

Teledyne Reynolds has developed a range of highly flexible cables that are particularly suitable to the aircraft environment. This technology is a direct result of our research into light weight, durable and flexible cable assemblies needed for Helmet Mounted Display (HMD) systems. These wires have a PFA insulation and high strand count of silver plated copper conductors that enable the wire to have high tolerance to work hardening environments. They have been designed to operate over a wide temperature range of -55° to 125°C at their rated voltages and at altitudes up to 70,000 feet (21,336 meters). Micro Flex™ is available as single wire, twisted pairs or as multi-core cable with or without shielding.

Teledyne Reynolds' unique capability to manufacture Micro Flex™ cable bundles involves the use of special winding tooling to take advantage of the flexibility of the individual wire when laying up a bundle.



FEATURES	MICRO FLEX™ TESTING	TYPICAL APPLICATIONS
<ul style="list-style-type: none"> <li>◆ Flexible</li> <li>◆ Standard designs up to 18 kVDC operation</li> <li>◆ PFA insulation</li> <li>◆ Small and lightweight</li> <li>◆ Durable</li> <li>◆ Reliable</li> <li>◆ Non-combustible, low smoke rating</li> <li>◆ -55° to 125°C temperature rating</li> </ul>	<p>The following tests have been performed to MIL-W-22759 Guidelines:</p> <ul style="list-style-type: none"> <li>◆ Wrap test</li> <li>◆ Life cycle</li> <li>◆ Low temperature (cold bend)</li> <li>◆ Insulation resistance</li> <li>◆ Bend test</li> <li>◆ Thermal shock</li> <li>◆ Blocking</li> <li>◆ Dielectric test</li> <li>◆ Humidity</li> </ul>	<ul style="list-style-type: none"> <li>◆ Helmet Mounted Display CRT cabling</li> <li>◆ Night vision system</li> <li>◆ Ejection safe Quick Disconnect Connector cabling</li> <li>◆ Transformer winding</li> <li>◆ Aerostat and UAV tethers</li> <li>◆ High vibration aircraft cabling</li> <li>◆ Medical instrumentation cabling</li> <li>◆ Electrostatic chuck cabling</li> </ul>

Product numbers and specs subject to change without notice. Products listed represent only a small selection of Teledyne Reynolds' products. Please visit [www.teledynereynolds.com](http://www.teledynereynolds.com) for the most up to date product information. Contact Teledyne Reynolds' Engineering to discuss custom designs.

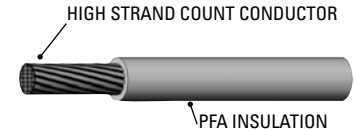
# HIGH VOLTAGE MICRO FLEX™ WIRE AND CABLE

70,000 ft (21.3km)  
-55° to 125°C

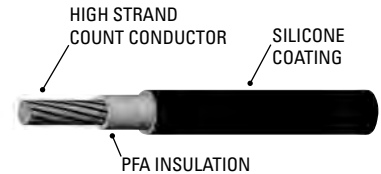
Micro Flex™ wire and cable is available uncoated or with a silicone rubber coating over the PFA insulation. The coated cable is processed with a silicone rubber coating continuously applied to the etched surface of the cable. The coated cable has characteristics similar to silicone rubber cable and a superior dielectric bond to silicone rubber potting or bonding material can be achieved.

## HIGH VOLTAGE MICRO FLEX™ ATTRIBUTES

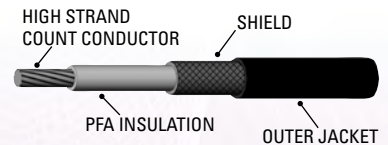
Part Number	Operating Voltage (kVDC)	Conductor		Plating	Conductor Diameter in/mm	Diameter over Insulation in/mm
		AWG	Strands			
178-5132	3	29	51/46	SPC	.012 / 0.33	.019 / 0.48
178-5135	5	29	51/46	SPC	.012 / 0.33	.025 / 0.64
178-5138	13.5	28	41/44	SPC	.014 / 0.37	.042 / 1.07
178-5141	18	24	41/40	SPC	.022 / 0.58	.050 / 1.27
178-5577	25	16	41/32	SPC	.059 / 1.50	.125 / 3.17



MICRO FLEX™



SILICONE COATED MICRO FLEX™



SHIELDED MICRO FLEX™

## SILICONE COATED HIGH VOLTAGE MICRO FLEX™ ATTRIBUTES

Part Number	Operating Voltage (kVDC)	Conductor		Plating	Conductor Diameter in/mm	Diameter over Silicone Coating in/mm
		AWG	Strands			
178-5134	3	29	51/46	SPC	.012 / 0.33	.029 / 0.79
178-5137	5	29	51/46	SPC	.012 / 0.33	.035 / 0.89
178-5140	13.5	28	41/44	SPC	.014 / 0.37	.052 / 1.32
178-5143	18	24	41/40	SPC	.022 / 0.58	.060 / 1.52

## SHIELDED HIGH VOLTAGE MICRO FLEX™ ATTRIBUTES

Part Number	Operating Voltage (kVDC)	Conductor			Insulation		Shielding			Jacket		Imp. (Ohms)	Atten. dB/100 ft @ 400 MHz	Cap. pF/ft @ 1 kHz
		AWG	Strands	Plating	Material	Diameter in/mm	AWG	Plating	Diameter in/mm	Material	Diameter in/mm			
178-6653	6	22	65/40	SPC	PFA	.041 / 1.04	42	SPC	.053 / 1.35	PFA	.070 / 1.78	12	†	76.0

† Not applicable

Contact factory for color options and availability, or please specify color requested when ordering.

**Note:** Pre-conditioning of PFA wire or cable is recommended because PFA insulation will shrink when exposed to temperature cycling. Pre-conditioning should be conducted in an air circulating oven at 204°C (400°F) for one hour. Pre-conditioning should only be performed on cut lengths prior to stripping and any termination procedure. **No attempt should be made to condition wire or cable in bulk form or while spooled.**

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