

XTRA•GUARD®

HIGH PERFORMANCE ELECTRONIC CABLES

FROM ALPHA WIRE

In today's world of sophisticated electronics, every application is critical! Computers efficiently monitor and control multi-million dollar production lines and processes.

The integrity of your system is only as solid as the electronic cable on which the control signals are communicated. If the cable fails, your system is down. Production time . . . efficiency . . . profits . . . lost.

If you think that wire and cable is just wire and cable . . . think again.

The cable you install must be capable of efficient signal transmission while it withstands the environmental abuses of heat or cold, intermittent or continuous motion, abrasion, immersion in oils or EMI/RFI interference.

XTRA•GUARD® cables are "hazard-matched" to survive in the most demanding environments. A wide range of designs are available including our newest design . . .

XTRA•GUARD® Flexible Cables.

Remember, a cable is not just a cable.

Alpha Wire FIT® Tubing For Environmental Cable/Connector Sealing and Protection!



Alpha's FIT® Shrinkable Tubing products are the perfect solution to insure that the XTRA•GUARD® cable you select will be protected against the extremes of temperature, abrasion, cut through and the effects of oils, water and chemicals.

To make this selection process easier, a suitable FIT® Shrinkable Tubing product has been recommended for every XTRA•GUARD® cable type.



XTRA•GUARD® 1 Extra-Premium Grade PVC Jacket For Extended Cable Life



Canadian Standards Association Underwriters Laboratories Inc.

SPECIFY AND CHOOSE XTRA•GUARD® 1 FOR:

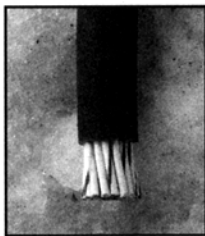
- A General Purpose Electronic Cable for Internal or External Wiring of OEM Equipment
- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- Fully Color-coded, Tinned Copper Conductors
- Premium Grade PVC Insulation and Jacket
- Jacket Colors: Gray and Black
- UL Recognition and CSA Certification
- Available in Both 300 Volt and 600 Volt Cable Styles
- Immediate Availability

XTRA•GUARD® 1 APPLICATIONS:

- EIA RS 232C Interface
- High Technology Applications in Controlled Environments
- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

Alpha's FIT® Shrinkable Tubing Recommendation:

- FIT-221 – Irradiated Polyolefin (indoor) or
- FIT-321 – Adhesive-lined Polyolefin (outdoor)



XTRA•GUARD® 4 Extra-Protection, High/Low Temperature TPE Jacket



Canadian Standards Association

SPECIFY AND CHOOSE XTRA•GUARD® 4 FOR:

- Unmatched Cable Performance in Both High and Low Temperature Cable Applications from -60°C to +125°C
- Three-times the Low-temperature Flexibility of PVC
- Outstanding Resistance to Oils, Fuels, Solvents and Water
- Low HCL Content for Safety
- Fully Flame-resistant Color-coded TPE (thermoplastic elastomer) Insulated Conductors and a TPE Jacket
- Passes the 210,000 BTU Flame Test
- Available in Both 300 Volt and 600 Volt Cable Styles
- UL Rated Type TC 600 Volt and Type PLTC 300 Volt for Cable Tray Applications
- Pennsylvania Bureau Deep Mine Safety Approved (P-MWMS-1-85) for Mine-wide Monitoring Systems
- Ultraviolet Light Stability (in all colors)
- Jacket Colors: Yellow, Orange, Blue, Green, Red, Black, White and Gray
- UL Recognition and CSA Certification

XTRA•GUARD® 4 APPLICATIONS:

- Wood, Paper, Pulp, Plant Operations
- Mining Instruments and Controls
- Industrial Tray/Power Limited Tray Cable Applications
- Mass Transit Systems
- Military Electronic Applications
- Food and Beverage Plants
- Petrochemical Process Controls
- Arctic Pipeline Controls

Alpha's FIT® Shrinkable Tubing Recommendation:

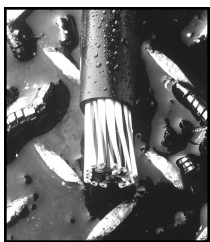
- FIT-600 – Highly Flexible Elastomer or
- FIT-400 – Heat/Chemical Resistant FEP Teflon®

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XTRA•GUARD® 2

Industrial Strength, Extra-Rugged Polyurethane Jacket

Recognized Component
Underwriters Laboratories Inc.

Certified
Canadian Standards Association

Passes
UL VW-1 Flame Test
Underwriters Laboratories Inc.

SPECIFY AND CHOOSE XTRA•GUARD® 2 FOR:

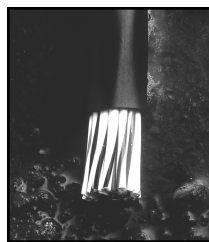
- Unmatched Resistance to Oils, Fuels, Solvents and Water
- Twice the Tensile Strength of PVC
- Three-times the Tear and Abrasion Resistance of PVC
- Applications Requiring Ultraviolet Light Stability and Fungus Resistance
- Superior Low-temperature Operation to -20°C
- Fully Color-coded PVC Insulated Tinned Copper Conductors With a Specially Formulated Extra-rugged Polyurethane Jacket
- Jacket Colors: Yellow, Orange, Blue, Green, Red, Black, White and Gray
- UL Recognition and CSA Certification
- Available in Both 300 Volt and 600 Volt Cable Styles

XTRA•GUARD® 2 APPLICATIONS:

- CNC Machine Centers
- Fixed Automotive Assembly Equipment
- Military Ground Support Systems
- Packaging Machinery
- Petrochemical Plant Operations
- Geophysical Exploration Equipment

Alpha's FIT® Shrinkable Tubing Recommendation:

- **FIT-321** – Adhesive-lined Polyolefin



XTRA•GUARD® 3

Extra-Durable Outdoor Direct-Burial Jacket

Suitable for
Direct Burial

SPECIFY AND CHOOSE XTRA•GUARD® 3 FOR:

- Direct Burial Applications in Wet Earth Without the Costly Use of Conduit
- Five-times the Water Resistance of Conventional PVC
- A Specially Formulated Ethylene Propylene Copolymer Jacket for Outstanding Service Life in Outdoor Use
- Unmatched Ultraviolet Light Stability
- Available in Both 300 Volt and 600 Volt Cable Styles
- Jacket Color: Black

XTRA•GUARD® 3 APPLICATIONS:

- Inter-building Communications
- Satellite Communications Equipment
- Land Irrigation Systems
- Outdoor Security Systems
- Outdoor Scoreboards and Displays
- Pipeline Sensor Controls

Alpha's FIT® Shrinkable Tubing Recommendation:

- **FIT-321** – Adhesive-lined Polyolefin



XTRA•GUARD® 5

Extra High-Temperature/ Chemical-Resistant FEP Teflon® Jacket

LISTED

Certified
Canadian Standards Association

Pennsylvania Bureau of Deep Mine
Safety Approved P-MWMS-1-85

SPECIFY AND CHOOSE XTRA•GUARD® 5 FOR:

- FEP Teflon® Cables for Unmatched Performance at Temperatures from -80°C to +200°C
- 100% Impervious to All Chemicals, Acids, Fuels, Solvents and Water
- 20-30% Smaller Cable Diameter than Conventional Cables
- Extremely Low Friction Jacket for Ease of Cable Routing
- Excellent Ampacity Rating
- Low Dielectric Constant of 2.1
- Plenum-rated Applications
- Pennsylvania Bureau Deep Mine Safety Approved (P-MWMS-1-85) for Mine-wide Monitoring Systems
- Jacket Color: Tan
- UL Recognition and CSA Certification
- Available in 300 Volt Cable Styles

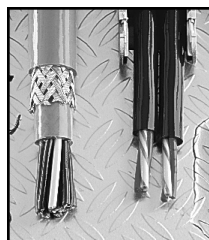
XTRA•GUARD® 5 APPLICATIONS:

- Military Electronic Applications
- Steel, Glass and Metal Foundries
- Mining Instruments and Controls
- Food and Beverage Plants
- Clean Room Environments
- Refinery Cracker Unit Controls

Alpha's FIT® Shrinkable Tubing Recommendation:

- **FIT-650** – High/Low Temperature Viton®
- **FIT-400** – FEP Teflon®

Teflon is a registered trademark of E.I. DuPont Co.



XTRA•GUARD®

Flexible Cables

THE AVAILABLE
ALTERNATIVESM

Recognized Component
Underwriters Laboratories Inc.

