

Teledyne Reynolds' (TRI) Quiet Line™ is a continuously extruded, distributed loss, low pass filter line for use in high voltage applications. The stranded center conductor is surrounded with a "lossy" insulation material comprised of ferrite-powder filled silicone. This cable functions much like an inductive low-pass filter, where magnetic losses are dissipated and EMI absorbed. The ferrite in the insulation increases the cable's inductance by concentrating the magnetic field. The increase in inductance, in turn, increases reactance which filters out high frequency noise. The cable's attenuation characteristics increases with frequency and are directly proportional to cable length.

TRI's Quiet Line™ is excellent for use in any high frequency, high voltage application requiring the suppression of undesired RF interference or EMI noise. In addition, use of Quiet Line™ alleviates the need for a traditional low-pass filter circuit with standalone inductors and resistors that increase the mass and take up volume in the system. These attributes make Quiet Line™ an idea solution in radar, telecommunications, and electronic countermeasures. Other applications include filtering capacitive or inductive coupled noise.

Furthermore, Quiet Line™ has all the added benefits of TRI's high voltage cables and wire:

- ◆ Lightweight with small overall diameter requiring minimal volume
- ◆ Compatibility with TRI's high performance, high voltage connectors
- ◆ Operating altitude: sea level through 70,000 feet (21 km)
- ◆ Space rated version available
- ◆ Custom designs available upon request

Quiet Line™ is available in a variety of configurations: with Ready-to-Bond™ silicone coating, shielding, and/or an outer jacket. In addition, six standard loss core diameters are offered providing a range of rated voltages and RF insertion loss characteristics. The configurations and attributes of each are shown on the following page. If the standard products listed do not happen to meet your specific requirements, Teledyne Reynolds welcomes the opportunity to offer a custom solution. Please contact a TRI Application Engineer to discuss your needs further.

General Specifications

Conductor and braid	Copper, silver plated
Insulation	Extruded PFA or FEP
Jacket	PFA or FEP
Operating temperature	-55° to 125°C at 70,000 foot altitude
Voltage stress testing	100% test at 140% of rated voltage (room ambient)
Insertion loss testing	100% insertion loss verification performed on each extrusion lot. The swept frequency insertion loss technique is used within the specified frequency range per MIL-C-17F. Test specimens are shielded with a BNC termination.

Quiet Line™ Bulk Cable Ordering Information

EXAMPLE: Part Number 178-8051-100F is a 12 kVDC, extruded PFA Quiet Line™ cable on a 100-foot reel.

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

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 for the most up to date product information. Contact Teledyne Reynolds' Engineering to discuss custom designs.

QUIET LINE™

DISTRIBUTED LOSS RF ATTENUATION LINE

70,000 ft (21.3km)
-55° to 125° C

QUIET LINE™ ATTRIBUTES

Part Number	Operating Voltage (kVDC)	Attenuation (dB/FT nom)		Inner Conductor		Plating	Overall Diameter in/mm
		480 MHz	2.4 GHz	AWG	Strands		
FIGURE 1							
178-8051	12	11	90	22	19/34	SPC	.085 / 2.16
178-8301	15	15	60	24	19/36	SPC	.073 / 1.85
178-8053	20	21	140	22	19/34	SPC	.150 / 3.81
178-8050	20	21	130	22	19/34	SPC	.130 / 3.30
178-8382	20	15	90	22	19/34	SPC	.110 / 2.79
178-8104	20	21	130	22	19/34	SPC	.140 / 3.55
178-8055	20	21	130	22	19/34	SPC	.150 / 3.81
178-8253	20	21	130	20	19/32	SPC	.140 / 3.55
178-8054	20	21	130	20	19/32	SPC	.150 / 3.81

FIGURE 2							
178-8024	12	11	90	22	19/34	SPC	.095 / 2.41
178-8302	15	15	60	24	19/36	SPC	.080 / 2.00
178-7968	20	21	140	22	19/34	SPC	.160 / 4.06
178-8025	20	21	130	22	19/34	SPC	.140 / 3.55
178-8381	20	15	90	22	19/34	SPC	.120 / 3.04
178-8105	20	21	130	22	19/34	SPC	.150 / 3.81
178-7952	20	21	130	22	19/34	SPC	.160 / 4.06
178-8254	20	21	130	20	19/32	SPC	.150 / 3.81
178-7953	20	21	130	20	19/32	SPC	.160 / 4.06

FIGURE 3							
178-8069	12	11	90	22	19/34	SPC	.135 / 3.42
178-8772	20	21	130	22	19/34	SPC	.250 / 6.35

FIGURE 4							
178-8064	12	11	90	22	19/34	SPC	.145 / 3.68
178-8063	20	21	130	22	19/34	SPC	.200 / 5.08
178-8337	20	15	90	22	19/34	SPC	.170 / 4.32
178-8106	20	21	130	22	19/34	SPC	.195 / 4.95
178-8265	20	21	130	20	19/32	SPC	.200 / 5.08

FIGURE 5							
178-8306	12	11	90	22	19/34	SPC	.155 / 3.93

Figure 1

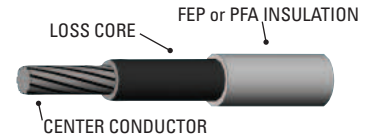


Figure 2

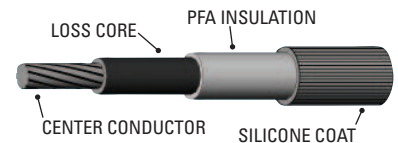


Figure 3

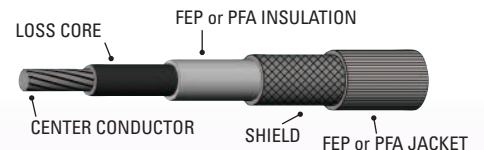


Figure 4

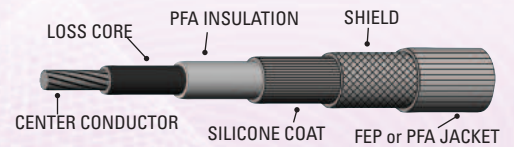
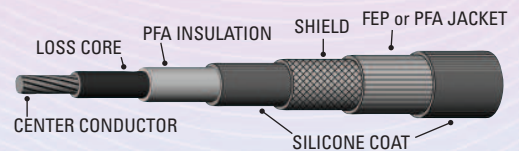


Figure 5



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