Pro-Met®
Industrial Cable

AlphaWire

Cables you trust. Service you deserve.

Pro-Met® Cable

Ultimate Performance in Industrial Environments

Industry Challenge

Original Equipment Manufacturers are continuously looking to improve the reliability of their machines in increasingly challenging environments. Dependable cables are essential to a well performing system, with flexibility and oil resistance as key priorities.

Alpha's Solution

Pro-Met is a line of flexible industrial cable impervious to oils and resistant to UV damage. Alpha's uncompromising standards provide consistency and uniformity in every cable.

Compliant with following International standards:

DIN EN 50525-2-51 (VDE 0285-525-2-51):2012-01
VDE-REG.-Nr.9770

Key Features

- Size 0.5 mm^2 - 1.5 mm^2
- 2 to 12 conductors - Stranded Bare Copper
- 300/500 V Rating
- Grey (RAL 7001) or Transparent Jacket
- Unshielded or Tinned Copper Braid Shield
- Rated up to 1M Flex Cycles

Industries

- Food & Beverage
- Medical Devices
- Industrial Automation
- Commercial Electronics
- Automotive
- Defense/Aerospace

Applications

- Precision Control Sensors
- Multi Axis Motion Control
- Control Panels
- Motor Speed Controls
- Machine Cutting Tools
- Temperature Controllers

	Environmental Requirements							
	High Temp	Low Temp	UV	Oil/Water/ Chemical	Abrasion	Direct Burial	EMI Protection with Braid Shield	Flexible/ Flexing
Pro-Met	●○○	●○○	●●○	●●○	●○○	NR	●●○	●●○

●○○ = Good; ●●○ = Very Good; ●●● = Excellent; NR = Not Recommended

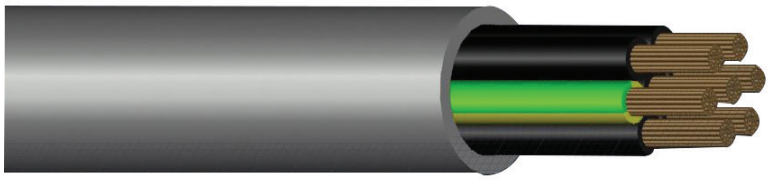
Pro-Met® Cable
Unshielded (YY) PVC Control Cables

Conductor Material	Stranded bare copper (DIN VDE 0295 Class 5)
Insulation Material & Color	Insulation Material & Color PVC (polyvinyl chloride). Black color with number coding plus 1 green & yellow = with protective conductor. Alpha Color Code KZ
Jacket / Sheath Material	PVC (polyvinyl chloride)
Flame Retardancy	VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
Voltage Rating (Uo/U)	300 / 500 V
Oil Resistant	DIN EN 50290-2-22 (TM54)
Temperature Range	-30 °C TO +70 °C (Dynamic) -40 °C TO +80 °C (Static)
Bending Radius	10x OD (Dynamic movement) 6 x OD (Fixed installation)
Other Properties	Good UV resistance, chemical resistance & flexibility

General Reference Standards

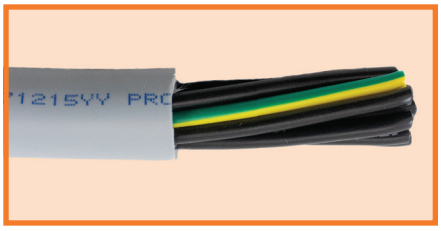
- DIN VDE 0295, IEC 60228, BS6360
- DIN EN 50290-2-22, DIN VDE 0207-363-4-1
- DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- RoHS & REACH & CE Directives

Pro-Met YY Unshielded PVC Control Cables
UNSHIELDED CABLE WITH (G) PROTECTIVE GROUND



Pro-Met

Industrial Performance
300 V Unshielded, Multicore



Grey GE

Operating Temperature

- –40°C to +80°C (static)
- –30°C to +70°C (dynamic)

