

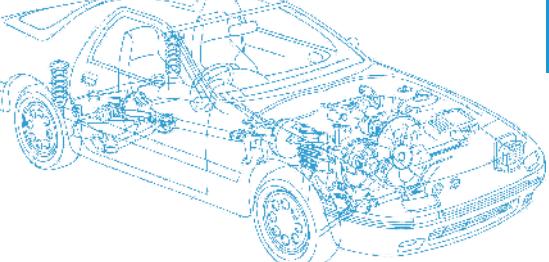


Caledonian Cables



Automotive Cables





Automotive Cable

Company Profile

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard, ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

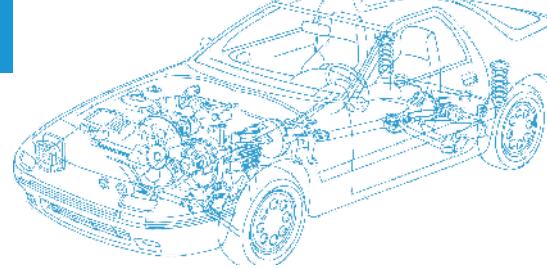
Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.





Automotive Cable



Code Designation

1. Type of wire (German abbreviations)

FL=automotive wire

FLZ=automotive ignition wire

2. Conductor Materials (excluding electrolytic copper)

M=materials other than E-Cu or electrical resistance alloys

W=resistance wires

3. Characteristics of insulation materials

no abbreviation=Normal thickness

R=reduced insulation thickness

U=ultra thin insulation

S=Increased insulation

4. Insulation and Sheath Materials

Germany Standard

Y=soft-PVC (polyvinyl chloride)

YW=soft-PVC, heat-resistant, hot-pressure resistant

4Y=PA (polyamide)

6Y=FEP (tetrafluoroethylene hexafluoropropylene)

7Y=ETFE (ethylene tetrafluoroethylene)

11Y=TPE-U (thermoplastic polyurethane elastomer)

13Y=TPE-E (thermoplastic polyester elastomer)

2X=XLPE (polyethylene cross-linked)

4G=EVA (ethylene/vinyl acetate)

2G=SiR(Silicone rubber)

Japanese Standard

A= automotive Low Tension Cable

V=polyvinyl Chloride Insulation

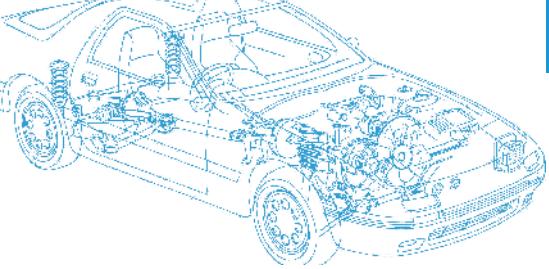
S=thin Wall Insulation

SS=extreme Thin Wall Insulation

XX=cross linked Insulation

T=twisted

E=polyethylene



Automotive Cable



EB=electric Bond

HEB=heavy Duty Electric Bond

HD=heavy Duty

C=compacted

American Standard

TWP=thin wall, Thermoplastic insulation low-tension cable for Accumulator.

GPT=thermoplastic insulation low-tension cable.

TXL=thin-wall low-tension cables for automobiles.

GXL=cross linked polyolefin insulation low-tension cables for automobiles.

SXL=cross linked polyolefin insulation special purpose low-tension cables for automobiles.

HDT=heavy Duty, Thermoplastic insulation low-tension cable for automobiles.

SGT=starter or Ground, General purpose thermoplastic insulated

5. Shielding

B=screen (film, foil) shield

C=copper wire braiding

6. Special Designs

F=flat cable

Z=Multi-core separable cable

7. Number of Cores and Cross Section

indication of number of cores and cross section (mm²)

Examples:

1.Sigle-core cables

FLY1X0.5

FL automotive cable

Y PVC insulation
1X0.5 nominal cross-section 0.5mm²

2.Multi-core cables

FLRYCY9X0.08

FL automotive cable

R reduced insulation thickness

Y PVC insulation

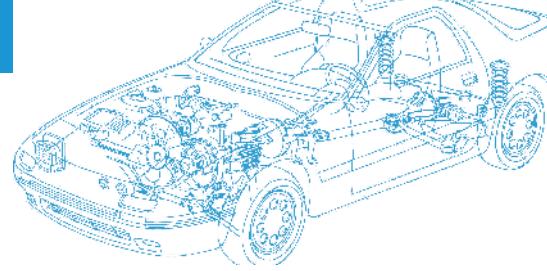
C braiding of copper wires

Y PVC sheath

9X0.08 9 core, nominal cross-section 0.08mm²



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Color Coding

Basic colour

code	color
Bu	Blue
Bn	Brown
Ye	Yellow
Gn	Green
Gy	Grey
Nt	Nature
Rd	Red
Bk	Black
Pu	Violet
Wh	White

Color code of wires

1. 1st colour

basic colour (Colors according to DIN 47002 and DIN IEC 304).

2. 2nd colour

2 stripes on opposite sides

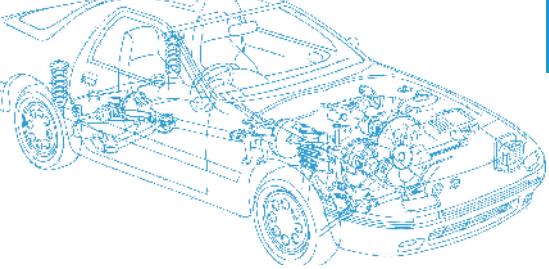
width of stripe: min. 14% of circumference both stripes together max. 35%, Minimum width of one stripe 7%).

3. 3rd colour

rings 3 mm wide (+/-1mm) halfs max. 1 mm displaced

distance between rings: 6 to 20 mm





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Conductor Specifications

Bare Copper

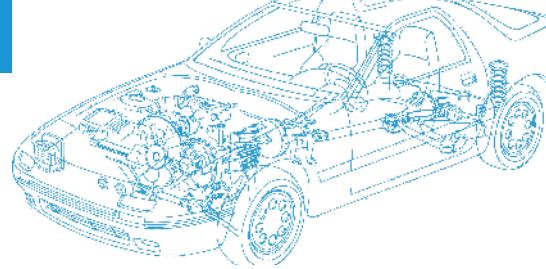
Copper wire	Cu-ETP1 according to DIN EN 13602
Melting point copper	1083 °C
Conductivity at 20 °C	58,5m/(Ωmm ²)
Density	8,925 kg/dm ³
Advantages	low priced

Tin Plated Copper

Copper wire	Cu-ETP1 according to DIN EN 13602
Tin	Sn 99, 90 DIN 1704
Melting point	copper: 1083 °C, Tin: 232 °C
Conductivity at 20 °C	57,5 m/(Ωmm ²)
Density	8,925 kg/dm ³
Advantages	good soldering ability
	Protection of insulation mix
	Good protection against corrosion



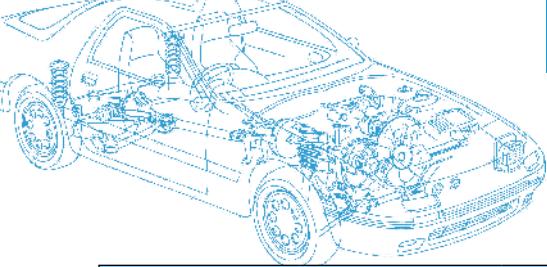
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Insulation and Sheath Materials

Abbreviation	Insulation Material Chemical description	Shart symbol Acc. To DIN 76722	Classification Acc. to ISO 6722	Continuous Duty Temperature (3.000h) °C	Thermal overload capacity °C/48h	Cold bending Resistance °C
PVC	Polyvinyl Chloride	Y(YW)	A/B	90/105	140	-40
PA	Polyamide	4Y	-	105	140	-50
XLPE	Polyethylene, cross-linked	12X		125	150	-40
TPE-E	Thermoplastic Polyester elastomer	13Y	C	100	150	-40
TPE-U (PUR)	Themoplastic polyether polyurethane	11Y	C	125	150	-50
PVC-P	Hot-pressure resistant, heat- resistant	YW		125	140	-40
EVA	Ethylene-vinyl acetate	4G	C	130	160	-40
ETFE	Ethylen tetrafluoroethylene	7Y	E	180	230	-65
FEP	Tetrafluoroethylene hexafluoropropylene	6Y	F	210	240	-65

Specific resistance at 20°C $\Omega \times \text{cm}$	Shore hardness A/D	Tensile strength M Pa	Elongation at break %	Abrasion	Flame Retardant
$>10^{12}$	A85-95	>10	>150	+	+
$>10^{12}$	D72	>40	>300	++	-
$>10^{14}$	95A	>10	>200	+	+
$>10^{10}$	D40-78	>25	>300	++	-
$>10^9$	A75-D54	>30	>300	++	-
$>10^{12}$	92A-97A	>15	>150	+	+
$>10^{13}$	A80-90	>10	>200	+	-
$>10^{16}$	D75-80	>30	>150	++	+(-)
$>10^{16}$	D55-60	>15	>200	++	++



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Resistant against				
Oil	Fuel	Breaking Fluid	Acid/Lye	Organic media
+	+	-	+	-
++	++	+	+	+
+	+	-	+	+
++	++	+	-	+
++	++	+	+	+
+	+	-	+	-
+	+	+	+	+
++	++	++	++	++
++	++	++	++	++



Automotive Cable

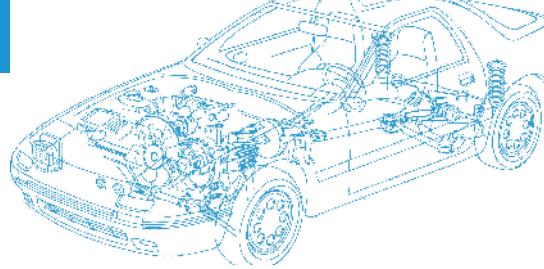


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Germany Standard

Single-Core Cable

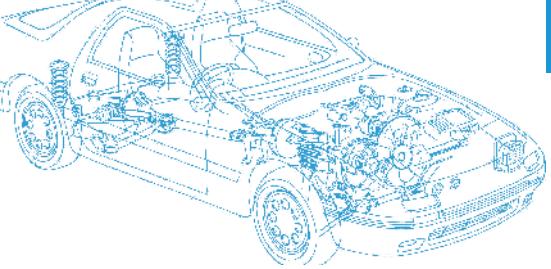
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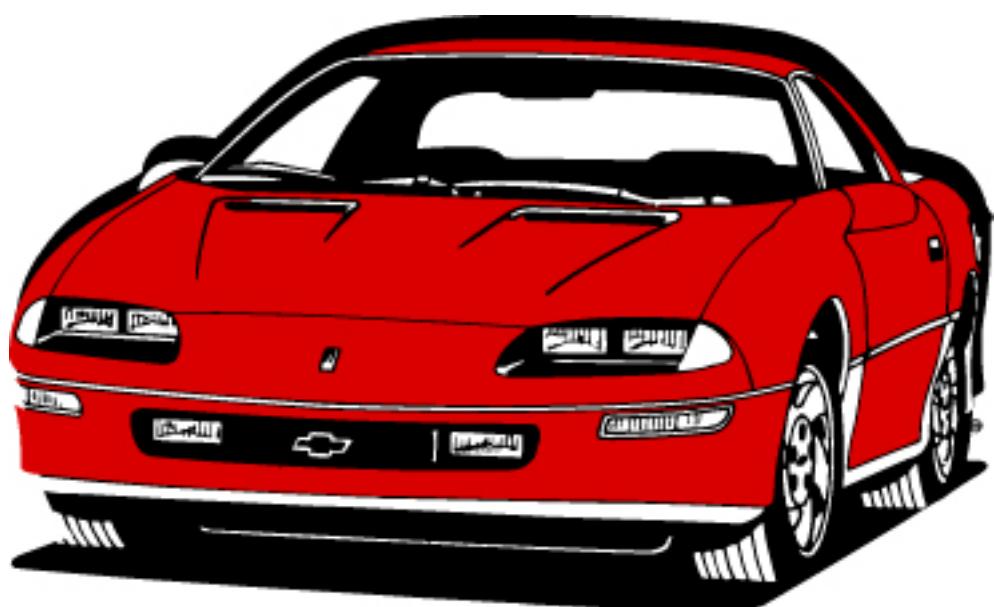
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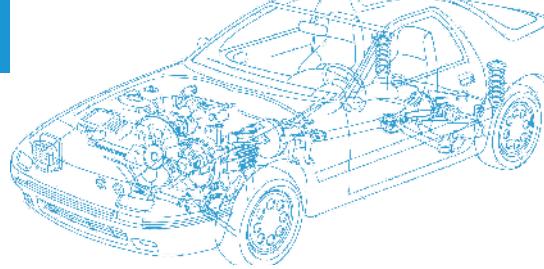
American Standard

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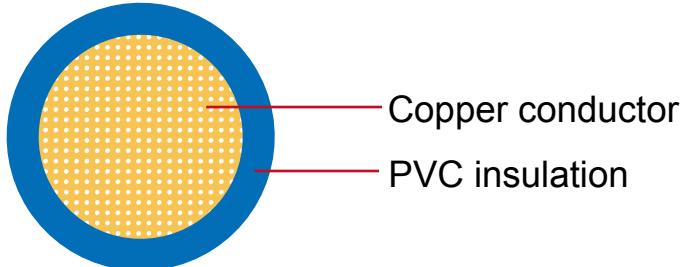


FLY

Application:

This PVC insulated single-core unshielded low-tension wire is used for automobiles.

