

Fluoropolymers

When Your Application Requires 100% Reliability.

100



NWI fluoropolymer cables offer these outstanding performance characteristics:

- Resistance to flame, acids, solvents, chemicals and more
- Miniaturization due to superior insulation characteristics
- High impact strength and abrasion resistance
- Customization, such as special colors, constructions, high speed data capability and special electrical properties
- High/low temperatures and abusive environments
- -200°C to 260°C options available

Cable options:

- FEP
- PFA
- ETFE
- ECTFE
- PVDF

Applications:

- Aerospace
- Military
- Medical
- Corrosive environment
- Waste water

Capabilities:

- Rapid prototyping
- No minimum quantities
- Guaranteed performance
- Fast delivery

Property	Test Method	FEP	PFA	ETFE	ECTFE
PHYSICAL					
Specific Gravity	ASTM D-792	2.14-2.17	2.15	1.70	1.68
Durometer Hardness (Shore "D")	ASTM D-2240	59	60	72	72
Tensile Strength psi Min.	ASTM D-412	2700-3100	4000	6000	7000
Elongation % Min.	ASTM D-412	250-300	300	150	260
Environmental Stress Cracking	–	Good	Excellent	Good	Good
Abrasion Resistance	–	Fair	Good	Excellent	Fair
Cut-Through Resistance	–	Fair	Fair	Excellent	Excellent
Water-Resistance	–	Excellent	Excellent	Excellent	Good
THERMAL					
Maximum Operating Temperature °C	–	200	260	150	150
Brittle Temperature, 50% Non-Failure, °C	ASTM D-476	-80	-200	-80	<-76
Flame Resistance, LOI	–	95	>95	30-32	52
ELECTRICAL					
★ Dielectric Constant @ 1 MHz	ASTM D-150	2.1	2.06	2.6	2.57
★ Dissipation Factor @ 1 MHz	ASTM D-150	0.0006	0.0001	0.007	0.013
Volume Resistivity ohm-cm	ASTM D-257	>2x10 ¹⁸	>10 ¹⁵	>10 ¹⁵	>10 ¹⁵
★ Dry Dielectric V/mil	ASTM D-149	1200	2000	1100-1300	500
★ Wet Dielectric V/mil	ASTM D-149	1000	–	1000	–

★ *Cost competitive custom options available*

Customer products by part number

Convenient to Shop. Same-Day Shipment of Your Most Frequently Purchased Products.

Manufactured to your exact requirements, we have assembled your most frequently purchased parts, making them cost-effective and convenient. Same-day shipment ensures quick delivery.

Want to add your OEM or aftermarket part?
Contact us to add it!
800.468.1516

Competitively priced and designed to meet or exceed the industry standard, we manufacture products to your exact specification. Our J1939 delivers consistent, reliable performance for your sophisticated, ruggedized data network and dependability in light and heavy duty, on and off-road trucks and trailers, construction and agricultural equipment and implements.

Products

CUSTOMER SPECIFIC PRODUCT

PART NUMBER	FJ1939182-005	FAWM182-088N	FAWM183-155	FAWM182-087N	FCAB183-027N	FJ1939202-001
FEATURES						
Signal	✓	✓	✓	✓	✓	✓
Control	✓	✓	✓	✓	✓	✓
Instrumentation	-	-	-	-	-	-
ATTRIBUTES						
Low-Temperature Rating	-40°C	≤ -25°C	≤ -25°C	≤ -25°C	≤ -25°C	-40°C
High-Temperature Rating	125°C	105°C	80°C	80°C	105°C	125°C
Flame Resistant	FT1	UL 1581 Section 1061, FT1	UL 1581 Section 1061, FT1	UL 1581 Section 1061, FT1	UL 1581 Section 1061, FT1	UL 1581 Section 1061, FT1
Wet Location Use	✓	✓	✓	✓	✓	✓
Oil Resistant	✓	✓	✓	✓	✓	✓
Chemical Resistant	✓	✓	✓	✓	✓	✓
Sunlight/UV Resistant	✓	✓	✓	✓	✓	✓
Weld Flash Resistant	✓	-	✓	✓	✓	✓
Weld Slag Resistant	✓	-	✓	✓	✓	✓
STANDARDS, AGENCY AND ENVIRONMENTAL COMPLIANCE						
UL	-	✓	✓	✓	-	-
ANSI	-	✓	✓	✓	-	-
CSA	-	✓	✓	✓	-	-
CE	-	✓	✓	✓	-	-
NEC®	-	-	-	-	-	-
NFPA 79	-	-	-	-	-	-
RoHS2	✓	✓	✓	✓	✓	✓
REACH	✓	✓	✓	✓	✓	✓

