool A	2 [A,B]	0.26 mm	NIC161A, WIR112*		NIC17BA	£51.50	£42.05
		0.51 mm	NIC162A, WIR113*				
		0.75 mm	NIC171B	NIC87132B			
		0.87 mm	NIC171B				
		1.0 mm	WIR114*				
Small wires tool B	2 [B,B4]	0.75 mm	NIC171B	NIC87132B	NIC17B4B	£65.00	£58.40
		0.87 mm	NIC171B				
		1.0 mm	WIR114*				
		1.0 mm	NIC42815VB4	NIC87112B4			
		1.2 mm	NIC42815VB4	NIC87112B4			

\*Not Nicopress®

Micro Cables - Bare Stainless Steel				code	100 m
wire Ø mm	grade	construction	Min BL		per drum
0.26	304	1 x 3	6.8 kg	WIR047D	£29.98
0.51	304	1 x 7	34 kg	WIR048D	£34.35
1.0	316	7 x 7	61 kg	WIR049D	£35.00

Micro Cables - Nylon Covered Stainless Steel					code	100 m
wire Ø mm	finish Ø	grade	construction	Min BL		per drum
0.51	0.75	304	1 x 7	34 kg	WIR048ND	£49.98
0.87	1.05	304	1 x 7	90 kg	WIR049ND	£91.70

## BRASS MICRO FERRULES



### Brass Ferrules

These ferrules are too small for conventional crimpers. A substitute crimper can be made by drilling downwards through the jaws of a pair of pliers and using a vice to apply pressure.

Flints' trials have found a good termination can be made using the Nicopress® 17BA tool. These brass ferrules are not Nicopress® ferrules. Not suitable for lifting purposes.

Brass Ferrules for Micro Cables		code	price
wire Ø mm			per 100
0.26	[see 🗡️ for Nicopress® Tool use groove A and rotate 90° and repeat]	WIR112	£6.85
0.51	[see 🗡️ for Nicopress® Tool use groove A]	WIR113	£9.85
1.0	[see 🗡️ for Nicopress® Tool use groove B]	WIR114	£11.75

Have a look at our Nicopress videos on YouTube under FlintsTheatre channel.

## NICOPRESS MICRO FERRULES



### Nicopress® Micro Ferrules

These small ferrules have been developed by Nicopress® for Flints to provide an effective means of securing a loop in our micro cables. They are made from solid copper. They can be easily compressed

by using the tools above 🗡️. The combination of these economical tools and the micro ferrules solves the old problem concerning the termination of very small cables. Tests show that these terminations exceed the strength of the wire. They are ideal for invisible control and display wires. For the nylon-covered wires use a ferrule to suit the actual wire diameter. The nylon cover should be stripped back before compressing the ferrule. For non-lifting applications it is possible to make a termination with the nylon coating in place. Using ferrule NIC42815VB4 on the 1.05 mm nylon-covered wire with the nylon cover still in place we achieved results of around 20 kg before the wire slid out through the nylon coating. Although less strong with the nylon in place, they do make extremely smooth and neat assemblies which would be suitable for lightweight lanyards.

Nicopress® Micro Ferrules		code	price	100+1,000+
suits wire Ø mm	constr. finish presses	sleeve lengths before/after/shape		
0.26	1 x 3 3 copper	10 / 12 mm / round	A	NIC161A £0.06 £0.05 £0.04
0.51	1 x 7 3 copper	10 / 11 mm / round	A	NIC162A £0.07 £0.06 £0.05
0.75-0.9	1/32" 1 x 7 2 copper	6 / 8 mm / oval	A,B	NIC171B £0.15 £0.12 £0.09
1 & 1.2	3/64" 1 x 7 3 tin-plated	9 / 11 mm / oval	B,D	NIC42815VB4 £0.26 £0.20 £0.18

**Miniature Wire Rope Fittings** These smart and unobtrusive fittings fit wire ropes from 1.5 - 2.5 mm diameter or 2 - 3 mm diameter. There are fittings and ready-made wires designed to make neat ceiling fixings and there are also fittings which slide along the wire and grip when the cap is released. To prevent accidental release they are fitted with a safety cap. By carefully selecting the components you can suspend shelving, display boards, scenery etc. and crucially have the ability to make quick and easy onsite height adjustments. There are many other types of fittings available – please ask our Rigging Manager if you are unable to find what you need. The WLLs are assuming stainless steel wire rope, WLLs are slightly higher using galvanised wires.

**Caution:** Not suitable for outdoor use. For static loads only. Not for suspension of persons.

## CORRECT WIRE SELECTION

**Correct Wire Selection** You can buy your wire by the metre or drum or you can select ready-made lengths of wire complete with end fittings to match the ceiling attachments. If using your own wire, select it as follows:

**Galvanised Steel Wire Rope 7 x 7 construction [EN 12385, 2300 N/mm<sup>2</sup>]**  
Diameters from 1.5 mm to 2.5 mm.

Flints supplies [see page 143]:

2 mm Black Galvanised Steel Wire Rope 7 x 7 constr. code WIR092 [per m], WIR092D [drum].

