

CONDUIT SIZE REFERENCE TABLE

The table below shows the recommended conduit based on the wire type, size, length of run and application. When choosing the proper conduit, please keep in mind these **seven variables of wire dispensing**:

- ▶ **Type of Wire**
Such as steel, aluminum, cored steel, or silicone bronze
- ▶ **Wire Cast**
The curvature of one strand of welding wire, measured as the diameter of the circle formed by a strand laying on a flat surface
- ▶ **Wire Helix**
The distance one end of a single wire strand lying on a flat surface rises off that surface (also known as the wire "pitch")
- ▶ **Application**
Robotic or semi-automatic, number of turns
- ▶ **Wire Diameter**
- ▶ **Length of Run**
- ▶ **Drawing Compounds**



Wire Type	Size (inches/mm)	Distance and Recommended Conduit					
		1 - 10 ft (1 - 3 m)		11 - 20 ft (3 - 6 m)		Over 20 ft (6 m)	
		Stationary	Robotic	Stationary	Robotic	Stationary	Robotic
Steel	0.025"/0.6 mm	EC-4-R	FC-X/EC-4-R	EC-4-R	FC-X/EC-4-R	EC-4-R	FC-X/EC-4-R
Steel	0.030"/0.8 mm	EC-4-R	FC-X/EC-4-R	EC-4-R	FC-X/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Steel	0.035"/0.9 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Steel	0.040"/1 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Steel	0.045"/1.1 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Steel	0.052"/1.3 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-5	FC-XH
Steel	1/16"/1.6 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Steel	5/64"/2 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Steel	3/32"/2.4 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Steel	7/64"/2.5 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH-LW
Steel	1/8"/3.2 mm	EC-5	FC-XH-LW	EC-5	FC-XH-LW	EC-5	FC-XH-LW
Steel	5/32"/4 mm	EC-5	FC-XH-LW	EC-5	FC-XH-LW	EC-5	FC-XH-LW
Aluminum	0.025"/0.6 mm	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A
Aluminum	0.030"/0.8 mm	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A
Aluminum	0.035"/0.9 mm	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A
Aluminum	3/64"/1.2 mm	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A
Aluminum	1/16"/1.6 mm	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A	EC-4-R	EC-4-R or FCES-A
Aluminum	3/32"/2.4 mm	EC-4-R	EC-4-R	EC-4-R	EC-4-R	EC-4-R	EC-4-R
Cored - Steel	0.035"/0.9 mm	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R
Cored - Steel	0.045"/1.1 mm	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R
Cored - Steel	0.052"/1.3 mm	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R	EC-4-R/FC-X	FC-X or E/EC-4-R
Cored - Steel	1/16"/1.6 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Cored - Steel	5/64"/2 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Cored - Steel	3/32"/2.4 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Cored - Steel	1/8"/3.2 mm	EC-5	FC-XH-LW	EC-5	FC-XH-LW	EC-5	FC-XH-LW
Stainless	0.035"/0.9 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Stainless	0.045"/1.1 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Stainless	0.052"/1.3 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Stainless	1/16"/1.6 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH
Silicon Bronze	0.030"/0.8 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Silicon Bronze	0.035"/0.9 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Silicon Bronze	0.045"/1.1 mm	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R	EC-4-R	FC-X or E/EC-4-R
Silicon Bronze	1/16"/1.6 mm	EC-5	FC-XH	EC-5	FC-XH	EC-5	FC-XH

*Ideal size for pushing or pulling aluminum wire. **Note:** The new FC-E Extreme Flex conduit may also be used in many robotic applications where FC-X is listed above.

CONDUIT TYPES AND RECOMMENDED APPLICATIONS



EC Advanced Polymer Conduit

Advanced Polymer Conduit features our advanced polymer formula for extended wear & durability. It's the top choice for aluminum wire and stationary carbon steel wire applications.



FC-E Extreme Flex Conduit

Extreme Flex Conduit (FC-E) has a single spatter-resistant jacket with enhanced flexibility for robotic welding applications requiring a high degree of mobility and flexibility.



FC-X/FC-XH/FC-XH-LW Extra Flexible Conduit

Extra Flexible Conduit features our patented low-friction elliptical wire liner design with dual jacketing for high durability in demanding robotic MIG welding and SAW applications.



FC-E with Polymer Liner for Aluminum Wire (-A)

Polymer-lined FC-E Conduit is designed specifically for robotic applications using aluminum wire. The durable polymer liner is compatible with up to 1/16" (1.6 mm) wire.

CONDUIT PART NUMBERING SYSTEM AND AVAILABLE OPTIONS

PART NUMBERING FOR PRE-CUT CONDUIT

Bulk rolls are available for EC-4-R, EC-5, FC-X, FC-XH & FC-XH-LW

See catalog or website for part numbers

LENGTH (INCHES)

Standard Lengths
 10': 120 20': 240
 12': 144 25': 300
 15': 180

Enter custom lengths in inches

ALUMINUM WIRE FLEX CONDUIT

OPTION FOR FC-E ONLY

A: Add -A suffix for inner polymer liner for aluminum, leave blank for ferrous wire

FCXHS-144-ST2-A

CONDUIT TYPE

Steel-Lined	Polymer
FC-X: FCXS	EC-4-R: EC4
FC-XH: FCXHS	EC-5: EC5
FC-XH-LW: FCXHS-LW	
FC-E: FCES*	

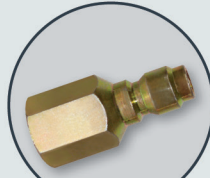
* Add -A suffix to end of part number for FC-E conduit for aluminum wire.

STRAIN RELIEF / CONNECTOR OPTIONS

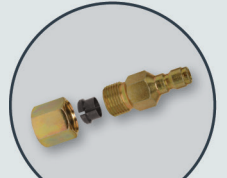
ST: Polymer strain relief, one end
 ST2: Polymer strain relief, both ends
 SR: Steel strain relief, one end
 SR2: Steel strain relief, both ends
 CF: Steel compression fittings only, both ends
 STSR: Polymer SR one end, steel SR on other

* Leave blank for pre-cut lengths without connectors

CONNECTOR OPTIONS AND TOOLS



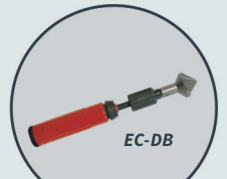
Self-threading "screw-on" style fitting



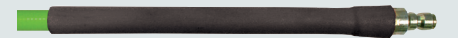
Compression style fitting with ferrule



Polymer Conduit Cutter



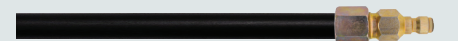
Polymer Conduit Countersink Tool



Polymer Strain Relief (ST)



Steel Strain Relief (SR)



Compression Fitting Only (CF)

Example Part Number:

FCXHS-144-ST2

FC-XH Extra Flexible Conduit, 144 in. (12 ft) with polymer strain reliefs, both ends