Certified
Canadian Standards Association

SPECIFY AND CHOOSE XTRA•GUARD® MULTI-PURPOSE FLEXIBLE CABLES FOR:

- General Purpose Electronic Cables where Flexibility is Required, Providing Three-times the Flexibility of Ordinary PVC Cable
- Outstanding Oil and Chemical Resistant Jacket That Meets the Stringent Requirements of the VDE 0472, Section 803 Oil Test
- Black Numbered Conductors and Standard Green/Yellow Ground Conductor on the Outer Layer

SPECIFY AND CHOOSE XTRA•GUARD® CONTINUOUS USE FLEXIBLE CABLES FOR:

- Unmatched Flexibility and Durability in Continuous Motion Cable Track Applications
- Twice the Flexibility of Ordinary PVC Cable
- Super-flexible Cables Which Have Been Tested to MIL-C-13777G for Flex Life
- For Prolonged Use in Heavy-duty, High Speed Cable Track Applications
- Red Numbered Conductors and Standard Green/Yellow Ground Conductor on the Outer Layer
- Stocked in 600 Volt Shielded and Unshielded Constructions

XTRA•GUARD® FLEXIBLE CABLE APPLICATIONS:

- Machine Tools
- Machine Rebuilding
- Robotics
- Automation Equipment
- Material Handling Equipment

Alpha's FIT® Shrinkable Tubing Recommendation:

- **FIT-FLEX** – Highly Flexible Silicone Rubber

DUAL WALL / ADHESIVE LINED

FIT®-300

Surface Irradiated/Dual Extruded Polyolefin

MIL-I-23053/4C, Class 1

Features & Benefits

- Meltable inner wall
- Encapsulates without adhesive
- Temporary sealing without sticky residue
- Increased wall thickness for added protection
- High shrink ratios
- Excellent dielectric properties

Applications

- Substrates requiring filled interstices
- Digital electronics where adhesive is unacceptable
- Temporary applications requiring encapsulation

Characteristics

- Shrink Ratio: 3:1 - 6:1 (depending on size) @ 135°C
- Temperature: -55°C to +110°C
- Longitudinal Shrinkage: 10%
- Size: 1/8" - 3/4"
- Packages: 4ft lengths, cut pieces
- Colors: Multiple

FIT®-700

Non-Bonding, Mastic Lined, Irradiated Polyolefin

- Non-bonding adhesion to most materials
- Environmental & water-tight seal
- Prevents wicking & fills interstices
- Tubing sizes match 14AWG-2000MCM sizes
- Superior strength
- High voltage & dielectric strength
- Pre-cut 12 inch pieces

- High voltage splices
- Waterproofing connections
- Underground utility applications
- Direct burial
- Outdoor insulation & protection
- **XTRA•GUARD® 3** applications

- Shrink Ratio: 3:1 @ 121°C
- Temperature: -55°C to +90°C
- Longitudinal Shrinkage: 5%
- Size: 3/4" - 4-1/2 in (14AWG-2000MCM)
- Packages: 12 inch cut pieces
- Colors: Black

FIT®-750

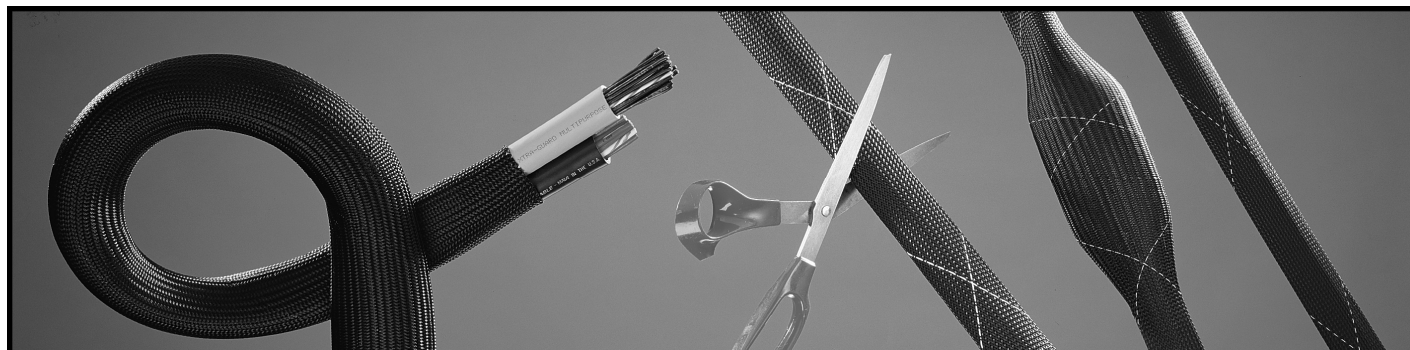
Permanent Bonding Adhesive Lined, Irradiated Polyolefin

MIL-I-23053/4C, Class 2

- Permanent bonding to substrates
- **FIT-221** with adhesive liner
- Total encapsulation
- Reduced diameters
- Permanent waterproof & corrosion protection
- Internal isolation of individual substrates - "pinching"

- Waterproofing substrates
- Permanent sealing of substrates
- Wire isolation within a harness
- Permanent joint splice repair
- General purpose usage with adhesive
- **XTRA•GUARD® 2** applications

- Shrink Ratio: 2:1 @ 121°C
- Temperature: -55°C to +110°C
- Longitudinal Shrinkage: 5%
- Size: 1/4" - 1-1/2 in
- Packages: 4ft lengths
- Colors: Black



SPECIALTY MATERIALS (NON SHRINK)

GRP-110 & 120 SLEEVING

Expandable, Braided Polyester Sleaving

MIL-I-631D

Recognized Component Underwriters Laboratories Inc. Passes UL VW-1 Flame Test Underwriters Laboratories Inc.

Features & Benefits

- Lightweight, flexible routing
- Flexibility in wide temperature range, -70°C to +125°C
- Abrasion & cut-through resistance
- Expansion & contraction of sleeving diameter
- Flame retardancy (GRP-120)

Applications

- Protective covering for wire, cable & tubing
- Robots & automation equipment dressing
- Wire bundling & harnessing
- **XTRA•GUARD® Flexible Cable** applications
- Fiber optic cable bundles
- Note: Hot knife must be used to prevent tubing from fraying

Characteristics

- Temperature: -70°C to +125°C
- Size: 1/8" - 2 in
- Packages: Spools
- Colors: Black, White (GRP-120 has a white tracer)

GRP-110NF & 120NF SLEEVING

Non-Fraying Expandable, Braid Sleaving

MIL-I-631D

Recognized Component Underwriters Laboratories Inc. Passes UL VW-1 Flame Test Underwriters Laboratories Inc.

- **FRAYLESS CUTS WITHOUT A HOT KNIFE!**
- Frequent expansion at scissor cut ends without fraying
- Lightweight, flexible routing
- Flexibility in wide temperature range, -70°C to +125°C
- Abrasion & cut-through resistance
- Expansion & contraction of sleeving diameter
- Flame retardancy (GRP-120NF)

- Field installation without a hot knife
- Protective covering for wire, cable & tubing
- Robots & automation equipment dressing
- Wire bundling & harnessing
- **XTRA•GUARD® Flexible Cable** applications
- Fiber optic cable bundles

- Temperature: -70°C to +125°C
- Size: 1/8" - 1-1/2 in
- Packages: Spools
- Colors: Black (GRP-120NF has a white tracer)

SPECIALTY MATERIALS

FIT®-105

Irradiated PVC

MIL-I-23053/2C, Class 1
CSA OFT Flame Test



Features & Benefits

- Low shrink temperature (100°C)
- 30% stronger than standard polyolefin
- UL VW-1 & CSA OFT flame retardancy
- Low water absorption & UV resistant
- Extended shelf life
- Multiple package availability

Applications

- Use with PVC cable
- With heat sensitive substrates
- Fast recovery time
- Wire harnesses & cable assemblies
- Flame retardant requirements
- **XTRA•GUARD® 1** applications
- Automated cutting machines (spools)

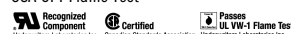
Characteristics

- Shrink Ratio: 2:1 @ 100°C
- Temperature: -35°C to +105°C
- Longitudinal Shrinkage: 10%
- Size: 3/64" – 2 in
- Packages: 4ft lengths, spools & cut pieces
- Colors: Black

FIT®-350

Extra Strong, Flame Retardant Kynar**

MIL-I-23053/8B
CSA OFT Flame Test



- Chemical resistance
- Almost 3 times the tensile strength of standard polyolefin
- Excellent flame retardancy
- Excellent heat resistance
- Reduced shrink temperature

- High temperature environments
- Faster recovery time than Teflon*
- Exposure to chemicals
- Use with high temperature wire
- Caustic environments
- **XTRA•GUARD® 4** applications

- Shrink Ratio: 2:1 @ 175°C
- Temperature: -55°C to +175°C
- Longitudinal Shrinkage: 10%
- Size: 3/64" – 1 in
- Packages: 4ft lengths & cut pieces
- Colors: Transparent

FIT®-400

Temperature/Chemical Resistant FEP Teflon*

MIL-I-23053/11B

- Excellent chemical resistance
- Extreme temperature range of -67°C to +204°C
- More than twice the strength of standard polyolefin
- Unmatched dielectric properties
- Thinnest wall thickness available
- Lower recovery temp than TFE Teflon*

- Fiber optic applications
- High temperature cable
- Limited space applications
- **XTRA•GUARD® 4 & 5** applications
- Digital electronics (signal sensitive equip.)
- Extremely caustic environments
- Fast recovery time
- Data & FEP Teflon* cable applications