Conductor Color Coding

- Alpha Color Code Chart KZ

Materials

- Stranded tinned copper conductors
- Premium industrial-grade insulation
- Tinned Copper Braid 80% coverage
- Premium PVC grade

Features

- DIN EN 50290-2-22 (TM54) Oil Resistance
- Sunlight Resistance
- IEC 60322-1 and -2 flame behavior

Availability

- 50 m (GE 321)
- 100 m (GE 033)
- 300 m (GE 432)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

0.5 mm² (21 AWG)

Stranding: 20/0.177
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470025YY	2	4.77	0.188	0.70	0.028
470035YY	3	5.08	0.200	0.65	0.026
470045YY	4	5.60	0.220	0.66	0.026
470055YY	5	6.16	0.243	0.72	0.028
470075YY	7	6.75	0.266	0.66	0.026
470095YY	9	8.51	0.335	0.70	0.028
470125YY	12	9.23	0.363	0.75	0.030

0.75 mm² (19 AWG)

Stranding: 30/0.177
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470027YY	2	5.23	0.206	0.70	0.028
470037YY	3	5.60	0.220	0.73	0.029
470047YY	4	6.16	0.243	0.80	0.031
470057YY	5	6.78	0.267	0.75	0.030
470077YY	7	7.45	0.293	0.77	0.030
470097YY	9	9.39	0.370	0.85	0.033
470127YY	12	10.2	0.402	0.77	0.030

1 mm² (17 AWG)

Stranding: 30/0.2
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470021YY	2	5.58	0.220	0.82	0.032
470031YY	3	5.96	0.235	1.00	0.039
470041YY	4	6.58	0.259	0.90	0.035
470051YY	5	7.25	0.285	0.95	0.037
470071YY	7	7.97	0.314	1.05	0.041
470091YY	9	10.05	0.396	0.95	0.037
470121YY	12	10.91	0.430	1.00	0.039

1.5 mm² (15 AWG)

Stranding: 28/0.25
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470215YY	2	6.18	0.243	0.73	0.029
470315YY	3	6.61	0.260	0.75	0.030
470415YY	4	7.31	0.288	0.80	0.031
470515YY	5	8.07	0.318	0.85	0.033
470715YY	7	8.87	0.349	0.91	0.036
470915YY	9	11.20	0.441	1.08	0.043
471215YY	12	12.17	0.479	1.13	0.044

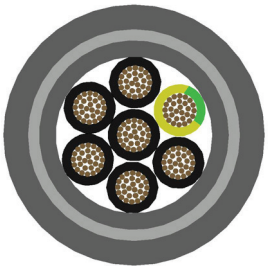
VDE CE RoHS Compliant

Pro-Met® Cable
Shielded (CY) PVC Control Cables

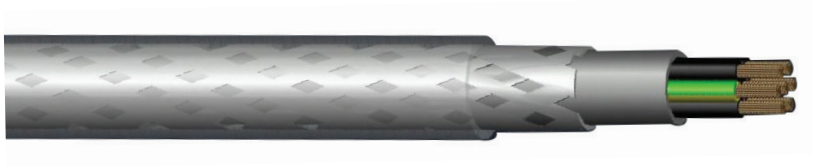
Conductor Material	Stranded bare copper (DIN VDE 0295 Class 5)
Insulation Material & Color	Insulation Material & Color PVC (polyvinyl chloride). A) All black color with number coding = without protective conductor. B) Black color with number coding plus 1 green & yellow = with protective conductor.
Braid Shield Material	Tinned Copper Braid Shield
Jacket / Sheath Material	PVC (polyvinyl chloride)
Flame Retardancy	VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
Voltage Rating (Uo/U)	300 / 500 V
Oil Resistant	DIN EN 50290-2-22 (TM54)
Temperature Range	-30 °C TO +70 °C (Dynamic) -40 °C TO +80 °C (Static)
Bending Radius	20 x OD (Occasional movement) 6 x OD (Fixed installation)
Other Properties	Good UV resistance, chemical resistance & flexibility