Construction:



Conductor: Cu-ETP1 bare according to DIN EN 13602

Insulation: PVC

Standard Compliance: ISO 6722 Class B

Special Properties:

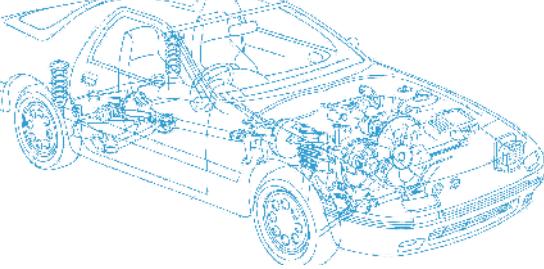
Conductors >6mm² are suitable for use as battery cables

Technical Parameters:

Operating temperature: - 25°C to +105°C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1x0.50	16 /0.21	1.00	37.10	0.48	2.00	2.30	8
1x0.75	24/0.21	1.20	24.70	0.48	2.20	2.50	12
1x1.00	32/0.21	1.35	18.50	0.48	2.40	2.70	15
1x1.50	30/0.26	1.70	12.70	0.48	2.70	3.00	20
1x2.00	40/0.26	2.00	9.42	0.60	2.90	3.20	26
1x2.50	50/0.26	2.20	7.60	0.70	3.30	3.70	32
1x3.00	60/0.26	2.50	6.00	0.70	3.50	3.90	37
1x4.00	56/0.31	2.75	4.71	0.80	4.00	4.40	49
1x6.00	84/0.31	3.30	3.14	0.80	4.60	5.00	68
1x10.00	80 /0.41	4.50	1.82	0.80	6.00	6.50	117
1x16.00	126/0.41	6.30	1.16	0.80	7.50	8.30	193
1x25.00	196/0.41	7.80	0.74	1.04	9.50	10.40	274
1x35.00	276/0.41	9.00	0.53	1.04	10.60	11.60	397
1x50.00	400/0.41	10.50	0.37	1.20	12.90	13.50	547
1x70.00	555/0.41	12.50	0.26	1.20	14.80	15.50	769
1x95.00	740/0.41	14.80	0.200	1.28	17.00	18.00	990
1x120.00	960/0.41	16.50	0.15	1.60	18.70	19.70	1250

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

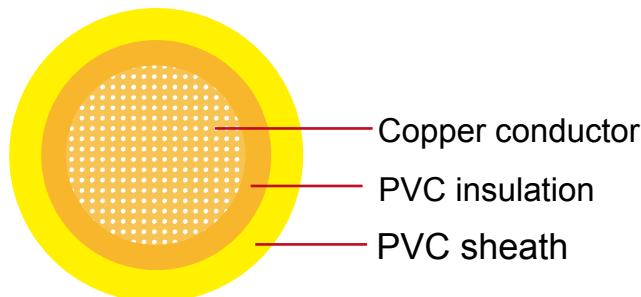


FLYY

Application:

This PVC insulated single-core unshielded low-tension wire is used for automobiles, Motorcycles and other motor vehicles.

Construction:



Conductor: Cu-ETP1 bare according to DIN EN 13602

Insulation: PVC

Sheath: PVC

Standard Compliance: ISO 6722

Technical Parameters:

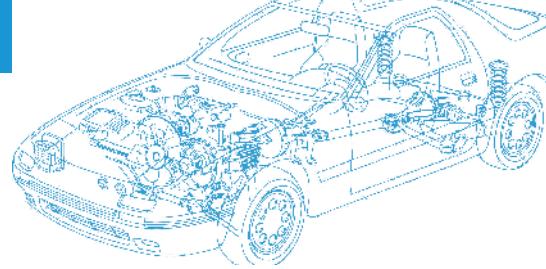
Operating temperature: - 40°C to 90°C

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness Nom.	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
1x0.50	16/0.21	1.00	37.10	0.60	2.10	0.40	2.70	3.10	14
1x0.75	24/0.21	1.20	24.70	0.60	2.30	0.40	3.00	3.30	17
1x1.00	32/0.21	1.35	18.50	0.60	2.50	0.40	3.20	3.60	20
1x1.50	30/0.26	1.70	12.70	0.60	2.80	0.50	3.70	4.10	28
1x2.00	40/0.26	2.00	9.42	0.60	3.00	0.50	3.90	4.30	33
1x2.50	50/0.26	2.20	7.60	0.70	3.50	0.50	4.30	4.80	41

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

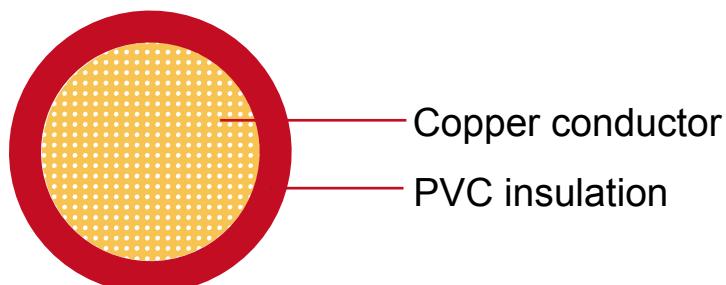


FLYW

Application:

This PVC insulated single-core wire is used for automobiles, motorcycles and other motor vehicles. It has good heat resistance.

Construction:



Conductor: Cu-ETP1 bare according to DIN EN13602

Insulation: PVC

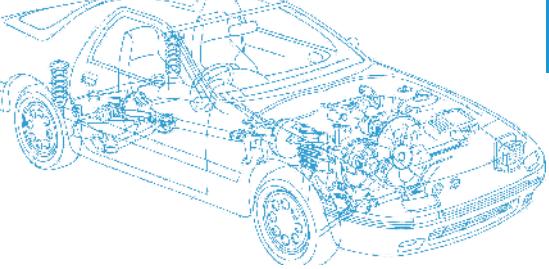
Standard Compliance: ISO 6722

Technical Parameters:

Operating temperature: - 40°C to 105°C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1x0.50	16 /0.20	1.00	37.10	0.48	2.00	2.30	8
1x0.75	24/0.20	1.20	24.70	0.48	2.20	2.50	11
1x1.00	32/0.20	1.35	18.50	0.48	2.40	2.70	15
1x1.50	30/0.25	1.70	12.70	0.48	2.70	3.00	20
1x2.50	50/0.25	2.20	7.60	0.56	3.30	3.60	32
1x4.00	56/0.31	2.75	4.71	0.64	4.00	4.40	48
1x6.00	84/0.31	3.30	3.14	0.64	4.60	5.00	68
1x10.00	80/0.40	4.50	1.82	0.80	6.00	6.50	117
1x16.00	126/0.40	5.20	1.16	0.80	8.00	8.30	193
1x25.00	196/0.40	6.50	0.70	1.04	10.10	10.40	274
1x35.00	276/0.40	7.70	0.50	1.04	11.30	11.60	397
1x50.00	396/0.40	9.20	0.30	1.20	13.20	13.50	547
1x70.00	556/0.40	11.00	0.20	1.20	15.20	15.50	769
1x95.00	741/0.40	14.80	0.20	1.28	17.00	18.00	990

*Note: Other configurations, sizes, colors and length not specified herein are available upon request



Automotive Cable

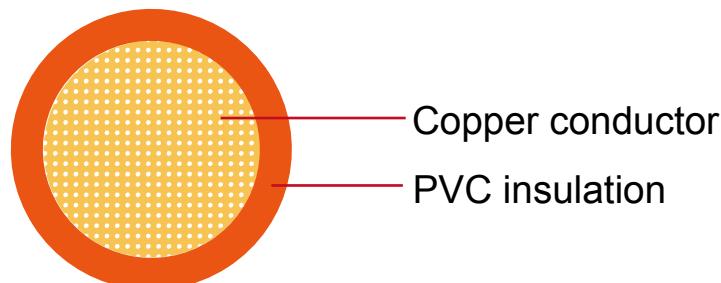


FLRY-A

Application:

This PVC insulated single-core cable with symmetrical conductor structure (type A) and thin wall is used for automobiles, Motorcycles electrical equipment in high temperature condition.

Construction:



Conductor: Cu-ETP1 bare or tinned copper according to DIN EN13602

Insulation: PVC

Standard Compliance: ISO 6722 Class B

Technical Parameters:

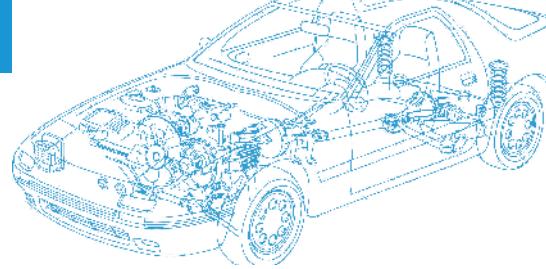
Operating temperature: - 40°C to 105°C

Nominal Cross-section	Conductor			Insulation	Cable	
	No. and Dia. of Wires	Diameter max.	Resistance at 20°C Bare/Tinned max.		Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	kg/km
1x0.22	7/0.21	0.70	84.80/86.50	0.20	1.20	3
1x0.35	7/0.26	0.80	52.00/54.50	0.20	1.30	5
1x0.50	19/0.19	1.00	37.10/38.20	0.22	1.60	7
1x0.75	19/0.23	1.20	24.70/25.40	0.24	1.90	9
1x1.00	19/0.26	1.35	18.50/19.10	0.24	2.10	11
1x1.50	19/0.32	1.70	12.70/13.00	0.24	2.40	16
1x2.00	19/0.37	2.00	9.42/9.69	0.24	2.60	23
1x2.50	19/0.41	2.20	7.60/7.80	0.28	3.00	26

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

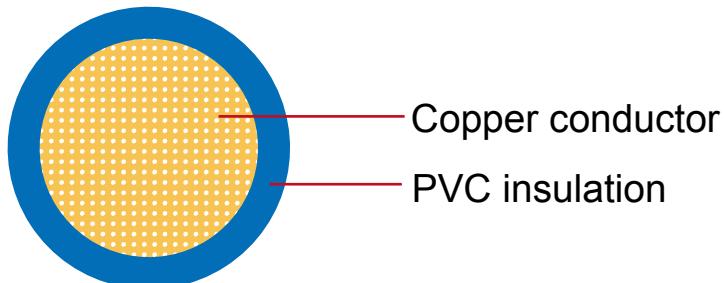


FLRY-B

Application:

This PVC insulated single-core cable with symmetrical conductor structure (type B) and thin wall is used for automobiles, Motorcycles electrical equipment in high temperature condition

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN13602

Insulation: PVC

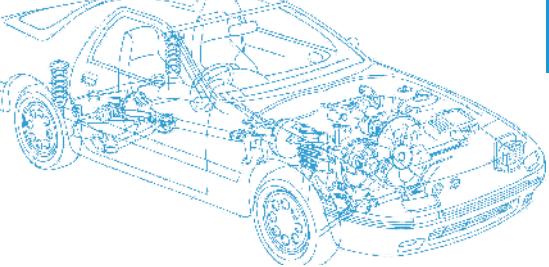
Standard Compliance: ISO 6722 Class B LV112

Technical Parameters:

Operating temperature: - 40°C to 105°C

Nominal Cross-section	Conductor			Insulation	Cable	
	No. and Dia. of Wires	Diameter max.	Resistance at 20°C Bare/Tinned max.		Overall Diameter	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	kg/km
1x0.35	12/0.21	0.90	52.00/5.50	0.20	1.40	5
1x0.50	16/0.21	1.00	37.10/38.20	0.22	1.60	7
1x0.75	24/0.21	1.20	24.70/25.40	0.24	1.90	9
1x1.00	32/0.21	1.35	18.50/19.10	0.24	2.10	11
1x1.50	30/0.26	1.70	12.70/13.00	0.24	2.40	16
1x2.00	30/0.31	1.90	9.31/9.59	0.24	2.60	22
1x2.50	50/0.26	2.20	7.60/7.80	0.28	3.00	26
1x3.00	45/0.31	2.40	6.21/6.40	0.28	3.20	33
1x4.00	56/0.31	2.75	4.70/4.80	0.32	3.70	42
1x6.00	84/0.31	3.30	3.10/3.20	0.32	4.30	61
1x10.00	80/0.41	4.50	1.82/1.85	0.48	6.00	108
1x16.00	126/0.41	6.30	1.16/1.18	0.52	7.90	170
1x25.00	196/0.41	7.80	0.74/0.76	0.52	9.40	265

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

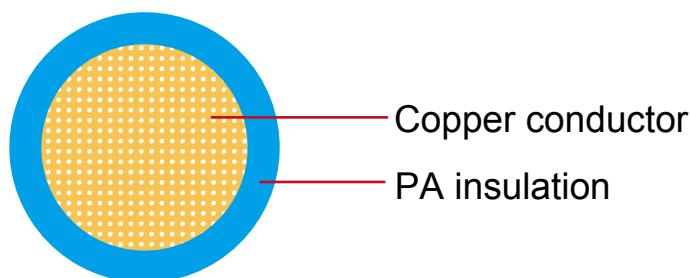


FLR4Y

Application:

This PVC insulated single-core cable is used for automobiles, motorcycles and other motor vehicles. Especially suitable for use as fuel gauge wire, this cable is gasoline and diesel resistant.

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN13602

Insulation: Polyamide (PA)

Standard Compliance: ISO 6722

Technical Parameters:

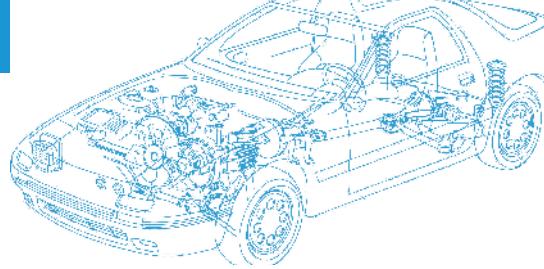
Operating temperature: - 40°C to 105°C

Nominal Cross-section mm ²	Conductor			Resistance at 20°C Bare/Tinned max. mΩ/m	Insulation Thickness Wall min. mm	Cable	
	No. and Dia. of Wires No./mm	Diameter max. mm	Overall Diameter mm			Weight approx. kg/km	
FLR4Y-A							
1x0.35	7/0.26	0.80	1.30	52.00/54.50	0.20	4	
1x0.50	19/0.19	1.00	1.60	37.10/38.20	0.22	6	
1x0.75	19/0.23	1.20	1.90	24.70/25.40	0.24	8	
1x1.00	19/0.26	1.35	2.10	18.50/19.10	0.24	11	
1x1.50	19/0.32	1.70	2.40	12.70/13.00	0.24	15	
1x2.50	19/0.41	2.20	3.00	7.60/7.80	0.28	24	
FLR4Y-B							
1x0.35	12/0.21	0.90	1.40	52.00/54.50	0.20	4	
1x0.50	16/0.21	1.00	1.60	37.10/38.20	0.22	6	
1x0.75	24/0.21	1.20	1.90	24.70/25.40	0.24	8	
1x1.00	32/0.21	1.35	2.10	18.50/19.10	0.24	11	
1x1.50	30/0.26	1.70	2.40	12.70/13.00	0.24	15	
1x2.50	50/0.26	2.20	3.00	7.60/7.80	0.28	24	
1x4.00	56/0.31	2.75	3.70	4.70/4.80	0.32	40	

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

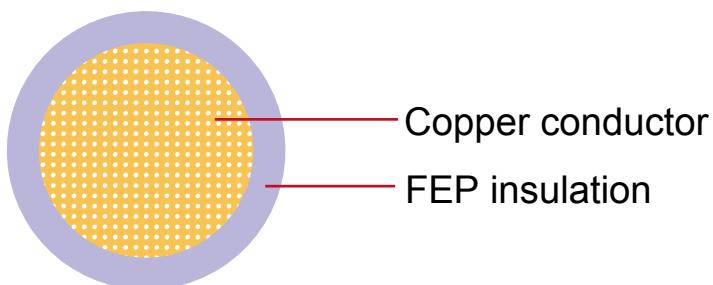


FLR6Y

Application:

This FEP insulated single-core cable is used for automobiles, motorcycles and other motor vehicles, Especially suitable for wiring inside the engine compartment.

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN13602

Insulation: Fluorinated Ethylene Propylene (FEP)

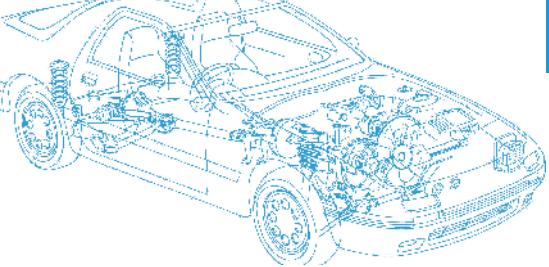
Standard Compliance: ISO 6722 Class B LV112

Technical Parameters:

Operating temperature: - 65 °C to +210 °C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1x0.35	12/0.21	0.90	52.00	0.30	1.20	1.40	5
1x0.50	16/0.21	1.00	37.10	0.30	1.50	1.70	7
1x0.75	24/0.21	1.20	24.70	0.25	1.60	1.80	9
1x1.00	32/0.21	1.35	18.50	0.30	1.80	2.00	11
1x1.50	30/0.26	1.70	12.70	0.30	2.10	2.30	16
1x2.50	50/0.26	2.20	7.60	0.35	2.70	2.90	26
1x4.00	56/0.31	2.75	4.70	0.40	3.30	3.60	41

Note: Other configurations, sizes, colors and length not specified herein are available upon request



Automotive Cable

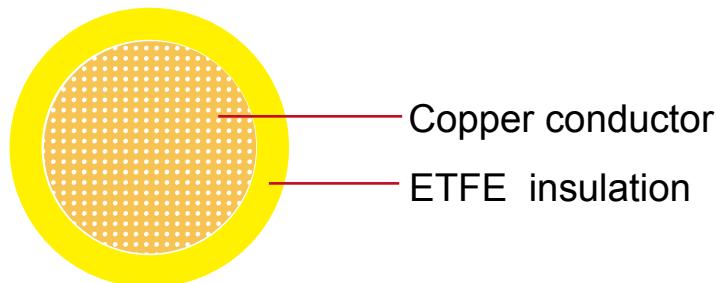


FLR7Y

Application:

This ETFE insulated single-core cable is used for automobiles, it has good mechanical and thermal properties and excellent resistance to aggressive media, especially for the engine compartment.

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN13602

Insulation: Ethylene tetrafluoroethylene (ETFE)

Standard Compliance: ISO 6722

Technical Parameters:

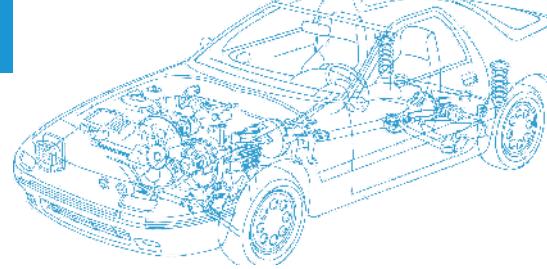
Operating temperature: – 65 °C to +180 °C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Resistance at 20°C Bare/Tinned max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
FLR7Y-B							
1x0.35	12/0.21	0.90	52.00/54.50	0.20	1.30	1.40	4.7
1x0.50	16/0.21	1.00	37.10/38.20	0.22	1.50	1.70	6.6
1x0.75	24/0.21	1.20	24.70/25.40	0.24	1.80	1.80	9.6
1x1.00	32/0.21	1.35	18.50/19.10	0.24	2.00	2.00	12.6
1x1.50	30/0.26	1.70	12.70/13.00	0.24	2.30	2.30	16.5
1x2.50	50/0.26	2.20	7.60/7.80	0.28	2.85	2.90	26.8
1x4.00	56/0.31	2.75	4.70/4.80	0.32	3.55	3.60	42.0
1x6.00	84/0.31	3.30	3.14/3.23	0.32	4.15	4.30	61.0
1x10.00	80/0.41	4.50	1.82/1.85	0.48	5.75	6.00	109.0
1x16.00	126/0.41	6.30	1.16/1.18	0.52	6.85	7.10	166
FLR7Y-A							
1x0.35	7/0.26	0.80	52.00/54.50	0.20	1.30	1.40	4.5
1x0.50	19/0.19	1.00	37.10/38.20	0.22	1.50	1.60	6.6
1x0.75	19/0.23	1.20	24.70/25.40	0.24	1.80	1.90	9.0
1x1.00	19/0.26	1.35	18.50/19.10	0.24	2.00	2.10	12.4
1x1.50	19/0.32	1.70	12.70/13.00	0.24	2.30	2.40	17.8
1x2.50	19/0.41	2.20	7.60/7.82	0.28	2.85	3.00	29.0

* Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

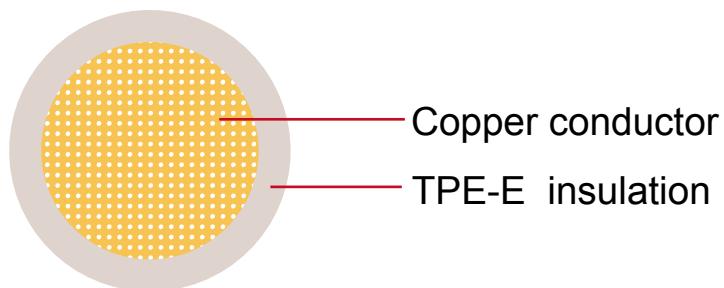


FLR13Y

Application:

This TPE-E insulated single-core cable is used for automotive industry. It has good mechanical and thermal properties and excellent resistance to aggressive media.

Construction:



Conductor: Cu-ETP1 bare according to DIN EN13602

Insulation: Thermoplastic elastomeric on polyester basis (TPE-E)

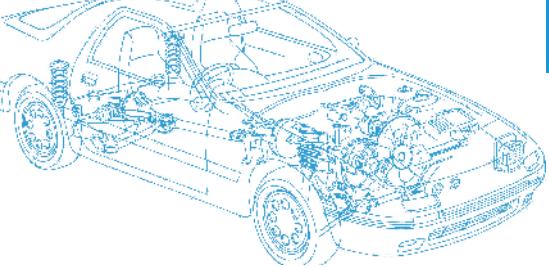
Standard Compliance: ISO 6722 Class B

Technical Parameters:

Operating temperature: - 40 °C to +150 °C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1x0.50	19/0.19	1.00	37.10	0.30	1.50	1.70	6
1x0.75	19/0.23	1.20	24.70	0.30	1.70	1.90	9
1x1.00	19/0.26	1.35	18.50	0.30	1.90	2.10	11
1x1.50	19/0.32	1.70	12.70	0.30	2.20	2.40	16
1x2.00	19/0.38	2.00	9.31	0.30	2.40	2.70	22
1x2.50	19/0.41	2.20	7.60	0.35	2.70	3.00	25
1x4.00	56/0.31	2.75	4.71	0.40	3.40	3.70	40
1x6.00	84/0.31	3.30	3.10	0.40	4.00	4.30	60

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

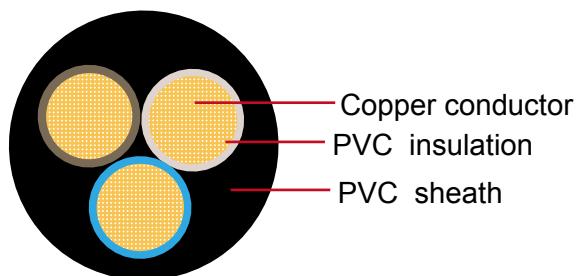


FLYY

Application:

This PVC insulated, PVC sheathed low tension multi-cores cable is used for automobiles, motorcycles and other motor vehicles.