- Shrink Ratio: 1.2:1 @ 176°C
- Temperature: -67°C to +204°C
- Longitudinal Shrinkage: 10%
- Size: 0.03" – 0.44" (24AWG-0AWG)
- Packages: 4ft lengths & 2ft lengths
- Colors: Naturally Clear

FIT®-500

Temperature/Chemical Resistant TFE Teflon*

MIL-I-23053/12B, Class 3

- Supreme chemical resistance
- Most extreme temperature range of -67°C to +260°C
- Among the highest tensile strength available (6000psi)
- Unmatched dielectric properties
- Extremely thin wall thickness
- Low friction coefficient

- Fiber optic applications
- TFE Teflon* cable applications
- Limited space applications
- Digital electronics (signal sensitive equip.)
- Extremely caustic environments

- Shrink Ratio: 1.5:1 @ 327°C
- Temperature: -65°C to +260°C
- Longitudinal Shrinkage: 10%
- Size: 0.034" – 0.047" (30AWG-0AWG)
- Packages: 2ft lengths
- Colors: Naturally Transparent

FIT®-600

Highly Flexible, Irradiated Elastomer

MIL-I-23053/1B, Class 2†
MIL-R-46846 Type 1, Class 1†
CSA OFT Flame Test



- Improved flexibility
- Twice the tensile strength of silicone rubber
- Reduced longitudinal shrinkage
- Large tubing diameters
- Oil resistance & flame retardancy
- Abrasion resistance

- Military & commercial harnesses
- Moderate flexing at mild temperatures
- Cold temperature flexing
- Expansion & contraction compensation
- Machine tool & automation equipment
- **XTRA•GUARD® 4** applications
- **XTRA•GUARD® Flexible Cable** applications

- Shrink Ratio: 1.75:1 @ 135°C
- Temperature: -70°C / +121°C
- Longitudinal Shrinkage: 6%
- Size: 1/4" – 3in
- Packages: Spools
- Colors: Black

FIT®-650

Chemical and Temperature Resistant Viton

MIL-I-23053/13A

- Extreme temperatures -40°C to +200°C
- Excellent chemical resistance (water, oil, acid & fuels)
- Immersion in fluids or chemicals
- Flexibility

- Chemical production applications
- Military electronics/aircraft
- In hostile environments requiring some flexibility
- **XTRA•GUARD® 5** applications
- **XTRA•GUARD® Flexible Cable** applications

- Shrink Ratio: 2:1 @ 175°C
- Temperature: -40°C to +200°C
- Longitudinal Shrinkage: 20%
- Size: 1/8" – 1 in
- Packages: Spools
- Colors: Black

FIT FLEX

Highly Flexible, Irradiated Silicone Rubber

ASTM-D 2240 & 2671



- Highest flexibility available
- Flexibility in widest temperature range, -75°C to +200°C
- Expansion & contraction compensation
- Scrape abrasion resistance
- Pliability when substrate requires "give"
- Flame retardancy

- Robotics cables
- Automation equipment dressing
- Environments with varied temperatures
- **XTRA•GUARD® Flexible Cable** applications
- Fiber optic cable bundles
- Assemblies & harnesses requiring flexibility

- Shrink Ratio: 1.7:1 @ 135°C
- Temperature: -75°C to +200°C
- Longitudinal Shrinkage: 15%
- Size: 0.112" – 1.217"
- Packages: Spools
- Colors: Gray

† FIT-600 does not contain any polychloroprene/neoprene but meets the physical properties of MIL-I-23053/1B, Class 2 and MIL-R-46846 Type 1, Class 1 specifications.

*Teflon® is a registered trademark of E.I. DuPont Co.
**Kynar is a trademark of T.M. Pennwalt

XTRA•GUARD® MULTICONDUCTOR, SHIELDED/UNSHIELDED CONTINUOUS USE, SUPER-FLEXIBLE, HEAVY DUTY CONTROL CABLE

UL AWM STYLE 2587
CSA AWM I A/B II A/B FT1
600 VOLT

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CHOOSE XTRA•GUARD CONTINUOUS USE SUPER-FLEXIBLE CABLES FOR:

- Two Times the Flexibility of Ordinary PVC Cable
- Extra Flexibility and Durability for Continuous Motion
- Extended Cycle Life
- Outstanding Oil and Chemical Resistance
- UL Recognized and CSA Certified
- Jacket Meets VDE 0472, Section 803 Oil Test

XTRA•GUARD CONTINUOUS USE SUPER-FLEXIBLE CABLE APPLICATIONS:

- Applications Requiring Continuous Flexing
- Robotics
- Installation of Cable Track
- Automation Equipment
- Assembly Lines
- Material Handling Equipment

CHARACTERISTICS

OPERATING TEMPERATURE: PRODUCT DESCRIPTION:

- -5°C to 90°C
- Conductor: Super Finely Stranded Bare Copper
- VOLTAGE RATING: 600 Volt
- Insulation: Talc Coated, PVC
- COLOR DESCRIPTION: Color Code: Numerically Numbered Red Conductors With One Green/Yellow Conductor on Outside Layer
- Fillers: Non-wicking, Solid PVC Rod
- Wrap: Non-wicking Fabric
- Inner Jacket: PVC
- Shield: Tinned Copper Braid (85% Coverage)
- Outer Jacket: Oil Resistant PVC
- Jacket Color: Black

SPECIFICATIONS

- Bend Radius: 10X Cable Diameter
- CSA AWM I A/B II A/B FT1
- UL AWM Style 2587
- Jacket Meets VDE 0472, Section 803 Oil Test
- Passes MIL-C-13777G Flexlife Test
- Cycle Life Testing Ongoing, Contact Tech Service for Status

Underwriters Laboratories Inc. Canadian Standards Association

AVAILABILITY

- In Stock: 100 ft (30,5m), 500 ft (152m) and 1000 ft (305m) put-ups

20 AWG (0,50mm), 63/68 (63/0,10mm), Insulation Thickness: 0.022" (0,56mm)

Alpha Part No.	No. of Cond.	Jacket Thickness Inches	mm	Nominal Diameter Inches	mm
85003	3	0.045	1,14	0.32	8,1
85003CY*	3	0.055	1,34	0.48	12,2
85004	4	0.045	1,14	0.34	8,6
85004CY*	4	0.055	1,34	0.51	13,0
85005	5	0.045	1,14	0.37	9,4
85005CY*	5	0.055	1,34	0.55	14,0
85007	7	0.055	1,34	0.42	10,7
85007CY*	7	0.055	1,34	0.58	14,7
85010CY*	10	0.065	1,65	0.71	18,0
85012	12	0.055	1,34	0.54	13,7
85012CY*	12	0.065	1,65	0.72	18,3
85018	18	0.065	1,65	0.64	16,3
85018CY*	18	0.065	1,65	0.80	20,3
85025	25	0.065	1,65	0.77	19,6
85025CY*	25	0.075	1,91	0.96	24,4
85034	34	0.075	1,91	0.87	22,1

18 AWG (1,00mm), 105/38 (105/0,10mm), Insulation Thickness: 0.022" (0,56mm)

Alpha Part No.	No. of Cond.	Jacket Thickness Inches	mm	Nominal Diameter Inches	mm
85803	3	0.045	1,14	0.34	8,6
85803CY*	3	0.055	1,34	0.50	12,7
85804	4	0.045	1,14	0.36	9,1
85804CY*	4	0.055	1,34	0.54	13,7
85805	5	0.055	1,34	0.41	10,4
85805CY*	5	0.055	1,34	0.57	14,5
85807	7	0.055	1,34	0.45	11,4
85807CY*	7	0.055	1,34	0.61	15,5
85812	12	0.055	1,34	0.58	14,7
85812CY*	12	0.065	1,65	0.76	19,3
85815	15	0.065	1,65	0.67	17,0
85818	18	0.065	1,65	0.69	17,5
85818CY*	18	0.075	1,91	0.88	22,4
85825	25	0.075	1,91	0.87	22,1
85825CY*	25	0.075	1,91	1.04	26,4
85834	34	0.075	1,91	0.93	23,6

16 AWG (1,50mm), 163/38 (163/0,10mm), Insulation Thickness: 0.022" (0,56mm)

Alpha Part No.	No. of Cond.	Jacket Thickness Inches	mm	Nominal Diameter Inches	mm
85603	3	0.045	1,14	0.38	9,7
85603CY*	3	0.055	1,34	0.56	14,2
85604	4	0.055	1,34	0.43	10,9
85604CY*	4	0.055	1,34	0.59	15,0
85605	5	0.055	1,34	0.47	11,9
85605CY*	5	0.065	1,65	0.65	16,5
85607	7	0.055	1,34	0.51	13,0
85607CY*	7	0.065	1,65	0.69	17,5
85612	12	0.065	1,65	0.67	17,0
85612CY*	12	0.065	1,65	0.83	21,1
85618	18	0.065	1,65	0.78	19,8
85618CY*	18	0.075	1,91	0.97	24,6
85625	25	0.075	1,91	0.96	24,4
85625CY*	25	0.085	2,16	1.15	29,2
85634	34	0.085	2,16	1.08	27,4