General Reference Standards

- DIN VDE 0295, IEC 60228, BS6360
- DIN EN 50290-2-22, DIN VDE 0207-363-4-1
- DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- RoHS & REACH & CE Directives

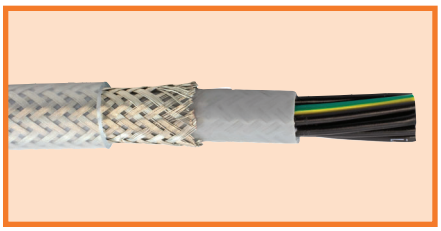


Pro-Met CY Shielded PVC Control Cables
SHIELDED CABLE WITH (G) PROTECTIVE GROUND

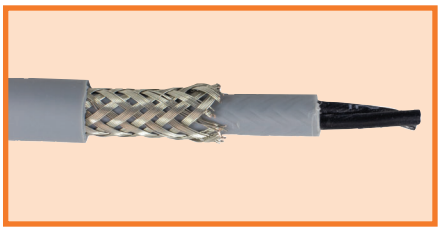


Pro-Met

Industrial Performance
300 V Braid Shield, Multicore



Clear CL



Grey GE

Operating Temperature

- –40°C to +80°C (static)
- –30°C to +70°C (dynamic)

Conductor Color Coding

- Alpha Color Code Chart KZ

Materials

- Stranded tinned copper conductors
- Premium industrial-grade PVC insulation
- Tinned Copper Braid Shield, 80% coverage
- Premium PVC jacket

Features

- DIN EN 50290-2-22 (TM54) Oil Resistance
- Sunlight Resistance
- IEC 60322-1 and -2 flame behavior

Availability

- 50 m (CL & GE 321)
- 100 m (CL & GE 033)
- 300 m (CL & GE 432)

FIT® Tubing Recommendations

- FIT-221: General-purpose, cross-linked polyolefin (indoor)
- FIT-321: Medium-wall, adhesive-lined, cross-linked polyolefin (outdoor)

0.5 mm² (21 AWG)

Stranding: 20/0.177
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470025CY	2	7.10	0.280	0.85	0.033
470035CY	3	7.43	0.293	0.80	0.031
470045CY	4	7.97	0.314	0.85	0.033
470055CY	5	8.54	0.336	0.65	0.026
470075CY	7	9.42	0.371	0.82	0.032
470095CY	9	11.26	0.443	0.85	0.033
470125CY	12	12.00	0.472	0.94	0.037

0.75 mm² (19 AWG)

Stranding: 30/0.177
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470027CY	2	7.58	0.298	0.85	0.033
470037CY	3	7.95	0.313	0.90	0.035
470047CY	4	8.55	0.337	1.00	0.039
470057CY	5	9.46	0.372	0.90	0.035
470077CY	7	10.15	0.400	0.95	0.037
470097CY	9	12.17	0.479	1.03	0.041
470127CY	12	13.00	0.512	0.95	0.037

1 mm² (17 AWG)

Stranding: 30/0.2
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470021CY	2	7.95	0.313	1.00	0.039
470031CY	3	8.34	0.328	1.20	0.047
470041CY	4	9.25	0.364	1.10	0.043
470051CY	5	9.95	0.392	1.13	0.044
470071CY	7	10.69	0.421	1.25	0.049
470091CY	9	12.86	0.506	1.12	0.044
470121CY	12	13.76	0.542	1.20	0.047

1.5 mm² (15 AWG)