STANDARDS, AGENCY AND ENVIRONMENTAL COMPLIANCE:



KEY:
 - Not Applicable
 ✓ Featured
 ★ Cost Competitive Custom Options Available



FEATURES:

- Signal
- Control
- Instrumentation

Designed to withstand the rigors and extreme bending requirements of your material handling equipment, select from products that were custom engineered to meet or exceed your exacting specifications.

Specifically designed for tough plant environments, our rugged ODVA DeviceNet™ cable meets or exceeds the standards. Delivers consistent, reliable performance for your sophisticated industrial networking solutions. Select from Special Thin and Custom High Flex options engineered for your next project.

FJ1939182-001	FJ1939202-002	FJ1939182-002	FAWM204-049	FAWM206-017	FPLTC224-006	FAWM164C-013	FCL224C-007
					ODVA™ DeviceNet™ Special Thin	ODVA™ DeviceNet™ Custom High Flex	ODVA™ DeviceNet™ Thin
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
-	-	-	-	-	✓	✓	✓
-40°C	-40°C	-40°C	-40°C	-40°C	-25°C	-25°C	-25°C
125°C	125°C	125°C	80°C	80°C	80°C	80°C	80°C
FT1	FT1	FT1	FT2	FT2	★	★	★
✓	✓	✓	✓	✓	-	-	-
✓	✓	✓	✓	✓	-	-	-
✓	✓	✓	✓	✓	★	★	★
✓	✓	✓	✓	✓	-	-	-
✓	✓	✓	✓	✓	-	-	-
✓	✓	✓	✓	✓	★	★	★
-	-	-	✓	✓	✓	✓	✓
-	-	-	✓	✓	✓	✓	✓
-	-	-	✓	✓	✓	✓	✓
-	-	-	✓	✓	✓	✓	✓
-	-	-	-	-	✓	✓	✓
-	-	-	-	-	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓

EXTREME ENGINEERING:



Products
CUSTOMER SPECIFIC PRODUCT

Customer requests by part number

Continued

Contact us today to find out how to add your part number.