14 AWG (2,50mm), 266/38 (266/0,10mm), Insulation Thickness: 0.022" (0,56mm)

Alpha Part No.	No. of Cond.	Jacket Thickness Inches	mm	Nominal Diameter Inches	mm
85404	4	0.055	1,34	0.46	11,7
85404CY*	4	0.055	1,34	0.64	16,3
85407	7	0.055	1,34	0.55	14,0
85407CY*	7	0.055	1,34	0.73	18,5

*Designates shielded

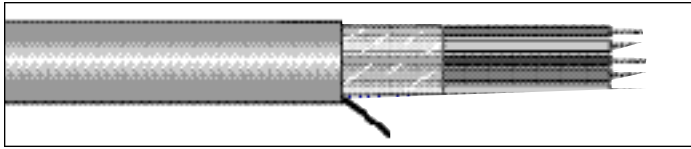
WIRES

CORDS & ACC

XTRA•GUARD® 1

MULTICONDUCTOR, UNSHIELDED

EXTRA-PREMIUM GRADE PVC JACKET FOR EXTENDED CABLE LIFE



CHOOSE XTRA•GUARD 1 For:

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognition and UL Listing
- Flexible Cable Routing Requirements

XTRA•GUARD 1 APPLICATIONS:

- High Technology Applications in Controlled Environments
- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

CHARACTERISTICS

OPERATING TEMPERATURE:

- -20°C to 80°C – AWM
- -20°C to 75°C – CM

VOLTAGE RATING:

- 300 Volt

COLOR DESCRIPTION:

- Color Code: 24, 22, 20 AWG
- See Alpha Master Catalog
- Jacket Colors: Gray, Black

PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Color-Coded Premium PVC
- Nylon Rip Cord for Ease of Jacket Stripping
- Jacket: Premium PVC

SPECIFICATIONS

- UL Type CM, AWM Style 2464
- CSA PCC FT4
- Passes UL VW-1 Flame Test
- Passes CSA FT4 Flame Test



AVAILABILITY

- In Stock: Gray 100 ft (30,5m), 500 ft (152m) and 1000 ft (305m) put-ups
- Made-To-Order: Black, 1000 ft (305m) minimum
- ▲ Also available in Gray 328 ft (100m)

UL TYPE CM, AWM 2464
CSA PCC FT4
300 VOLT

22 AWG (0,35mm²), 7/30 (7x0,25mm), Insulation Thickness: 0.010" (0,25mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5002C	2	0.032	0,81	0.17	4,3
5003C	3	0.032	0,81	0.19	4,8
5004C	4	0.032	0,81	0.20	5,2
5006C	6	0.032	0,81	0.23	5,8
5008C	8	0.032	0,81	0.25	6,4
5010C	10	0.032	0,81	0.27	6,9
5010/15C	15	0.032	0,81	0.31	7,9
5010/20C	20	0.032	0,81	0.35	8,8
5010/25C	25	0.032	0,81	0.38	9,6
5010/30C	30	0.032	0,81	0.41	10,3
5010/40C	40	0.032	0,81	0.46	11,6
5010/50C	50	0.032	0,81	0.50	12,7
5010/60C	60	0.032	0,81	0.55	13,7

20 AWG (0,56mm²), 7/28 (7x0,32mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5052C	2	0.032	0,81	0.21	5,3
5053C	3	0.032	0,81	0.23	5,9
5054C	4	0.032	0,81	0.25	6,5
5056C	6	0.032	0,81	0.29	7,4
5058C	8	0.032	0,81	0.32	8,2
5060C	10	0.032	0,81	0.35	8,8
5060/15C	15	0.032	0,81	0.40	10,3
5060/20C	20	0.032	0,81	0.45	11,5
5060/25C	25	0.032	0,81	0.49	12,6
5060/30C	30	0.032	0,81	0.53	13,5
5060/40C	40	0.053	1,35	0.64	16,3
5060/50C	50	0.053	1,35	0.70	17,8

18 AWG (0,81mm²), 16/30 (16x0,25mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5062C, 5062/1C*	2	0.032	0,81	0.23	5,8
5063C, 5063/1C*	3	0.032	0,81	0.24	6,1
5064C	4	0.032	0,81	0.26	6,6
5066C	6	0.032	0,81	0.31	7,9
5068C	8	0.032	0,81	0.33	8,4
5070C	10	0.032	0,81	0.39	9,8
5070/15C	15	0.032	0,81	0.45	11,5
5070/20C	20	0.032	0,81	0.51	12,9
5070/25C	25	0.032	0,81	0.56	14,1
5070/30C	30	0.053	1,35	0.64	16,3
5070/40C	40	0.053	1,35	0.72	18,2
5070/50C	50	0.053	1,35	0.79	20,0
5070/60C	60	0.083	2,11	0.91	23,1

16 AWG (1,23mm²), 19/0.0117 (19x0,29mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5072C, 5072/1C*	2	0.032	0,81	0.26	6,5
5073C, 5073/1C*	3	0.032	0,81	0.29	7,4
5074C	4	0.032	0,81	0.32	8,1
5076C	6	0.032	0,81	0.37	9,3
5078C	8	0.032	0,81	0.41	10,4
5080C	10	0.032	0,81	0.44	11,3
5080/15C	15	0.032	0,81	0.52	13,2
5080/20C	20	0.053	1,35	0.63	15,9
5080/25C	25	0.053	1,35	0.68	17,3
5080/30C	30	0.053	1,35	0.73	18,6
5080/40C	40	0.083	2,11	0.88	22,5
5080/50C	50	0.083	2,11	0.96	24,5

*Conductors color coded per international standards: brown, blue,

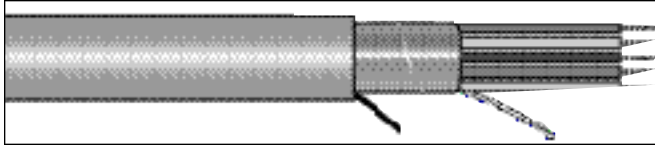
XTRA•GUARD® 1

MULTICONDUCTOR, FOIL SHIELD

EXTRA-PREMIUM GRADE PVC JACKET FOR EXTENDED CABLE LIFE

UL TYPE CM, AWM 2464
CSA PCC FT4
300 VOLT

22



CHOOSE XTRA-GUARD 1 For:

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognition and UL Listing
- Flexible Cable Routing Requirements

XTRA-GUARD 1 APPLICATIONS:

- EIA RS 232C Interface (24, 22 AWG)
- Point-Of-Sale Equipment
- High Technology Applications in Controlled Environments
- Medical Electronics
- Industrial Process Controls
- Computer Peripherals

CHARACTERISTICS

OPERATING TEMPERATURE:

- -20°C to 80°C – AWM
- -20°C to 75°C – CM

VOLTAGE RATING:

- 300 Volt

COLOR DESCRIPTION:

- Color Code: 24, 22, 20 AWG
- See Alpha Master Catalog
- Jacket Colors: Gray, Black

SPECIFICATIONS

- UL Type CM, AWM Style 2464
- Passes UL VW-1 Flame Test
- CSA PCC FT4

PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Color-Coded Premium PVC
- Shield: Aluminum/Polyester Foil Facing In with Stranded Tinned Copper Drain Wire Equal in Size to Insulated Conductors of Cable
- Nylon Rip Cord for Ease of Jacket Stripping
- Jacket: Premium PVC

- Passes CSA FT4 Flame Test



Passes
UL VW-1 Flame Test
Underwriters Laboratories Inc.