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN13602

Insulation: PVC

Sheath: PVC

Standard Compliance: ISO 6722

Technical Parameters:

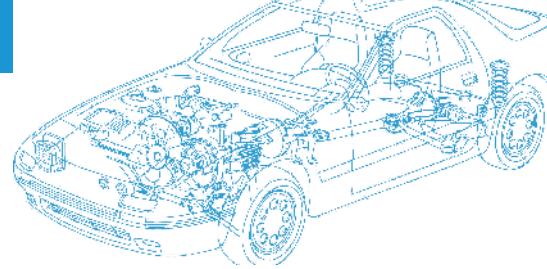
Operating temperature: - 40 °C to +150 °C

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C Bare/tinned Max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
2x 0.50	16/0.21	1.00	37.10/38.20	0.50	1.75	0.50	4.30	4.70	31
2x 0.75	24/0.21	1.20	24.70/25.40	0.60	2.30	0.50	5.40	5.80	48
2x 1.00	32/0.21	1.35	18.50/19.10	0.60	2.50	0.80	6.40	6.80	65
2x 1.50	30/0.26	1.70	12.70/13.00	0.60	2.75	0.90	7.00	7.50	83
3x 0.50	16/0.21	1.00	37.10/38.20	0.50	2.10	0.60	5.80	6.20	53
3x 0.75	24/0.21	1.20	24.70/25.40	0.60	2.30	0.60	5.70	6.30	60
3x 1.00	32/0.21	1.35	18.50/19.10	0.60	2.50	0.90	6.90	7.50	81
3x 1.50	30/0.26	1.70	12.70/13.00	0.60	2.65	0.70	6.90	7.50	98

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

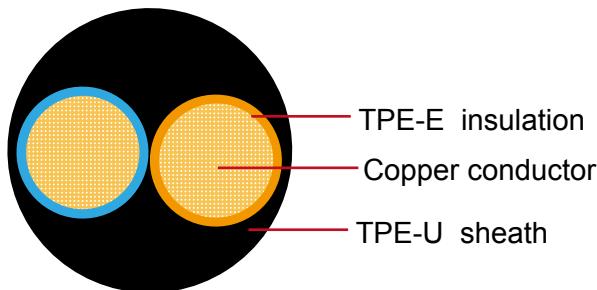


FLR13Y11Y

Application:

This TPE-E insulated, TPE-U sheathed low tension multi-cores cable is used for ABS systems, it has excellent abrasion resistance and better resistance to bending fatigue.

Construction:



Conductor: Cu-ETP1 according to DIN EN13602

Insulation: Thermoplasticity polyester (TPE-E)

Sheath: Thermoplasticity polyurethane (TPU)

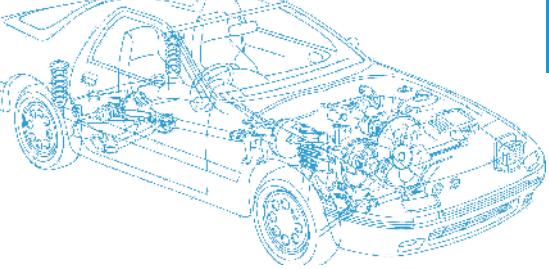
Standard Compliance: ISO 6722

Technical Parameters:

Operating temperature: - 40 °C to +125 °C

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
2 x 0.50	28/0.16	1.00	37.10	0.20	1.40	0.60	3.85	4.15	22
2 x 0.50	28/0.16	1.00	37.10	0.20	1.40	0.85	4.35	4.65	27
2 x 0.50	28/0.16	1.00	37.10	0.35	1.70	0.80	4.80	5.20	32
2 x 0.60	80/0.11	1.20	24.70	0.20	1.45	0.80	4.35	4.65	28
2 x 0.75	42/0.16	1.20	27.10	0.30	1.80	1.30	6.00	6.40	48
2 x 0.75	96/0.10	1.20	27.10	0.30	1.80	1.30	6.00	6.40	62

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable



FLYZ

Application:

This PVC insulated multi-cores cable is used in internal wiring in automobile where high flexibility, thermo and mechanical strength are required.

Construction:



Conductor:

Cu-ETP1 bare according to DIN EN13602

Insulation: Plasticized (PVC)

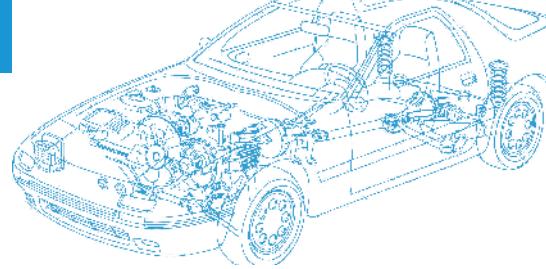
Standard Compliance: ISO 6722

Technical Parameters:

Operating temperature: – 25 °C to +90 °C

Nominal Cross-section	Conductor			Insulation		Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Diameter of Core	Diameter Width	Diameter Height	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	kg/km
2 x0.50	16/0.21	1.00	37.10	0.50	2.10	4.40±0.20	2.10±0.15	20
2 x0.75	24/0.21	1.20	24.70	0.60	2.35	4.70±0.30	2.35±0.15	23
2 x1.00	32/0.20	1.50	19.50	0.60	2.55	5.10±0.30	2.60±0.15	32
2 x1.50	48/0.26	1.70	12.70	0.60	2.80	5.60±0.30	2.80±0.15	39

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



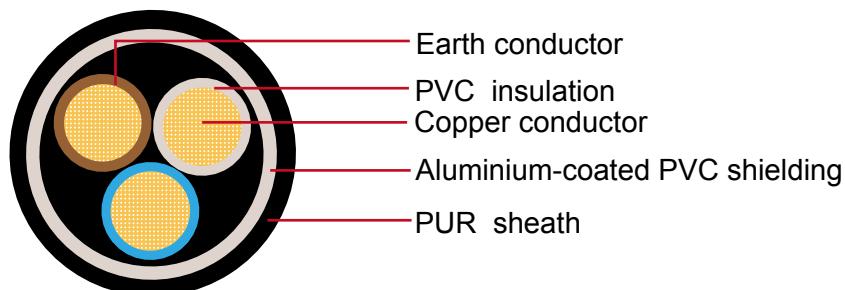
Automotive Cable

FLRYB11Y

Application:

This PVC insulated ,PUR sheathed low tension multi-cores cable is used for automobiles; it has excellent abrasion resistance and better resistance to bending fatigue.

Construction:



Conductor: Cu-ETP1 bare according to DIN EN 13602

Insulation: PVC

Cover for the earth conductor: Conductive PVC

Shielding: Aluminium-coated PVC foil

Sheath: polyurethane (PUR)

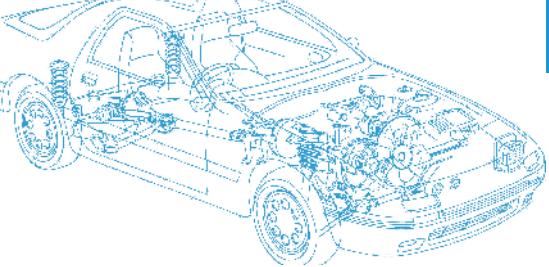
Standard Compliance: ISO 6722

Technical Parameters:

Operating temperature: - 40 °C to +105 °C

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20 °C max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
1 x 0.35+(0.35)	7/0.26	0.80	52.00	0.25	1.25	0.60	3.90	4.30	21
2 x0.35+(0.35)	7/0.26	0.80	52.00	0.25	1.25	0.60	4.10	4.50	24
3 x0.35+(0.35)	7/0.26	0.80	52.00	0.25	1.25	0.60	4.40	4.80	30
4 x0.35+(0.35)	7/0.26	0.80	52.00	0.25	1.25	0.60	4.80	5.20	39
5 x0.35+(0.35)	7/0.26	0.80	52.00	0.25	1.25	0.60	5.40	5.80	46

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

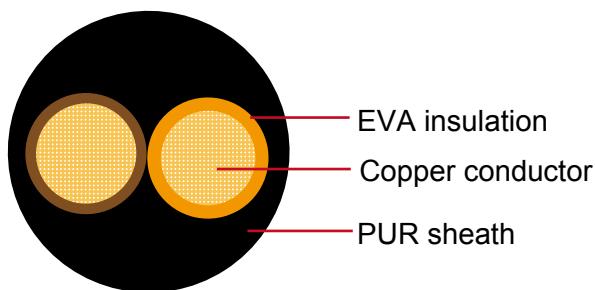


FL4G11Y

Application:

This EVA insulated , PUR sheathed multi-cores cable is used for ABS braking systems, wiring inside the engine compartment.

Construction:



Conductor: Cu-ETP1 tinned according to DIN EN 13602

Insulation: Ethylene vinyl acetate (EVA)

Sheath: Polyurethane (PUR)

Sheath colour: black

Standard Compliance: ISO 6722

Technical Parameters:

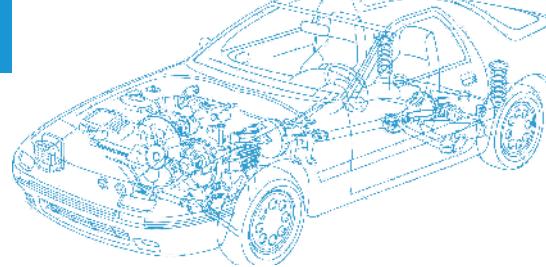
Operating temperature: – 40 °C to +125 °C

Special Properties:

Good flexibility and Good reversed bending strength. Conductors with 3 and 4 cores for additional functions. Also suitable for wiring inside the engine compartment

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
2 x 0.50	28/0.16	1.00	40.10	0.35	1.65	0.55	4.10	4.50	27
2 x 0.50	28/0.16	1.00	40.10	0.35	1.65	0.90	5.00	5.30	34
2 x 0.75	40/0.16	1.10	27.10	0.5	2.20	0.90	5.90	6.45	49
3 x 0.50	28/0.16	1.00	40.10	0.35	1.65	0.80	5.00	5.40	39
4 x 0.50	28/0.16	1.00	40.10	0.35	1.65	0.60	5.00	5.40	42

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



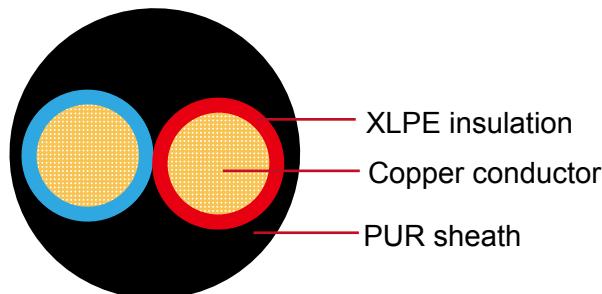
Automotive Cable

FLR2X11Y

Application:

This XLPE insulated, PUR sheathed multi-cores cable is used for ABS systems. it has good bending strength properties.

Construction:



Conductor: Cu-ETP1 bare or tinned according to DIN EN 13602

Insulation: Crosslinked polyethylene (XLPE)

Sheath: Polyether polyurethane (PUR)

Sheath colour: black

Standard Compliance: ISO 6722

Technical Parameters:

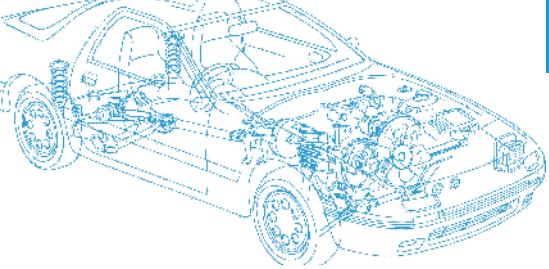
Operating temperature: - 40 °C to +125 °C

Special Properties:

Special conductor highly tensile and bending resistant Cu-alloy, Cadmium-free.