Need an OEM or
aftermarket part?
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PART NUMBER	FJ1939182-005	FAWM182-088N	FAWM183-155	FAWM182-087N	FCAB183-027N	FJ1939202-001	FJ1939182-001		
	Type-Tough (TPR Jacket)	PVC	Type-Tough (TPR Jacket)	Type-Tough (TPR Jacket)	TPE Jacket	Type-Tough (TPR Jacket)	Type-Tough (TPR Jacket)		
INSULATED CONDUCTORS									
Conductor Count	2	2	3	2	3	2	2		
AWG (mm ²)	18 (0.824)	18 (0.824)	18 (0.824)	18 (0.824)	18 (0.824)	20 (0.519)	18 (0.824)		
Stranding - Minimum and Maximum Diameter of individual strands AWG in inches (mm)	.010 (0.254)	.010 (0.254)	.010 (0.254)	.010 (0.254)	.010 (0.254)	.008 (.203)	.010 (0.254)		
Material Type	Foam XLPE	PVC	Foam PE	PE	Foamed PE	Foam XLPE	XLPE	Foam XLPE	Foam XLPE
Wall Thickness inches (mm)	.040 (1.02)	.015 (0.381)	.045 (1.14)	.016 (.41)	.040 (1.02)	.045 (1.14)	.016 (.41)	.034 (.864)	.040 (1.02)
OVERALL CABLING									
Fillers	✓	✓	✓	✓	✓	✓	✓	✓	
Shielding	✓	✓	✓	✓	✓	✓	✓	✓	
Wraps	-	-	✓	-	✓	-	-	-	
OUTER JACKET									
Material	TPR	PVC	TPE	TPE	TPE	TPR	TPR		
Color	★ Black	★ Black	★ Black	★ Black	★ Black	★ Black	★ Black		
Overall OD inches (mm)	.415 (10.54)	.235 (5.97)	.390 (9.91)	.380 (9.65)	.390 (9.91)	.315 (8.00)	.415 (10.54)		
ELECTRICAL									
Max. Operating Voltage - UL	300V	600V	600V	600V	600V	300V	300V		
DC Resistance Max mOhms/m	50	50	50	50	50	50	50		
Impedance (Ω)	120 @ 1 Mhz ± 10%	42 (Projected Impedance) ± 10%	120 Ohms @ 1 Mhz ± 10%	120 Ohms @ 1 Mhz ± 10%	120 Ohms @ 1 Mhz ± 10%	120 @ 1 Mhz ± 10%	120 @ 1 Mhz ± 10%		
Mutual Capacitance pF/ft (pF/m)	11.7 (38.4) conductor to conductor 24.4 (80) conductor to shield	50 (Projected capacitance)	11.0 (on the pair)	11.0 conductor to conductor 110 conductor to shield (Max)	11.0 (on the pair)	11.7 (38.4) conductor to conductor 24.4 (80) conductor to shield	11.7 (38.4) conductor to conductor 24.4 (80) conductor to shield		

Products

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5 Days Design to Deliver



FJ1939202-002	FJ1939182-002	FAWM204-049	FAWM206-017		FPLTC224-006		FAWM164C-013		FCL224C-007	
Type-Cut Resistant (TPE Jacket)	Type-Cut Resistant (TPE Jacket)				ODVA™ DeviceNet™ Special Thin		ODVA™ DeviceNet™ Custom High Flex		ODVA™ DeviceNet™ Thin	
2	2	4	6		4		4		4	
20 (0.519)	18 (0.824)	20 (0.519)	20 (0.519)		22 (0.325)		16(2) - 20(2) (1.31 - 0.5)		22 (2) -24 (2) (0.325 - 0.25)	
.008 (.203)	.010 (0.254)	.009 (0.228)	.009 (0.228)		19 strand TC		19 strand TC		19 strand TC	
Foam XLPE	Foam XLPE	Polypropylene	Polypropylene	SRPVC	Data Pair - Foam Polyethylene	Power Pair - PVC	Data Pair - Foam Polyethylene	Power Pair - PVC	Data Pair - Foam Polyethylene	Power Pair - SRPVC
.038 (9.65)	.040 (1.02)	.059 (1.50)	.059 (1.50)	.059 (1.50)	.030 (0.762)	.009 (0.228)	.030 (0.762)	.016 (0.41)	.026 (0.6604)	.012 (0.305)
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓
TPE	TPE	PUR	PUR		PVC		TPE		PVC	
★ Black	★ Black	★ Black	★ Black		★ Gray		★ Black		★ Gray	
.305 (7.75)	.415 (10.54)	.320 (8.13)	.285 (7.24)		.300 (7.62)		.380 (9.65)		.290 (7.37)	
300V	300V	300V	300V		300V		300V		300V	
50	50	-	-		-		-		-	
120 @ 1 Mhz ± 10%	120 @ 1 Mhz ± 10%	-	-		Data Pair - 120 ± 10%		Data Pair - 120 ± 10%		Data Pair - 120 ± 10%	
11.7 (38.4) conductor to conductor 24.4 (80) conductor to shield	11.7 (38.4) conductor to conductor 24.4 (80) conductor to shield	-	-		12.0 (39.4) conductor to conductor		12.0 (39.4) conductor to conductor		12.0 (39.4) conductor to conductor	

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