Certified
Canadian Standards Association

AVAILABILITY

- In Stock: Gray 100 ft (30,5m), 500 ft (152m) and 1000 ft (305m) put-ups
- Made-To-Order: Black, 1000 ft (305m) minimum
- ▲ Also available in Gray 328 ft (100m)

24 AWG (0,23mm²), 7/32 (7x0,20mm), Insulation Thickness: 0.010" (0,25mm)

XTRA-GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
▲ 5092C	2	0.032	0,81	0.16	4,1
▲ 5093C	3	0.032	0,81	0.17	4,3
▲ 5094C	4	0.032	0,81	0.18	4,5
▲ 5096C	6	0.032	0,81	0.20	5,1
▲ 5098C	8	0.032	0,81	0.22	5,6
▲ 5100C	10	0.032	0,81	0.25	6,3
▲ 5100/15C	15	0.032	0,81	0.27	6,9
5100/20C	20	0.032	0,81	0.30	7,6
5100/25C	25	0.032	0,81	0.33	8,3
5100/30C	30	0.032	0,81	0.36	9,2
5100/40C	40	0.032	0,81	0.40	10,2
5100/50C	50	0.032	0,81	0.44	11,3
5100/60C	60	0.032	0,81	0.47	11,9
5100/70C	70	0.032	0,81	0.51	12,9

22 AWG (0,35mm²), 7/30 (7x0,25mm), Insulation Thickness: 0.010" (0,25mm)

XTRA-GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5192C	2	0.032	0,81	0.18	4,6
5193C	3	0.032	0,81	0.19	4,9
5194C	4	0.032	0,81	0.20	5,1
5196C	6	0.032	0,81	0.23	5,9
5198C	8	0.032	0,81	0.25	6,4
5199/10C	10	0.032	0,81	0.28	7,0
5199/15C	15	0.032	0,81	0.31	7,9
5199/20C	20	0.032	0,81	0.34	8,6
5199/25C	25	0.032	0,81	0.38	9,7
5199/30C	30	0.032	0,81	0.40	10,2
5199/40C	40	0.032	0,81	0.45	11,5
5199/50C	50	0.032	0,81	0.49	12,5
5199/60C	60	0.032	0,81	0.53	13,5
5199/70C	70	0.053	1,35	0.62	14,0

20 AWG (0,56mm²), 7/28 (7x0,32mm), Insulation Thickness: 0.017" (0,43mm)

XTRA-GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5462C	2	0.032	0,81	0.21	5,4
5463C	3	0.032	0,81	0.22	5,6
5464C	4	0.032	0,81	0.24	6,1
5466C	6	0.032	0,81	0.28	7,1
5468C	8	0.032	0,81	0.31	7,9
5470C	10	0.032	0,81	0.35	8,9
5470/15C	15	0.032	0,81	0.41	10,4
5470/20C	20	0.032	0,81	0.46	11,6
5470/25C	25	0.032	0,81	0.50	12,7
5470/30C	30	0.032	0,81	0.54	13,6
5470/40C	40	0.053	1,35	0.65	16,4
5470/50C	50	0.053	1,35	0.71	17,9

18 AWG (0,81mm²), 16/30 (16x0,25mm), Insulation Thickness: 0.017" (0,43mm)

XTRA-GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5382C, 5382/1C*	2	0.032	0,81	0.23	5,9
5383C, 5383/1C*	3	0.032	0,81	0.24	6,1
5384C	4	0.032	0,81	0.26	6,6
5386C	6	0.032	0,81	0.31	7,9
5388C	8	0.032	0,81	0.33	8,3
5390C	10	0.032	0,81	0.39	9,9
5390/15C	15	0.032	0,81	0.45	11,5
5390/20C	20	0.032	0,81	0.51	13,0
5390/25C	25	0.053	1,35	0.56	14,2
5390/30C	30	0.053	1,35	0.64	16,4
5390/40C	40	0.053	1,35	0.72	18,3
5390/50C	50	0.053	1,35	0.79	20,1
5390/60C	60	0.083	2,11	0.91	23,2

16 AWG (1,23mm²), 19/0.0117 (19x0,29mm), Insulation Thickness: 0.017" (0,43mm)

XTRA-GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5362C, 5362/1C*	2	0.032	0,81	0.25	6,4
5363C, 5363/1C*	3	0.032	0,81	0.27	6,9
5364C	4	0.032	0,81	0.29	7,4
5366C	6	0.032	0,81	0.35	8,9
5368C	8	0.032	0,81	0.38	9,7
5370C	10	0.032	0,81	0.44	11,2
5370/15C	15	0.032	0,81	0.49	12,5
5370/20C	20	0.053	1,35	0.59	14,9
5370/25C	25	0.053	1,35	0.66	16,8
5370/30C	30	0.053	1,35	0.71	18,0
5370/40C	40	0.083	2,11	0.89	22,6

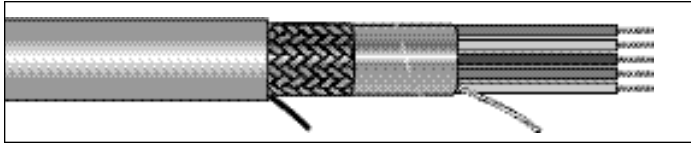
*Conductors color coded per international standards: brown, blue, green/yellow

WIRES

LINE CORDS & ACC

XTRA•GUARD® 1

MULTICONDUCTOR, SUPRASHIELD™
EXTRA-PREMIUM GRADE PVC JACKET FOR EXTENDED CABLE LIFE



CHOOSE XTRA•GUARD 1 For:

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognition and UL Listing
- **SUPRASHIELD** — Twice as Effective as Foil Shielding

XTRA•GUARD 1 APPLICATIONS:

- EIA RS 232C Interface (24, 22 AWG)
- High Technology Applications in Controlled Environments
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls
- FCC Docket 20780 Applications

CHARACTERISTICS

OPERATING TEMPERATURE:

- -20°C to 80°C — AWM
- -20°C to 75°C — CM

VOLTAGE RATING:

- 300 Volt

COLOR DESCRIPTION:

- Color Code: 24, 22, 20 AWG
See Alpha Master Catalog
- Jacket Colors: Gray, Black

PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Color-Coded Premium PVC
- **SUPRASHIELD**: Aluminum/Polyester/Aluminum Foil with Stranded Tinned Copper Drain Wire Equal in Size to Insulated Conductors of Cable plus 70% Overall Braid of Tinned Copper
- Nylon Rip Cord for Ease of Jacket Stripping
- Jacket: Premium PVC

SPECIFICATIONS

- UL Type CM, AWM Style 2464
- CSA PCC FT4
- Passes UL VW-1 Flame Test
- Passes CSA FT4 Flame Test

UL LISTED Passes UL VW-1 Flame Test Certified
Underwriters Laboratories Inc. Canadian Standards Association

AVAILABILITY

- In Stock: Gray 100 ft (30.5m), 500 ft (152m) and 1000 ft (305m) put-ups
- Made-To-Order: Black, 1000 ft (305m) minimum

UL TYPE CM, AWM 2464
CSA PCC FT4
300 VOLT

24 AWG (0,23mm²), 7/32 (7x0,20mm), Insulation Thickness: 0.010" (0,25mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5112C	2	0.032	0,81	0.18	4,6
5113C	3	0.032	0,81	0.19	4,8
5114C	4	0.032	0,81	0.21	5,4
5116C	6	0.032	0,81	0.23	5,9
5118C	8	0.032	0,81	0.25	6,4
5120C	10	0.032	0,81	0.27	6,9
5120/15C	15	0.032	0,81	0.30	7,6
5120/20C	20	0.032	0,81	0.33	8,4
5120/25C	25	0.032	0,81	0.36	9,2
5120/30C	30	0.032	0,81	0.38	9,7
5120/40C	40	0.032	0,81	0.43	10,9
5120/50C	50	0.032	0,81	0.46	11,7

22 AWG (0,35mm²), 7/30 (7x0,25mm), Insulation Thickness: 0.010" (0,25mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5102C	2	0.032	0,81	0.20	5,0
5103C	3	0.032	0,81	0.21	5,4
5104C	4	0.032	0,81	0.22	5,6
5106C	6	0.032	0,81	0.25	6,4
5108C	8	0.032	0,81	0.27	6,9
5110C	10	0.032	0,81	0.30	7,6
5110/15C	15	0.032	0,81	0.33	8,4
5110/20C	20	0.032	0,81	0.36	9,2
5110/25C	25	0.032	0,81	0.39	9,8
5110/30C	30	0.032	0,81	0.42	10,9
5110/40C	40	0.032	0,81	0.47	11,8
5110/50C	50	0.032	0,81	0.51	12,9
5110/60C	60	0.053	1,35	0.60	15,4
5110/70C	70	0.053	1,35	0.63	16,0

20 AWG (0,56mm²), 7/28 (7x0,32mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5152C	2	0.032	0,81	0.23	5,9
5153C	3	0.032	0,81	0.26	6,6
5154C	4	0.032	0,81	0.28	7,1
5156C	6	0.032	0,81	0.32	8,0
5158C	8	0.032	0,81	0.35	8,8
5160C	10	0.032	0,81	0.37	9,5
5160/15C	15	0.032	0,81	0.43	10,9
5160/20C	20	0.032	0,81	0.48	12,1
5160/25C	25	0.032	0,81	0.52	13,2
5160/30C	30	0.032	0,81	0.56	14,2
5160/40C	40	0.053	1,35	0.67	17,0
5160/50C	50	0.053	1,35	0.73	18,5
5160/60C	60	0.053	1,35	0.78	19,8

18 AWG (0,81mm²), 16/30 (16x0,25mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5162C, 5162/1C*	2	0.032	0,81	0.25	6,5
5163C, 5163/1C*	3	0.032	0,81	0.28	7,2
5164C	4	0.032	0,81	0.31	7,8
5166C	6	0.032	0,81	0.35	8,9
5168C	8	0.032	0,81	0.38	9,7
5170C	10	0.032	0,81	0.41	10,5
5170/15C	15	0.032	0,81	0.48	12,1
5170/20C	20	0.032	0,81	0.53	13,5
5170/25C	25	0.053	1,35	0.62	15,8
5170/30C	30	0.053	1,35	0.67	16,9