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C Bare/tinned max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
2 x0.35	12/0.21	0.90	52.00/54.50	0.25	1.35	0.50	3.50	3.90	18
2 x0.50	19/0.19	1.00	37.10/40.10	0.30	1.50	0.65	4.20	4.60	25
2 x0.50	64/0.10	1.00	38.20/40.10	0.35	1.60	0.95	5.00	5.40	36
2 x0.75	42/0.16	1.20	24.70/27.10	0.50	2.20	0.90	6.00	6.40	46

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

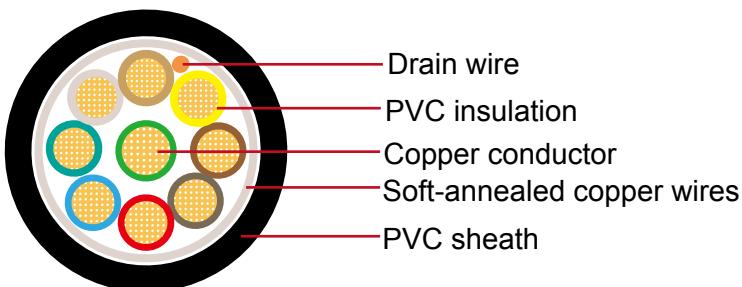


FLRYCY

Application:

This PVC insulated, PVC sheathed multi-cores cable is used for car communication cable.

Construction:



Conductor: Cu-ETP1 according to DIN EN 13602

Insulation: PVC

Drain wire: Drain wire of tinned copper wires of Cu-ETP1

Shielding: Soft-annealed copper wires CU-ETP1 or tin coated soft-annealed copper wires according to DIN 40500 and DIN EN 13602

Sheath: PVC

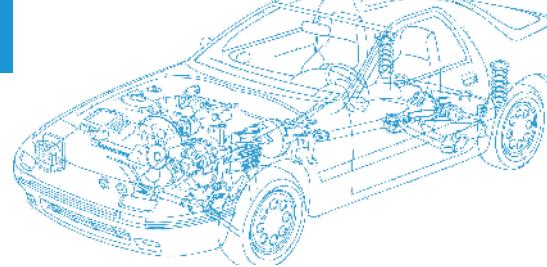
Standard Compliance: ISO 6722

Technical Parameters:

Operating temperature: - 40 °C to +105 °C

Nominal Cross-section	Conductor			Insulation		Cable			
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C Bare/tinned max.	Thickness Wall nom.	Diameter of Core	Sheath Thickness	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm²	No./mm	mm	mΩ/m	mm	mm	mm	mm	mm	kg/km
9 x 0.08	10/0.11	0.45	35.30/36.50	0.20	0.80	0.60	4.60	4.90	38
10 x 0.25	14/0.16	0.70	84.80/86.50	0.20	1.10	0.60	5.80	6.20	68
5 x 0.35	19/0.16	0.80	52.00/54.50	0.25	1.30	0.50	4.70	5.10	47
8 x 0.35	19/0.16	0.80	52.00/54.50	0.25	1.25	0.65	5.90	6.30	75
10 x 0.35	19/0.16	0.80	52.00/54.50	0.25	1.25	0.65	6.50	6.90	83

Note: Other configurations, sizes, colors and length not specified herein are available upon request.



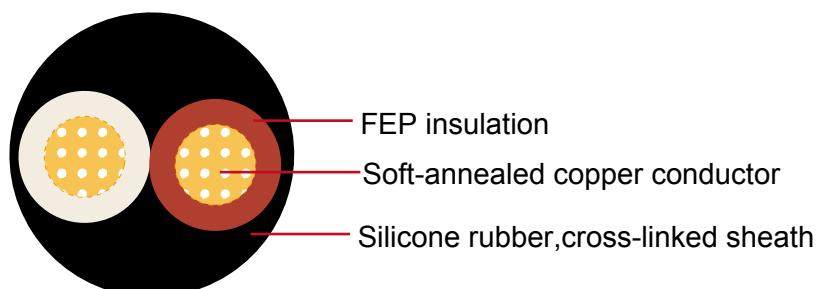
Automotive Cable

FL6Y2G

Application:

This FEP insulated multi-cores cable is used for automobiles.

Construction:



Conductor:

Cu-ETP1 or bare according to DIN EN 13602

Insulation:

Fluorinated ethylene propylene(FEP) insulation

Sheath:

Silicone rubber,cross-linked according to ISO 14572 class F

Standard:

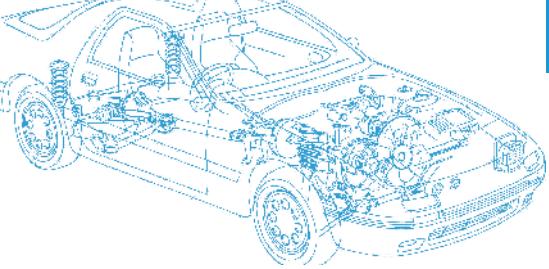
ISO 6722 Class F

Technical Parameters:

Operating temperature: -40°C to +210°C

Nominal cross-section	Conductor			Insulation	Cable			
	No. and Dia. of Wires	Diameter max.	Electrical resistance at 20°C max.		Thickness Wall nom.	Sheath Thickness	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	(mm)	mΩ/m	(mm)	(mm)	mm	mm	kg/km
2x0.35	12/0.21	0.8	52	0.4	0.53	4.6	5	32
2x0.25	24/0.16	0.7	86.5	0.4	0.53	3.4	3.8	24

Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

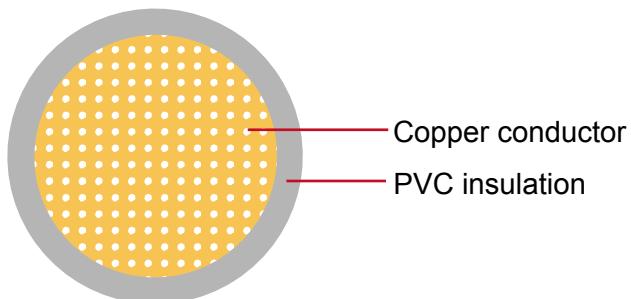


AV

Application:

This PVC insulated single-Core cable is used for low voltage circuits in automobiles, vehicles and motorcycles.

Construction:



Conductor: Cu-ETP1 bare according to D 609-90

Insulation: PVC

Standard Compliance: JIS C 3406

Technical Parameters:

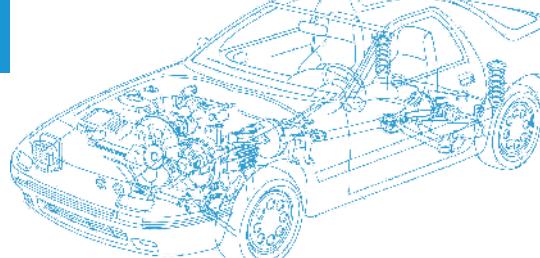
Operating temperature: - 40 °C to +85 °C

Intermittent temperature: 120°C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.50	7/0.32	1.00	32.70	0.60	2.20	2.40	10
1 x0.85	11/0.32	1.20	20.80	0.60	2.60	2.60	13
1 x1.25	16/0.32	1.50	14.30	0.60	2.90	2.90	17
1 x2.00	26/0.32	1.90	8.81	0.60	3.40	3.40	26
1 x3.00	41/0.32	2.40	5.59	0.70	4.10	4.10	40
1 x5.00	65/0.32	3.00	3.52	0.80	4.90	4.90	62
1 x8.00	50/0.45	3.70	2.32	0.90	5.80	5.80	92
1 x10.00	63/0.45	4.50	1.84	1.00	6.90	6.90	120
1 x15.00	84/0.45	4.80	1.38	1.10	7.40	7.40	160
1 x20.00	41/0.80	6.10	0.89	1.10	8.30	8.80	226
1 x30.00	70/0.80	8.00	0.52	1.40	10.80	11.50	384



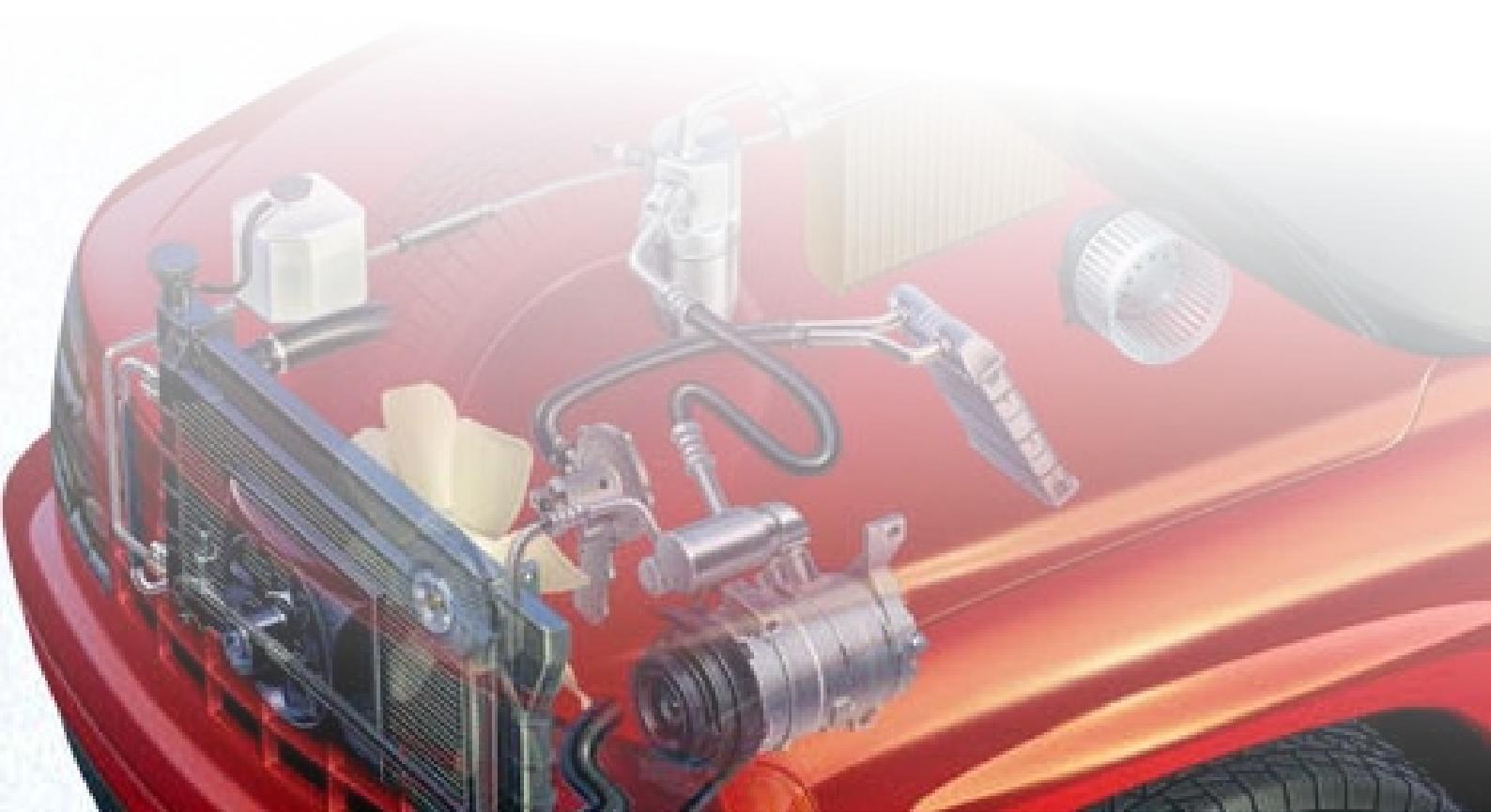
Automotive Cable

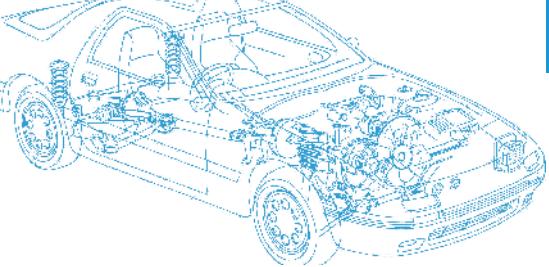


Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x40	85/0.80	8.60	0.43	1.40	11.40	12.10	462
1 x50	108/0.80	9.80	0.34	1.60	13.00	13.80	583
1 x60	127/0.80	10.40	0.29	1.60	13.60	14.40	678
1 x85	169/0.80	12.00	0.22	2.00	16.00	17.00	924
1 x100	217/0.80	13.60	0.17	2.00	17.60	18.60	1151
1 x0.5f	20/0.18	1.00	36.70	0.60	2.40	2.40	9
1 x0.75f	30/0.18	1.20	24.40	0.60	2.60	2.60	12
1 x1.25f	50/0.18	1.50	14.70	0.60	2.90	2.90	18
1 x2f	37/0.26	1.80	9.50	0.60	3.40	3.40	25
1 x3f	61/0.26	2.40	5.76	0.70	4.10	4.10	40

The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.