**Stainless Steel Wire Rope 7 x 7 construction [EN 12385-4, 1,570 N/mm<sup>2</sup>]**  
Diameters from 1.5 mm to 2.5 mm

Flints supplies [see page 143]:

1.5 mm SS Wire Rope 7 x 7 constr. code WIR050 [per m], WIR050D [drum].

2 mm SS Wire Rope 7 x 7 constr. code WIR051 [per m], WIR051D [drum].

2.5 mm SS Wire Rope 7 x 7 constr. code WIR054 [per m], WIR054D [drum].

## READY MADE WIRES

**Ready-Made Small Wire Ropes** These 7 x 7 stainless steel cables are ideal for use with the fittings listed on this page. The cylindrical stop fits inside the ceiling fixing shown right making a really neat termination. Use them for display purposes or wire suspended shelving etc. The wires supplied with an M5 thread can be either used with a nut or can be fitted directly into tapped holes. Flints can, of course, make up other wire ropes to your specifications.

### Ready-Made SS Wire with Cylindrical Sleeve

length	wire Ø mm	construction	code	price
1 m	2	7 x 7	WIR196207100	£2.64
2 m	2	7 x 7	WIR196207200	£3.81
3 m	2	7 x 7	WIR196207300	£4.59
5 m	2	7 x 7	WIR196207500	£7.78

### Ready-Made SS Wire with M5 Thread

length	wire Ø mm	construction	code	price
1 m	2.5	7 x 7	WIRM51	£12.09
2 m	2.5	7 x 7	WIRM52	£11.79
3 m	2.5	7 x 7	WIRM53	£13.62
5 m	2.5	7 x 7	WIRM55	£16.10

**There are other fittings in this range. Please call our Rigging Manager for details or email [rigging@flints.co.uk](mailto:rigging@flints.co.uk). See also Reutlingers for use with larger cable diameters [page 152].**

## CEILING ATTACHMENT



**Ceiling Attachment** This unobtrusive fitting can be screwed with a 6 mm diameter screw or machine screw to a ceiling or wall. The end cap simply unscrews and a wire with a cylindrical stop can be inserted [see left]. Sold as body and end cap complete.

See also Nicopress® [page 146].

Ceiling Attachment	length	wire Ø	thread	code	price
	23 mm	2 mm	7 x 7 cap thread M13	WIRCAM13	£2.95

## CABLE GLIDERS [THREADED]



**Cable Gliders with Threaded Stud**

These fittings can be securely attached to shelving, display boards or scenery by means of their threaded stud. When the cap is depressed the fittings slide along the wire and grip when the cap is released. To prevent accidental release they are fitted with a safety cap. The WLLs are assuming stainless steel wire rope, working loads are slightly higher using galvanised wires.

Cable Gliders with Threaded Stud	type	fits wire Ø	construction	static WLLs	thread/depth	code	price
				1.5 mm Ø	2.5 mm Ø		
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	M8 x 6 mm	WIR193000241 £6.94
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	M10 x 6 mm	WIR193000251 £7.83
				2 mm Ø	3 mm Ø		
	30V	2 - 3 mm	7 x 7	28 kg	56 kg	M8 x 8 mm	WIR193000301 £7.39
	30V	2 - 3 mm	7 x 7	28 kg	56 kg	M10 x 8 mm	WIR193000302 £7.39

## CABLE GLIDERS [SIDE FIXING]



**Cable Glider for Side Fixing** These fittings can be securely attached to display boards or scenery by means of a simple 6 mm diameter screw into the side of the frame. The panels can be easily adjusted onsite to achieve the best possible position.

Everything is available online at [flints.co.uk](http://flints.co.uk)

Cable Glider [Side Fixing]	type	fits wire Ø	construction	static WLLs	width/height	code	price
				1.5 mm Ø	2.5 mm Ø		
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	12 mm/44 mm	WIR193000294 £7.20

## CABLE GLIDERS [FORK & CLEVIS PIN]



**Cable Glider with Fork and Clevis Pin**

Use this fitting to terminate your wire onto an eye, loop or drilled lug. The fork diameter is 6 mm and the width of the opening between forks is also 6 mm. The distance from the centre of the clevis pin to the top of the fork is 12 mm. The wire exits from this point so sufficient clearance should be allowed. As with the other fixings listed above this fitting will slide up or down the wire while the top is depressed but will lock onto the wire firmly when the top is released. To prevent accidental release they are fitted with a safety cap.

Cable Glider with Fork and Clevis Pin	type	fits wire Ø	construction	static WLLs	Ø/height	code	price
				1.5 mm Ø	2.5 mm Ø		
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	12 mm/57 mm	WIR193000034 £9.95