16 AWG (1,23mm²), 19/0.0117 (19x0,29mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Cond.	Jacket Thickness Inches	Jacket Thickness mm	Nominal Diameter Inches	Nominal Diameter mm
5172C, 5172/1C*	2	0.032	0,81	0.28	7,2
5173C, 5173/1C*	3	0.032	0,81	0.32	8,0
5174C	4	0.032	0,81	0.34	8,8
5176C	6	0.032	0,81	0.39	10,0
5178C	8	0.032	0,81	0.43	11,0
5180C	10	0.032	0,81	0.47	11,9
5180/15C	15	0.032	0,81	0.55	13,9
5180/20C	20	0.053	1,35	0.65	16,6
5180/25C	25	0.053	1,35	0.71	18,0

**UL TYPE CM, AWM 2464
CSA PCC FT4
300 VOLT**

XTRA•GUARD® 1

MULTIPAIR, UNSHIELDED

EXTRA-PREMIUM GRADE PVC JACKET FOR EXTENDED CABLE LIFE

22

CHOOSE XTRA•GUARD 1 For:

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognition and UL Listing
- Flexible Cable Routing Requirements

XTRA•GUARD 1 APPLICATIONS:

- High Technology Applications in Controlled Environments
- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

CHARACTERISTICS

OPERATING TEMPERATURE:

- -20°C to 80°C — AWM
- -20°C to 75°C — CM

VOLTAGE RATING:

- 300 Volt

COLOR DESCRIPTION:

- Color Code: 24, 22 AWG Chart B Page 365,
- 20, 18 AWG Chart A Page 365
- Jacket Colors: Gray, Black

PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Color-Coded Premium PVC
- Nylon Rip Cord for Ease of Jacket Stripping
- Jacket: Premium PVC

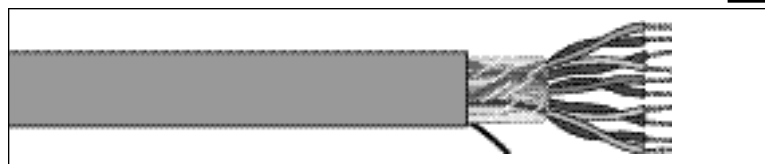
SPECIFICATIONS

- UL Type CM, AWM Style 2464
- CSA PCC FT4
- Passes UL VW-1 Flame Test
- Passes CSA FT4 Flame Test

UL LISTED  Passes UL VW-1 Flame Test  Certified Underwriters Laboratories Inc. Canadian Standards Association

AVAILABILITY

- In Stock: Gray 100 ft (30,5m), 500 ft (152m) and 1000 ft (305m) put-ups
- Made-To-Order: Black, 1000 ft (305m) minimum
- ▲ Also available in Gray 328 ft (100m)



24 AWG (0,23mm²), 7/32 (7x0,20mm), Insulation Thickness: 0.010" (0,25mm)

XTRA•GUARD 1 Part No.	No. of Pairs	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5261C	1	0.032	0,81	0.16	4,1
5262C	2	0.032	0,81	0.20	5,1
▲ 5263C	3	0.032	0,81	0.23	5,8
5264C	4	0.032	0,81	0.25	6,4
5265C	5	0.032	0,81	0.27	6,9
5266C	6	0.032	0,81	0.29	7,3
▲ 5269C	9	0.032	0,81	0.33	8,4
5269/11C	11	0.032	0,81	0.36	9,1
▲ 5269/15C	15	0.032	0,81	0.40	10,1
5269/27C	27	0.032	0,81	0.50	12,7
5269/77C	77	0.083	2,11	0.86	21,8

22 AWG (0,35mm²), 7/30 (7x0,25mm), Insulation Thickness: 0.010" (0,25mm)

XTRA•GUARD 1 Part No.	No. of Pairs	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5021C	1	0.032	0,81	0.17	4,3
5022C	2	0.032	0,81	0.22	5,7
5023C	3	0.032	0,81	0.25	6,5
5024C	4	0.032	0,81	0.28	7,1
5025C	5	0.032	0,81	0.30	7,7
5026C	6	0.032	0,81	0.31	7,8
5029/15C	15	0.032	0,81	0.45	11,5

20 AWG (0,56mm²), 7/28 (7x0,32mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Pairs	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5282C	2	0.032	0,81	0.30	7,5
5283C	3	0.032	0,81	0.32	8,2
5286C	6	0.032	0,81	0.42	10,6
5289C	9	0.032	0,81	0.49	12,4
5289/12C	12	0.032	0,81	0.53	13,5

18 AWG (0,81mm²), 16/30 (16x0,25mm), Insulation Thickness: 0.017" (0,43mm)

XTRA•GUARD 1 Part No.	No. of Pairs	Jacket Thickness		Nominal Diameter	
		Inches	mm	Inches	mm
5032C	2	0.032	0,81	0.33	8,4
5033C	3	0.032	0,81	0.36	9,1
5036C	6	0.032	0,81	0.47	11,9
5039C	9	0.053	1,35	0.55	13,9
5039/12C	12	0.053	1,35	0.63	16,1

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OLFLEX®-190

Oil Resistant Flexible Control Cable

OLFLEX®-190 is a multi-conductor, 600 Volt, 90°C UL and CSA approved, oil resistant flexible control cable. The compact cable design permits easier handling and installation in confined operating areas. Our specially blended PVC jacket passes the stringent requirements of the VDE 0472 Section 803 oil test, providing optimum resistance to mineral oils, synthetic oils and water based coolants. OLFLEX®-190 control



cables are designed for use in all electrical equipment in dry, damp, and wet conditions. Recommended applications are machine tools, assembly lines, control systems, data processing equipment, connections between control panels and machines, CNC machining centers, grinding machines, and bottling equipment.

Construction:

Finely stranded bare copper conductors; specially blended PVC insulation; non-wicking fillers; dry lubricant; specially formulated oil resistant gray PVC jacket.

OLFLEX® -190 RU AWM 16 AWG (1.5 mm²)/12C E63634—CSA AWM I A/B II A/B FT1 600V 90°C FT 1 LL53776 CE

Also available with the following options:

- Blue or red insulation
- Black overall jacket

Technical Data:

Minimum bend radius
for installation: 5 x cable diameter

Rated temperature:
for flexible use: -5°C to +90°C
Stationary applications: -40°C to +90°C

Rated voltage: 600 V
Test voltage: 3000 V

Insulation resistance: 20 GW x cm

Conductor stranding: Fine wire per VDE 0295

Color code: Black with white numbers,
plus green/yellow

Approvals: UL AWM
CSA AWM II A/B FT1

Conforms to CE Directives

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
20 AWG (12/30) 0.50 mm ²						601641	41	.941	23.9	827	1230
602002	2	.228	5.8	39	58	601650	50	1.024	26.0	1008	1500
602003	3	.240	6.1	41	61	601661	61	1.095	27.8	1208	1800
602004	4	.260	6.6	51	76	14 AWG (50/30) 2.50 mm ²					
602005	5	.287	7.3	60	89	601402	2	.323	8.2	87	130
602007	7	.311	7.9	81	120	601403	3	.343	8.7	93	138
602009	9	.409	10.4	135	201	601404	4	.398	10.1	122	182
602012	12	.421	10.7	168	250	601405	5	.429	10.9	145	216
602018	18	.508	12.9	198	295	601407	7	.469	11.9	192	286
602025	25	.591	15.0	243	361	601409	9	.614	15.6	318	473
18 AWG (19/30) 1.00 mm ²						601412	12	.661	16.8	402	598
601802	2	.244	6.2	42	63	601418	18	.768	19.5	575	855
601803	3	.260	6.6	44	66	601425	25	.945	24.0	860	1280
601804	4	.283	7.2	54	81	12 AWG (56/28) 4.00 mm ²					
601805	5	.303	7.7	64	95	601203	3	.441	11.2	156	232
601807	7	.335	8.5	84	125	601204	4	.496	12.6	198	295
601809	9	.441	11.2	118	176	601205	5	.547	13.9	238	354
601812	12	.457	11.6	142	211	10 AWG (84/28) 6.00 mm ²					
601818	18	.539	13.7	207	309	601003	3	.512	13.0	222	330
601825	25	.638	16.2	277	413	601004	4	.555	14.1	267	398
601834	34	.752	19.1	494	735	601005	5	.626	15.9	321	479
601841	41	.811	20.6	558	830	8 AWG (72/26) 10.00 mm ²					
601850	50	.906	23.0	697	1038	600804	4	.693	17.6	435	648
16 AWG (30/30) 1.50 mm ²						600805	5	.780	19.8	525	782
601602	2	.272	6.9	57	85	6 AWG (115/26) 16.00 mm ²					
601603	3	.287	7.3	61	91	600604	4	.945	24.0	698	1040
601604	4	.311	7.9	75	112	600605	5	1.039	26.4	842	1254
601605	5	.346	8.8	91	136	4 AWG (180/26) 25.00 mm ²					
601607	7	.378	9.6	120	179	600404	4	1.098	27.9	1007	1501
601609	9	.512	13.0	174	260	600405	5	1.213	30.8	1244	1853
601612	12	.520	13.2	210	313	2 AWG (270/26) 35.00 mm ²					
601618	18	.622	15.8	298	444	600204	4	1.280	32.5	1422	2119
601625	25	.728	18.5	416	620	600205	5	1.437	36.5	1749	2606

OLFLEX® -90

Continuous Flex Oil Resistant Power Supply Cable for Small Bend Radius Applications

OLFLEX®-90 is an ultra flexible 600 Volts, UL and CSA approved cable designed for power applications. The design incorporates Class K stranding with specially formulated PVC compounds that are resistant to most mineral oils, synthetic oils, and water based coolants. Our specially blended PVC jacket passes the stringent demands of the VDE 0472 section 803 oil test.