Automotive Cable

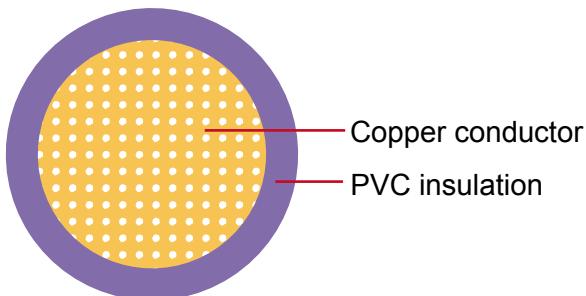


AVS

Application:

This PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and motorcycles.

Construction:



Conductor: Cu-ETP1 bare according to D 609-90

Insulation: PVC

Standard Compliance: JASO D 611-94

Technical Parameters:

Operating temperature: - 40 °C to +85 °C

Intermittent temperature: 120°C

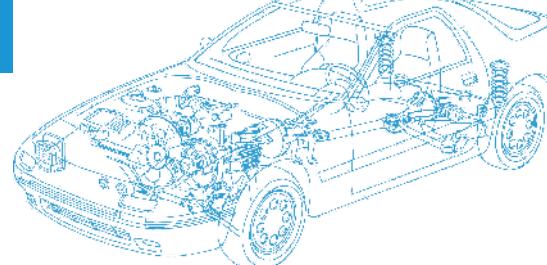
Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.30	7/0.26	0.80	50.20	0.50	1.80	1.90	6
1 x0.50	7/0.32	1.00	32.70	0.60	2.10	2.40	7
1 x0.85	11/0.32	1.20	20.80	0.60	2.30	2.60	10
1 x1.25	16/0.32	1.50	14.30	0.60	2.60	2.90	15
1 x2.00	26/0.32	1.90	8.81	0.60	3.00	3.40	22
1 x3.00	41/0.32	2.40	5.59	0.70	3.50	3.90	42
1 x5.00	65/0.32	3.00	3.52	0.80	4.50	4.90	61
1 x0.3f	15/0.18	0.80	48.90	0.50	1.80	1.90	6
1 x0.5f	20/0.18	1.00	36.70	0.50	2.00	2.10	8
1 x0.75f	30/0.18	1.20	24.40	0.50	2.20	2.30	11
1 x1.25f	50/0.18	1.50	14.70	0.50	2.50	2.60	17
1 x2f	37/0.26	1.80	9.50	0.50	2.90	3.10	24

The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

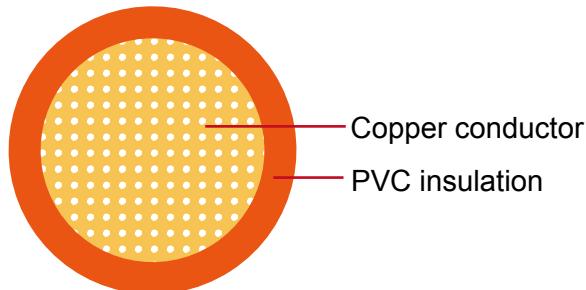


AVSS

Application:

This PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and Motorcycles.

Construction:



Conductor: Cu-ETP1 bare according to JIS 3120

Insulation: PVC

Standard Compliance: JASO D 611-94

Technical Parameters:

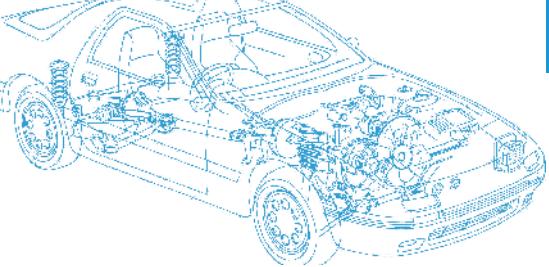
Operating temperature: - 40 °C to +85 °C

Intermittent temperature: 120°C

Nominal Cross-section	Conductor			Insulation	Cable		
	NO. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x 0.30	7/0.26	0.80	50.20	0.30	1.40	1.50	5
1 x 0.50	7/0.32	1.00	32.70	0.30	1.60	1.70	7
1 x 0.85	19/0.24	1.20	21.70	0.30	1.80	1.90	10
1 x 1.25	19/0.29	1.50	14.90	0.30	2.10	2.20	14
1 x 0.3f	19/0.16	0.80	48.80	0.30	1.40	1.50	5
1 x 0.5f	19/0.19	1.00	34.60	0.30	1.60	1.70	7
1 x 0.75f	19/0.23	1.20	23.60	0.30	1.80	1.90	10
1 x 1.25f	37/0.21	1.50	14.60	0.30	2.10	2.20	14
1 x 2f	37/0.26	1.80	9.50	0.40	2.60	2.70	22

The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

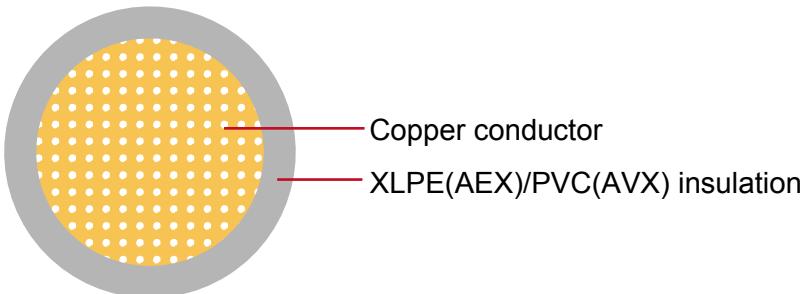


AEX/AVX

Application:

This XLPE insulated single-core cable is used for automobiles, motorcycles and other motor vehicles.

Construction:



Conductor: Cu-ETP1 according to JIS C3102

Insulation: XLPE (AEX)

Crosslinked PVC (AVX)

Standard Compliance: JASO D 608-92

Technical Parameters:

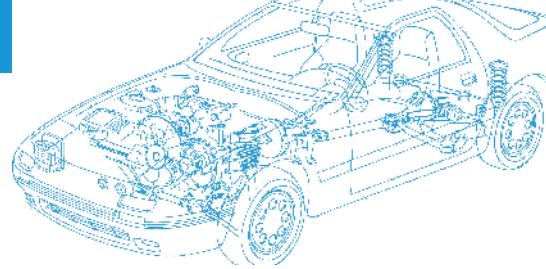
Operating temperature: - 40 °C to +120 °C (AEX)

Operating temperature: - 40 °C to +100 °C (AVX)

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.50	7/0.32	1.00	32.70	0.50	2.00	2.20	8
1 x0.85	11/0.32	1.20	20.80	0.50	2.20	2.40	11
1 x1.25	16/0.32	1.50	14.30	0.60	2.70	2.90	16
1 x2.00	26/0.32	1.90	8.80	0.60	3.10	3.40	25
1 x3.00	41/0.32	2.40	5.60	0.70	3.80	4.10	38
1 x5.00	65/0.32	3.00	3.50	0.80	4.60	4.90	59
1 x8.00	50/0.45	3.70	2.30	0.80	5.30	5.60	86
1 x15.00	84/0.45	4.80	1.40	1.10	7.00	7.40	145
1 x0.50f	20/0.18	1.00	36.70	0.50	2.00	2.20	8
1 x0.75f	30/0.18	1.20	24.40	0.50	2.20	2.40	10
1 x 1.25f	50/0.18	1.50	14.70	0.60	2.70	2.90	16

The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



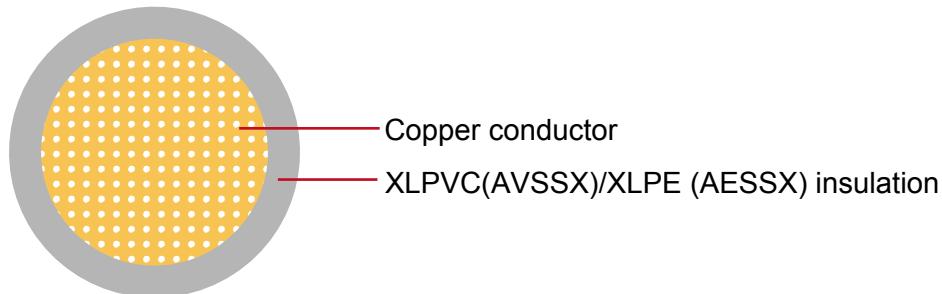
Automotive Cable

AVSSX/AESSX

Application:

This XLPVC (XLPE) insulated single-core cable is used in electric system for automobile.

Construction:



Conductor: Cu-ETP1 bare or tinned according to JIS C3102

Insulation: XLPVC (AVSSX)

XLPE (AESSX)

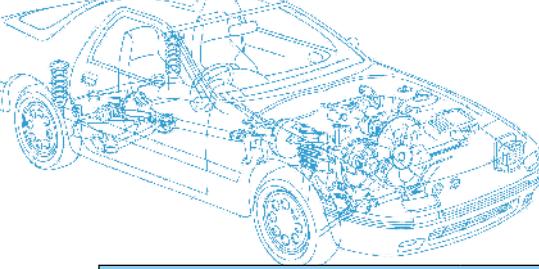
Standard Compliance: JASO D 608-92

Technical Parameters:

Operating temperature: - 40 °C to +105 °C (AVSSX)

Operating temperature: - 40 °C to +120 °C (AESSX)

AVSSX							
Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.30	7/0.26	0.80	50.20	0.24	1.40	1.50	5
1 x0.50	7/0.32	1.00	32.70	0.24	1.60	1.70	7
1 x0.85	19/0.24	1.20	21.70	0.24	1.80	1.90	10
1 x0.85	7/0.40	1.10	20.80	0.24	1.80	1.90	10
1 x1.25	19/0.29	1.50	14.90	0.24	2.10	2.20	15
1 x2.00	19/0.37	1.90	9.00	0.32	2.70	2.80	23
1 x0.3f	19/0.16	0.80	48.80	0.24	1.40	1.50	2
1 x0.5f	19/0.19	1.00	34.60	0.30	1.60	1.70	7
1 x0.75f	19/0.23	1.20	23.60	0.30	1.80	1.90	10
1 x1.25f	37/0.21	1.50	14.60	0.30	2.10	2.20	14



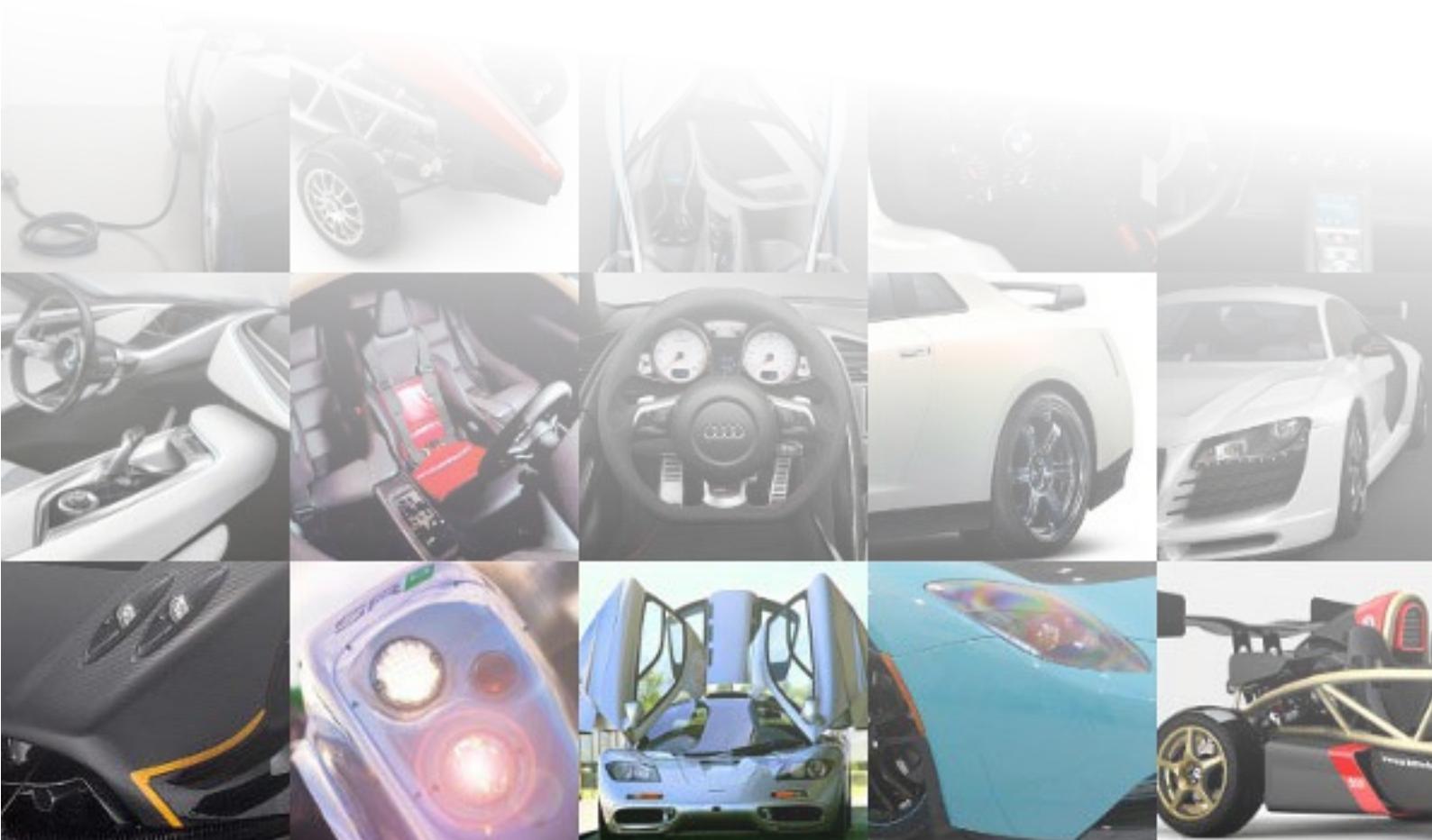
Automotive Cable

AVSSX							
	Conductor			Insulation	Cable		
Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x2f	37/0.26	1.80	9.50	0.40	2.60	2.70	22