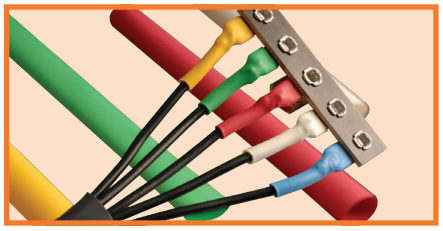
Stranding: 28/0.25
Insulation thickness: 0.4 mm (0.016 in)

Part Number	Conductors	Nominal Diameter		Jacket Thickness	
		mm	Inch	mm	Inch
470215CY	2	8.83	0.348	0.90	0.035
470315CY	3	9.28	0.365	0.95	0.037
470415CY	4	10.01	0.394	1.00	0.039
470515CY	5	10.79	0.425	1.05	0.041
470715CY	7	11.63	0.458	1.10	0.043
470915CY	9	14.05	0.553	1.27	0.050
471215CY	12	15.06	0.593	1.30	0.051

RoHS Compliant

Heat-Shrink Tubing

FIT®-221 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO



AMS-DTL-23053/5 Class 1 (except clear)
AMS-DTL-23053/5 Class 2 (clear)
UL 224 (except clear)
CSA 198 (except clear)

- Excellent general-purpose tubing
- Low water absorption
- UV resistant (black only)

Operating Temperature
- –55°C to +135°C
- –55°C to +125°C (UL, CSA)

Shrink Temperature
- 90°C min.
- 121°C full recovery

Material
- Cross-linked polyolefin

Color
- Black, white, red, yellow, blue, green, clear*

*Clear tubing may exhibit some color tint that is the result of the product's chemistry; the tint is variable and can be any color

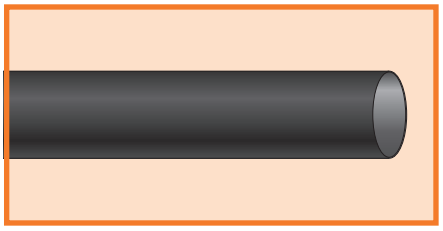
Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35 (colors)/ 1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1000 psi (6.89 N/mm^2)
- UV resistant
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10^{14} ohm-cm

Availability
Spools may contain multiple lengths

FIT®-321 Heat-Shrink Tubing
3:1 Shrink Ratio, Dual-Wall XLPO, Adhesive Lined



AMS-DTL-23053/4 Class 3
UL 224
CSA 198

- Thicker wall for increased durability
- Water-resistant inner permanent-bonding adhesive

Operating Temperature
- –55°C to +125°C

Shrink Temperature
- 110°C min.
- 110°C full recovery

Material
- Dual-wall flexible polyolefin with thick-wall adhesive

Color
- Black

Physical Properties
- Tensile strength: 1500 psi (10.34 N/mm^2)
- Elongation: 250% min
- Longitudinal change: +1%/–15%
- Flame tested
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties
- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max
- Fluid resistance: 900 psi (6.20 N/mm^2)
- UV resistant
- Lead free

Electrical Properties
- 600 V (UL, CSA)
- Dielectric strength: 300 V/mil (118 kV/cm)
- Volume resistivity: 10^{12} ohm-cm

Cables you trust. Service you deserve.

Every application is critical and cable failure is not an option when the safety of equipment and personnel is paramount. Specify Alpha cable for rugged, reliable performance, since the integrity of your system is only as robust as the products you use.

Custom cable is standard.

Alpha Wire goes one step further: manufacturing custom cables to meet unique applications—offering specific conductor counts, shielding options, jacket materials, and versatile product designs. Our custom cable orders are often shipped in less than a week, once again giving you products with more convenience and less delay.

Service and support, second-to-none.

Selecting the correct cable for your critical application is essential to overall system reliability, performance, and safety. So we make it easy for you to select the right Alpha cable for your specific application. Our online resources include a wire and cable selection guide, technical information, full product catalog, and a distributor locator to make it easy to select and get the cable you need. Can't find what you're looking for? Design the cable to your specification. It's easy, just visit **www.alphawire.com!**

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AlphaWire

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