Recommended applications for the OLFLEX®-90 are power supply cables for spindle motors, cable handling systems requiring flexible power cable, and interconnect wire from the power supply to the machine. OLFLEX®-90 can be used for internal and external applications without conduit and is excellent for use in cable track.



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Construction:

Fine stranded bare copper conductors; specially blended black PVC insulation; specially formulated black oil resistant PVC jacket.



Also available with the following options:

- Green/Yellow or Gray Overall Jacket; Minimum order required

Technical Data:

Minimum bend radius
for continuous flexing: 10 x cable diameter

Temperature range:
Flexing: -5°C to +90°C
Static: -40°C to +90°C

Rated voltage: 600 V

Test voltage: 3000 V

Insulation resistance: 20 GW x cm

Conductor stranding: Class K (30 AWG)

Approvals: UL AWM
CSA AWM FT1

Conforms to CE Directives

Part Number	Number of Conductors	inches	Nominal Outer Diameter mm	lbs/mft	Approx. Weight kg/km
8 AWG (175/30) 600801	1	.366	9.3	111	166
6 AWG (273/30) 600601	1	.390	9.9	139	207
4 AWG (473/30) 600401	1	.472	12.0	217	324
2 AWG (679/30) 600201	1	.626	15.9	334	498
1/0 (1085/30) 6011001	1	.669	17.0	512	763
2/0 (1344/30) 6021001	1	.693	17.6	619	922
3/0 (1680/30) 6031001	1	.787	20.0	768	1144
4/0 (2142/30) 6041001	1	.984	25.0	1023	1524
250 MCM (2541/30) 6025001	1	1.063	27.0	1185	1766
350 MCM (3515/30) 6035001	1	1.146	29.1	1526	2273
500 MCM (5130/30) 6050001	1	1.244	31.6	2136	3182

OLFLEX-FD® 890

Super Flexible Heavy Duty Continuous Flex Control Cable

OLFLEX-FD® 890 is a super flexible, heavy duty, multi-conductor cable designed for continuous flex applications. The specially formulated PVC insulating and jacketing compounds increase flex life and provide optimum resistance to mineral oils, synthetic oils, and water based coolants. Our specially blended PVC jacket passes the stringent demands of the VDE 0472 section 803 oil test.



The OLFLEX-FD® 890 continuous flex cable is designed for use on gantry robots, cable tracks, pick and place units, automated handling equipment, machine tools, conveyor systems, and other continuous flexing applications.

Construction:

Finely stranded bare copper conductors; specially blended PVC insulation; dry lubricant; conductors cabled with non-wicking textile wrap over outer layer; specially formulated oil resistant PVC jacket.



- Also available with blue and black conductors; minimum order required

Technical Data:

Minimum bend radius
for continuous flexing: 8 x cable diameter

Temperature range:

Flexing: -5°C to +90°C

Static: -40°C to +90°C

Rated voltage: 600 V

Test voltage: 3000 V

Insulation resistance: 20 GW x cm

Conductor stranding: Super fine wire

Color code: Red with black numbers, plus green/yellow

Optional: Other color codes available upon request

Approvals: UL Style 2587 for PVC jacket (90°C)
CSA AWM II A/B FT1
Conforms to CE Directives

Based on VDE specifications

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
20 AWG (74/38) 0.50 mm ²						891607	7	.457	11.6	138	205
892003	3	.256	6.5	43	64	891612	12	.567	14.4	227	338
892004	4	.276	7.0	49	73	891618	18	.657	16.7	323	481
892005	5	.303	7.7	54	80	891625	25	.843	21.4	479	713
892007	7	.362	9.2	75	112	891634	34	.921	23.4	622	927
892012	12	.449	11.4	124	185	891650	50	1.075	27.3	879	1309
892018	18	.539	13.7	183	273	891660	60	1.189	30.2	1075	1602
892025	25	.673	17.1	265	395	14 AWG (320/38) 2.50 mm ²					
892034	34	.732	18.6	338	504	891404	4	.429	10.9	148	220
18 AWG (114/38) 0.75 mm ²						891407	7	.579	14.7	227	338
891803	3	.272	6.9	46	68	12 AWG (512/38) 4.00 mm ²					
891804	4	.295	7.5	60	89	891204	4	.528	13.4	208	310
891805	5	.323	8.2	74	110	891207	7	.705	17.9	335	499
891807	7	.413	10.5	102	152	10 AWG (343/34) 6.00 mm ²					
891812	12	.524	13.3	158	236	891004	4	.587	14.9	275	410
891815	15	.531	13.5	202	301	8 AWG (320/32) 10.00 mm ²					
891818	18	.587	14.9	234	348	890804	4	.827	21.0	481	716
891825	25	.720	18.3	336	501	6 AWG (512/32) 16.00 mm ²					
891834	34	.799	20.3	434	646	890604	4	.996	25.3	708	1055
16 AWG (190/38) 1.50 mm ²						4 AWG (800/32) 25.00 mm ²					
891603	3	.311	7.9	79	118	890404	4	1.138	28.9	1004	1496
891604	4	.346	8.8	99	148	2 AWG (1120/52) 35.00 mm ²					
891605	5	.374	9.5	124	185	890204	4	1.319	33.5	1239	1846

UNITRONIC-FD®

Very Flexible, Continuous Flex Data Transmission Cable

UNITRONIC-FD® is a very flexible, multi-conductor, data transmission cable designed for automated production processes requiring increased flex life characteristics and durability. The small cable diameters allow installation in confined operating areas.

The specially blended PVC jacket is resistant to mineral oils, synthetic oils and water based coolants and prevents the cable from adhering to adjacent cables and cable track.

Construction:

Finely stranded bare copper conductors; specially blended PVC insulation; dry lubricant; non-wicking textile wrap; specially formulated gray PVC jacket.



Technical Data:

Minimum bend radius
for continuous flexing: 10 x cable diameter

Temperature range: -5°C to +70°C

Rated voltage: 300 V

Test voltage: 1500 V

Insulation resistance: 10 GWx cm

Conductor stranding: Super fine wire,
diameter 0.10 mm

Color code: Chart 8, DIN 47100, page 225

Based on VDE specifications

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
26 AWG (18/38) 0.14 mm ²						22 AWG (42/38) 0.34 mm ²					
27840	2	.169	4.3	15	23	27861	14	.335	8.5	72	108
27841	3	.173	4.4	17	26	27863	18	.362	9.2	87	130
27842	4	.185	4.7	21	31	27865	25	.441	11.2	119	178
27843	5	.197	5.0	23	35						
27844	7	.244	6.2	34	50	27870	2	.201	5.1	26	38
27845	10	.283	7.2	42	63	27871	3	.205	5.2	29	43
27846	14	.291	7.4	52	77	27872	4	.236	6.0	38	57
27847	18	.315	8.0	61	91	27873	5	.256	6.5	44	65
27848	25	.378	9.6	84	125	27874	7	.295	7.5	57	85
24 AWG (32/38) 0.25 mm ²						27875	10	.362	9.2	79	117
27855	2	.181	4.6	20	30	27876	14	.366	9.3	101	151
27856	3	.189	4.8	22	33	27877	18	.409	10.4	122	182
27857	4	.205	5.2	27	40	27878	25	.500	12.7	168	250
27858	5	.240	6.1	34	51						
27859	7	.272	6.9	43	64						
27860	10	.327	8.3	56	84						

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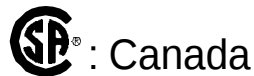
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OLFLEX®-150 (Quattro Approval)

Oil Resistant Flexible Control Cable with International Approvals



<HAR>



Olflex®-150 is a multi-conductor, 600 volt, 90°C extremely oil resistant control cable with international approvals to be used on machinery and equipment

designed for use in the U.S. and for worldwide export. Excellent for industrial applications, electronics, communications, process control and instrumentation.

Construction:

Finely stranded bare copper conductors; PVC insulation; dry lubricant; conductors cabled with non-wicking fillers; gray PVC jacket (RAL 7001).