AESSX							
1 x0.3f	19/0.16	0.80	48.80	0.30	1.40	1.50	5
1 x0.5f	19/0.19	1.00	64.60	0.30	1.60	1.70	7
1 x0.75f	19/0.23	1.20	23.60	0.30	1.80	1.90	10
1 x1.25f	37/0.21	1.50	14.60	0.30	2.10	2.20	14
1 x2f	37/0.26	1.80	9.50	0.40	2.60	2.70	22

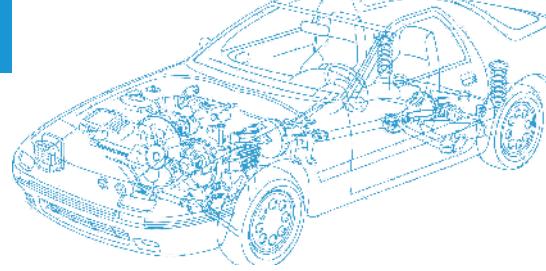
The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.





Automotive Cable

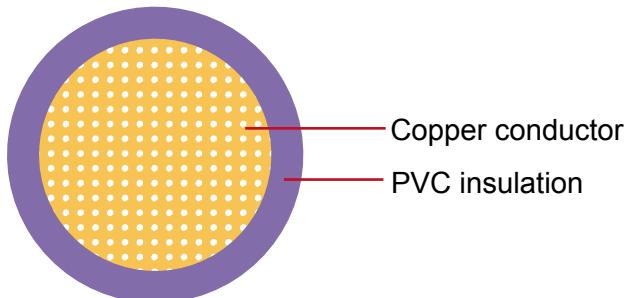


CAVS

Application:

This PVC insulated single-core low tension cable is used for automotive wiring.

Construction:



Conductor: Cu-ETP1 according to JIS C 3102

Insulation: PVC

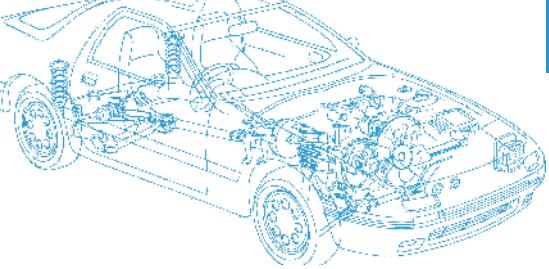
Standard Compliance: JASO D 611-94

Technical Parameters:

Operating temperature: - 40 °C to +80 °C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.30	7/0.26	0.70	50.20	0.35	1.40	1.50	3
1 x0.50	7/0.32	0.90	32.70	0.35	1.60	1.70	5
1 x0.85	11/0.32	1.10	20.80	0.35	1.80	1.90	7
1 x1.25	16/0.32	1.40	14.30	0.35	2.10	2.20	10

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

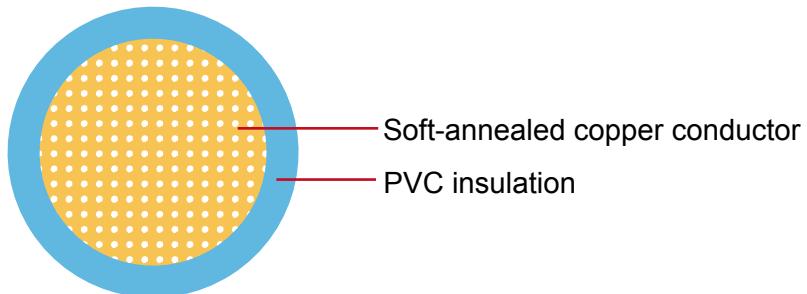


CAVUS

Application:

This PVC insulated single-core cable is used for automotive wiring.

Construction:



Conductor: Cu-ETP1 according to JIS C 3102

Insulation: PVC

Standard Compliance: JASO D 611-94

Technical Parameters:

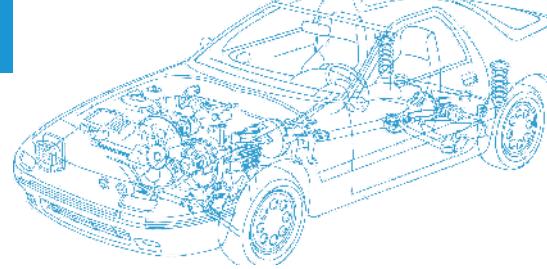
Operating temperature: - 40 °C to +80 °C

Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20 °C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x0.30	7/0.26	0.70	50.20	0.20	1.10	1.20	4
1 x0.50	7/0.32	0.90	32.70	0.20	1.30	1.40	6
1 x0.85	11/0.32	1.10	20.80	0.20	1.50	1.60	9
1 x1.25	16/0.32	1.40	14.30	0.20	1.80	1.90	13

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

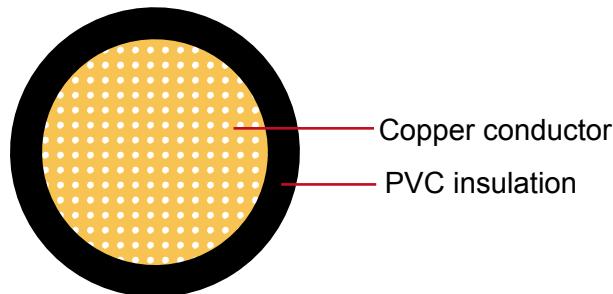


EB/HDEB

Application:

This PVC insulated single-core cable is used in low voltage circuits of battery for automobiles.

Construction:



Conductor: Cu-ETP1 according to JIS C 3102

Insulation: PVC

Standard Compliance: JIS C 3406

Features:

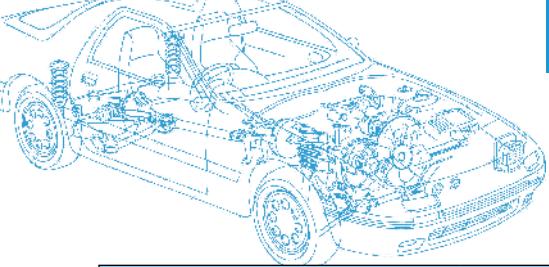
EB wires is for grounding (-side) and thin type; It consists of complex stranded conductors (flexible type).

HDEB wires are thicker type than EB wires to provide increased mechanical strength.

Technical Parameters:

Operating temperature: - 40 °C to +100 °C

EB							
Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.		Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.
mm ²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x5	63/0.32	3.10	3.58	0.60	4.30	4.70	57
1 x9	112/0.32	4.20	2.00	0.60	5.40	5.80	95
1 x15	171/0.32	5.30	1.32	0.60	6.50	6.90	147
1 x20	247/0.32	6.50	0.92	0.60	7.70	8.00	207
1 x30	361/0.32	7.80	0.63	0.60	9.00	9.40	303
1 x40	494/0.32	9.10	0.46	0.60	10.30	10.80	374
1 x50	608/0.32	10.10	0.37	0.60	11.30	11.90	473



Automotive Cable

EB							
Nominal Cross-section	Conductor			Insulation	Cable		
	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20°C max.	Thickness Wall nom.	Overall Diameter min.	Overall Diameter max.	Weight approx.
mm²	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1 x60	741/0.32	11.10	0.31	0.60	12.30	12.90	570

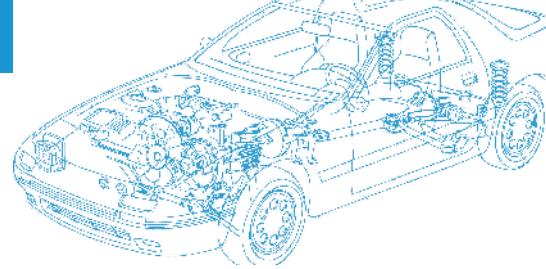
HDEB							
1 x9	112/0.32	4.20	2.00	1.00	6.20	6.50	109
1 x15	171/0.32	5.30	1.32	1.10	7.50	8.00	161
1 x20	247/0.32	6.50	0.92	1.10	8.70	9.30	225
1 x30	361/0.32	7.80	0.63	1.40	10.60	11.30	331
1 x40	494/0.32	9.10	0.46	1.40	11.90	12.60	442
1 x60	741/0.32	11.10	0.31	1.60	14.30	15.10	655

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.





Automotive Cable

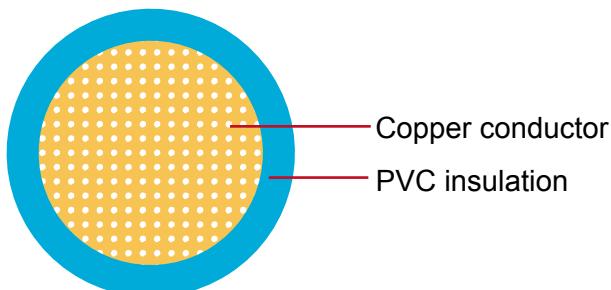


TWP

Application:

This PVC insulated single-core cable is used in automotive applications where small diameter and minimal weight is required.

Construction:



Conductor: Soft-annealed copper according to ASTM B3

Insulation: PVC

Standard Compliance: SAE J1128

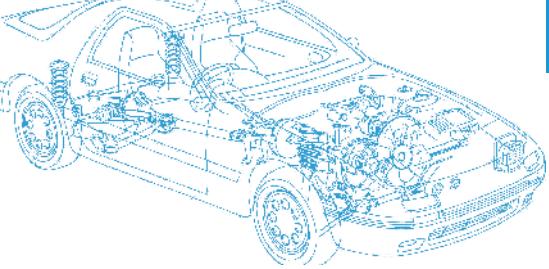
Technical Parameters:

Operating temperature: - 40 °C to +80 °C

Size	Conductor			Insulation		Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Thickness Wall min.	Thickness Wall nom.	Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	mm	kg/km
22	1 x 0.35	7/0.25	0.76	0.28	0.40	1.70	6
20	1 x 0.50	7/0.32	0.97	0.28	0.40	1.90	8
18	1 x 0.80	16/0.25	1.17	0.28	0.40	2.20	11
18	1x 0.80	19/0.23	1.17	0.28	0.40	2.20	11
16	1x 1.00	19/0.28	1.45	0.28	0.40	2.40	15
14	1 x 2.00	19/0.36	1.80	0.28	0.40	2.70	22
12	1 x 3.00	19/0.45	2.29	0.32	0.46	3.30	34
10	1 x 5.00	19/0.57	2.87	0.35	0.50	4.00	53
8*	1 x 8.00	49/0.46	4.06	0.39	0.55	4.90	85

*for SAE J1128 Applications only

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

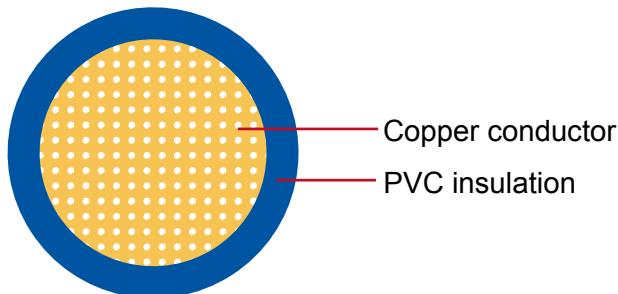


GPT

Application:

This PVC insulated single-core cable is used in automotive applications for general circuit wiring and automotive or marine applications where 105°C is required.