Technical Data:

Minimum bend radius for installation: 5 x cable diameter

Temperature range:
to VDE+SEV: -5°C to +70°C
to UL+CSA: -5°C to +90°C

Rated voltage:
to VDE+SEV: 300/500 V
to CE+HAR: 600 V

Test voltage: 3000 V

Insulation resistance: 20 GW x cm

Conductor stranding: Fine wire per VDE 0295, Class 5

Color code: Black with white numbers, plus Green/Yellow (VDE 0293)

Approvals:
UL—AWM
CSA—AWM II A/B FT1
HAR—HO5VV5-F

Conforms to CE Directives

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
20 AWG (16/32) 0.50 mm ²						16 AWG (30/30) 1.50 mm ²					
15003	3	.244	6.2	42	62	15303	3	.311	7.9	74	110
15004	4	.272	6.9	46	68	15304	4	.354	9.0	95	141
15005	5	.291	7.4	58	87	15305	5	.386	9.8	113	168
15007	7	.358	9.1	80	119	15307	7	.480	12.2	151	224
15012	12	.445	11.3	133	198	15312	12	.571	14.5	243	362
15018	18	.520	13.2	180	267	15318	18	.693	17.6	348	518
15025	25	.614	15.6	256	380	15325	25	.815	20.7	491	730
15034	34	.736	18.7	342	509	15334	34	.969	24.6	637	947
15041	41	.787	20.0	400	595	15341	41	1.035	26.3	764	1136
18 AWG (32/32) 1.00 mm ²						15350	50	1.126	28.6	929	1382
15203	3	.283	7.2	60	89	15361	61	1.236	31.4	1102	1639
15204	4	.307	7.8	67	99	14 AWG (50/30) 2.50 mm ²					
15205	5	.354	9.0	89	132	15403	3	.382	9.7	114	170
15207	7	.437	11.1	114	169	15404	4	.433	11.0	141	210
15212	12	.519	13.2	192	286	15405	5	.476	12.1	173	257
15218	18	.630	16.0	272	405	15407	7	.559	14.2	229	340
15225	25	.748	19.0	383	570	15412	12	.701	17.8	390	580
15234	34	.882	22.4	499	742	15418	18	.839	21.3	571	850
15241	41	.945	24.0	596	886	15425	25	.988	25.1	790	1175
15250	50	1.024	26.0	721	1072						
15261	61	1.122	28.5	851	1266						
15262	65	1.201	30.5	948	1410						

OLFLEX® - VFD

Oil Resistant Flexible Motor Supply Cable
For Variable Frequency Drives
1000 Volts/3000 Volts Peak

(UL)

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Olflex® - VFD is a shielded, flexible motor supply cable for variable speed drives subject to non-linear power distortions. This cable is used to interconnect an AC variable frequency drive or control system, to an AC variable frequency motor. The VFD cable is different from other motor supply cables because it can disperse the voltage spikes, harmonics, and power distortions associated with

variable frequency drives. Specially formulated composite insulation disperses voltage spikes preventing cable damage. An inner jacket is used to protect the insulation from the braid shield and to lower the capacitive interaction between the shield and power conductors. The outer orange jacket is extremely oil resistant and UV resistant.

Construction:
Tinned copper conductors; specially blended composite insulation; an inner PVC jacket; 100% shielding with foil tape and tinned copper braid; specially formulated orange PVC jacket.



Technical Data:

Minimum bend radius for flexible use:	12 x cable diameter	Conductor Stranding:	Fine Wire
Temperature range:	-25°C to +90°C	Color code:	Three Black Conductors with White Numbers and One Green/Yellow Ground
Rated voltage:	1000 VAC/3000 VAC Peak	Conductor	
Test voltage:	7500 V	Approvals:	(UL) Flexible Motor Supply Cable

Part Number	Number of Conductors includes ground	Nominal Outer Diameter		Approx. Weight	
		inches	mm		
14 AWG (41/30)					
1404 VFD	4	.560	14.2	224	333
12 AWG (65/30)					
1204 VFD	4	.604	15.3	268	399
10 AWG (105/30)					
1004 VFD	4	.732	18.6	428	637
8 AWG (133/29)					
0804 VFD	4	.869	22.1	561	835
6 AWG (133/27)					
0604 VFD	4	1.011	25.7	802	1193
4 AWG (133/25)					
0404 VFD	4	1.185	30.1	1205	1793
3 AWG (133/24)					
0304 VFD	4	1.394	35.5	1460	2172
2 AWG (133/0.223)					
0204 VFD	4	1.404	35.7	1703	2534

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OLFLEX-SERVO-FD® 755 P (Gray)

Halogen Free Continuous Flex Composite Power Supply and Feedback Cable for Small Bend Radius Applications

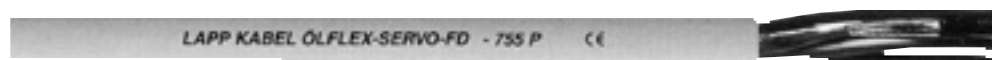


OLFLEX-SERVO-FD® 755 P is an ultra flexible, halogen free, continuous flex power supply and feedback cable which has been designed for automated servo systems. This composite cable offers a unique combination of signal and power conductors, under one jacket, while reducing weight and saving space.

The special design makes OLFLEX-SERVO-FD® 755 P ideally suited for small bend radius applications, such as cable tracks, automated handling equipment, pick-and-place units, gantry robots, machine tools, and other continuous movement applications.

Construction:

Finely stranded bare copper conductors; pairs and power conductors are insulated with special elastomeric compounds; pairs shielded with aluminum foil and tinned copper drain wire plus tinned copper braid; non-woven material wrapping; specially formulated gray polyurethane outer jacket.



Technical Data:

Minimum bend radius for continuous flexing: 5 x cable diameter

Temperature range:
Flexing: -30°C to +80°C

Working voltage: 600/1000 V

Color Code: Black with White Numbers, plus green/yellow

Insulation resistance: 20 TW x cm

Conductor stranding: Extra Fine Wire per VDE 0295, Class 6

Test voltage: Cond./cond.: 400 V
Cond./braid: 1000 V

Conforms to CE Directives

Part Number	Power Conductors	Plus	Signal Pairs, Individually Shielded	Nominal Outer Diameter inches mm	lbs/mft	Approx. Weight kg/km
Four Power Conductors and One Signal Pair						
36601	16awg/4c		17awg/1pr	.480 12.2	121	180
36602	14awg/4c		17awg/1pr	.531 13.5	157	234
36603	12awg/4c		17awg/1pr	.594 15.1	215	320
36604	10awg/4c		17awg/1pr	.665 16.9	272	404
36605	8awg/4c		17awg/1pr	.827 21.0	427	635
36606	6awg/4c		16awg/1pr	.906 23.0	634	943
36607	4awg/4c		16awg/1pr	1.110 28.2	960	1429
36608	2awg/4c		16awg/1pr	1.276 32.4	1251	1864
Four Power Conductors and Two Signal Pairs						
36350	16awg/4c		18awg/2pr	.591 15.0	142	211
36351	14awg/4c		18awg/2pr	.610 15.5	174	259
36352	12awg/4c		18awg/1pr & 17awg/1pr	.646 16.4	240	357
36353	10awg/4c		18awg/1pr & 17awg/1pr	.701 17.8	298	444
36354	8awg/4c		18awg/1pr & 17awg/1pr	.839 21.3	448	667
36355	6awg/4c		17awg/2pr	.921 23.4	644	958
36356	4awg/4c		16awg/2pr	1.114 28.3	963	1433

OLFLEX-SERVO-FD® 785 P (Gray)

Halogen Free Continuous Flex Servo Motor Power Supply Cable for Small Bend Radius Applications

CE 22

OLFLEX-SERVO-FD® 785 P is a halogen free, ultra flexible, continuous flex motor supply cable which has been designed for automated servo systems.

SERVO-FD® 785 P ideally suited for small bend radius applications, such as cable tracks, automated handling equipment, and other continuous movement applications.

The special ultra flexible design makes OLFLEX-

Construction:

Finely stranded bare copper conductors; special elastomeric insulation; tape wrap; specially formulated gray polyurethane outer jacket.



Technical Data:

Minimum bend radius: 5 x cable diameter

Insulation resistance: 20 TW x cm

Temperature range:

Flexing: -30°C to +80°C

Conductor stranding: Extra Fine Wire per VDE 0295, Class 6

Working voltage: 600/1000 V

Color code: Black with white numbers, plus green/yellow

Test voltage: 4000 V

Conforms to CE Directives

Part Number	Power Conductors	Nominal Outer Diameter		Approx. Weight		Part Number	Number of Conductors includes ground	Nominal Outer Diameter		Approx. Weight	
		inches	mm	lbs/mft	kg/km			inches	mm	lbs/mft	kg/km
36380	16awg/4c	.413	10.5	87	129	36384	8awg/4c	.740	18.8	393	585
36381	14awg/4c	.465	11.8	126	187	36385	6awg/4c	.847	21.5	580	863
36382	12awg/4c	.551	14.0	184	273	36386	4awg/4c	1.024	26.0	880	1309
36383	10awg/4c	.583	14.8	241	358						

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