Construction:



Conductor: Soft-annealed copper according to ASTM B3

Insulation: PVC

Standard Compliance: SAE J1128

Technical Parameters:

Operating temperature: - 40 °C to +80 °C

Size	Conductor			Insulation		Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Thickness Wall min.	Thickness Wall nom.	Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	mm	kg/km
22*	1 x 0.35	7/0.25	0.76	-	0.58	2.10	7
20	1 x 0.50	7/0.32	0.97	0.41	0.58	2.40	10
18	1 x 0.80	16/0.25	1.17	0.41	0.58	2.50	12
18	1 x 0.80	19/0.23	1.17	0.41	0.58	2.50	12
16	1 x 1.00	19/0.28	1.45	0.41	0.58	2.90	17
14	1 x 2.00	19/0.36	1.80	0.41	0.58	3.20	25
12	1x 3.00	19/0.45	2.29	0.46	0.66	3.80	38
10	1 x 5.00	19/0.57	2.87	0.55	0.79	4.70	59
8**	1 x 8.00	19/0.73	3.26	0.66	0.94	6.00	96

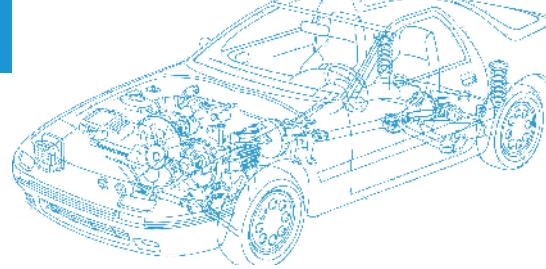
*for Ford ESF M1L56-A Applications only

** For SAE J1128 and UTMS applications only

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

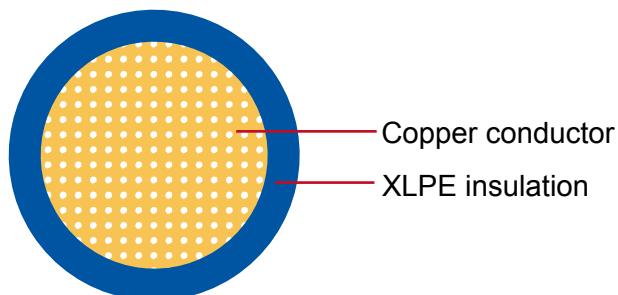


TXL

Application:

This XLPE insulated single-core cable is used in automotive applications where higher heat resistance, small diameter and minimal weight is required.

Construction:



Conductor: Soft-annealed copper according to ASTM B

Insulation: Polyethylene crosslinked (XLPE)

Standard Compliance: SAE J1128

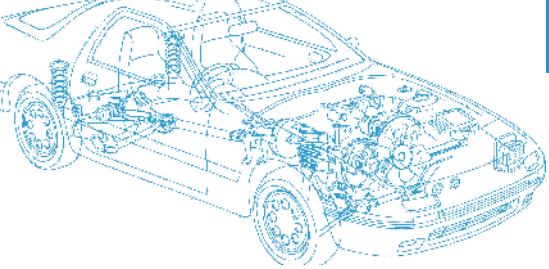
Technical Parameters:

Operating temperature: - 40 °C to +105 °C

Size	Conductor			Insulation		Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Thickness Wall min.	Thickness Wall nom.	Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	mm	kg/km
22	1 x 0.35	7/0.25	0.76	0.28	0.40	1.70	6
20	1 x 0.50	7/0.32	0.97	0.28	0.40	1.90	8
20	1 x 0.50	19/0.19	0.95	0.28	0.40	1.90	8
18	1 x 0.80	16/0.25	1.17	0.28	0.40	2.20	11
18	1 x 0.80	19/0.23	1.17	0.28	0.40	2.20	11
16	1 x 1.00	19/0.28	1.45	0.28	0.40	2.40	15
14	1 x 2.00	19/0.36	1.80	0.28	0.40	2.70	22
12	1 x 3.00	19/0.45	2.29	0.32	0.46	3.30	34
10	1 x 5.00	19/0.57	2.87	0.35	0.50	4.00	53
10	1 x 5.00	100/0.26	3.00	0.35	0.45	3.90	53
8*	1 x 8.00	49/0.46	4.06	0.39	0.55	4.90	85

*For SAE J1128 applications only

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

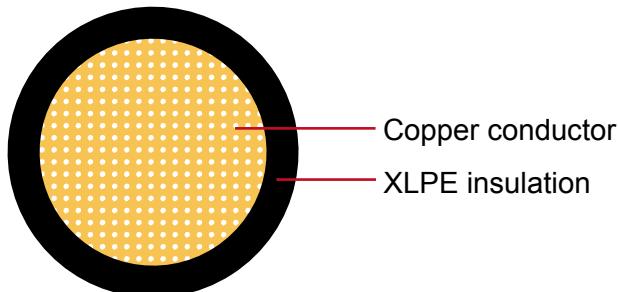


GXL

Application:

This XLPE insulated single-core cable is used in automotive applications where higher heat resistance and small diameter is required.

Construction:



Conductor: Soft-annealed copper according to ASTM B3

Insulation: Polyethylene crosslinked (XLPE)

Standard Compliance: SAE J1128

Technical Parameters:

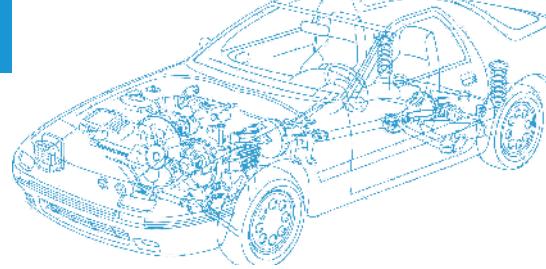
Operating temperature: – 40 °C to +125 °C

Size	Conductor			Insulation		Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Thickness Wall min.	Thickness Wall nom.	Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	mm	kg/km
20	1 x 0.50	19/0.20	0.97	0.41	0.58	2.40	9
18	1 x 0.80	19/0.23	1.17	0.41	0.58	2.50	12
18	1 x 0.80	16/0.25	1.17	0.41	0.58	2.50	12
16	1 x 1.00	19/0.24	1.45	0.41	0.58	2.90	17
14	1 x 2.00	19/0.36	1.80	0.41	0.58	3.20	25
12	1 x 3.00	19/0.45	2.29	0.46	0.66	3.80	38
10	1 x 5.00	19/0.57	2.87	0.56	0.79	4.70	58

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

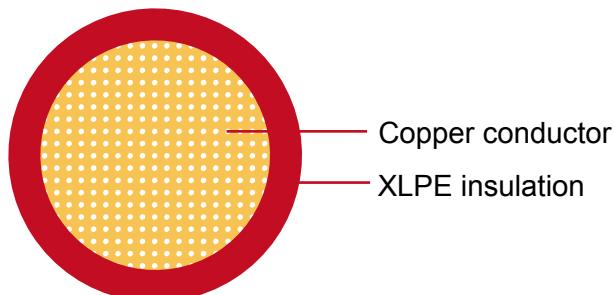


SXL

Application:

This XLPE insulated single-core cable is used in automotive applications where higher heat resistance is required.

Construction:



Conductor: Soft-annealed copper according to ASTM B3

Insulation: Polyethylene crosslinked (XLPE)

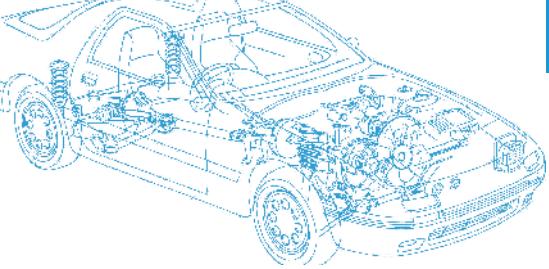
Standard Compliance: SAE J1128

Technical Parameters:

Operating temperature: - 40 °C to +125 °C

Size	Conductor			Insulation		Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.	Thickness Wall min.	Thickness Wall nom.	Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	mm	kg/km
20	1 x 0.50	7/0.32	0.97	0.52	0.74	2.80	11
18	1 x 0.80	19/0.23	1.17	0.53	0.76	3.00	15
16	1 x 1.00	19/0.28	1.45	0.57	0.81	3.40	20
14	1 x 2.00	19/0.36	1.80	0.62	0.89	3.90	29
12	1 x 3.00	19/0.45	2.29	0.66	0.94	4.60	43
10	1 x 5.00	19/0.57	2.87	0.73	1.04	5.30	64

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

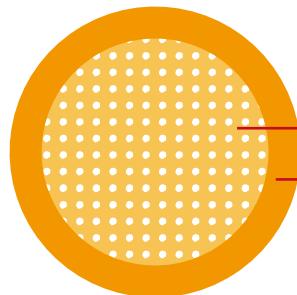


HDT

Application:

This PVC insulated single-core cable is used for automobiles, motorcycles and other motor vehicles.

Construction:



Copper conductor
PVC insulation

Conductor: Soft-annealed copper according to ASTM B3

Insulation: PVC

Standard Compliance: SAE J1128

Technical Parameters:

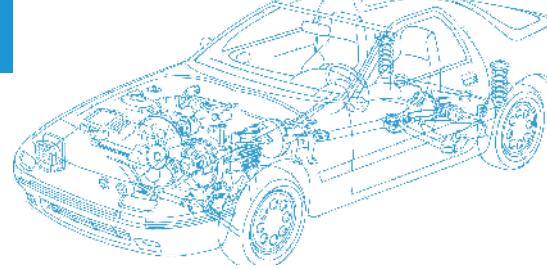
Operating temperature: - 40 °C to +85 °C

Size	Conductor			Insulation	Cable	
	Nominal Cross-section	No. and Dia. of Wires	Diameter max.		Thickness Wall nom.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	kg/km
20	1 x 0.50	7/0.32	1.00	0.91	2.80	13
18	1 x 0.80	19/0.23	1.50	0.94	3.00	7
16	1 x 1.00	19/0.29	1.50	1.02	3.50	22
14	1 x 2.00	19/0.36	1.80	1.04	3.90	31
12	1 x 3.00	19/0.45	2.30	1.17	4.60	16
10	1 x 5.00	19/0.26	3.00	1.17	5.30	67
8	1 x 8.00	19/0.45	3.70	1.40	6.50	104

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Automotive Cable

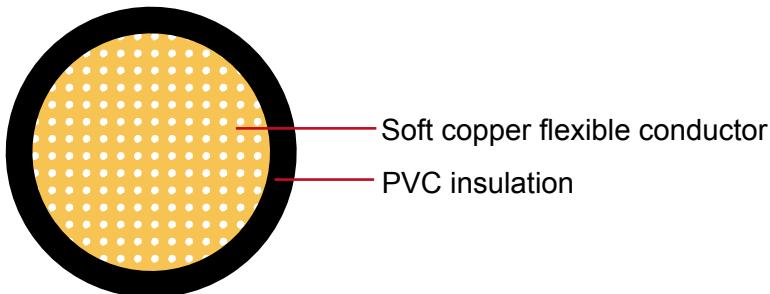


SGT

Application:

This PVC insulated single-core cable is used for automotive starters or battery grounds.

Construction:



Conductor: Soft copper flexible conductor

Insulation: PVC

Standard Compliance: SAE J1127

Technical Parameters:

Operating temperature: - 40 °C to +80 °C

Size	Conductor			Insulation Thickness Wall nom.	Cable	
	Nominal Cross- section	No. and Dia. of Wires	Diameter max.		Overall Diameter max.	Weight approx.
AWG	mm ²	No./mm	mm	mm	mm	kg/km
6	1 x 13.48	266/0.26	4.12	1.52	6.58	152
4	1 x 21.28	420/0.26	6.72	1.65	9.40	243
2	1 x 33.70	665/0.26	8.58	1.65	11.26	368
1	1 x 42.36	836/0.26	9.77	1.65	12.45	454
1/0	1 x 53.91	1064/0.26	11.10	1.65	13.78	568
2/0	1 x 67.04	1323/0.26	12.47	1.65	15.15	697
3/0	1 x 84.42	1666/0.26	14.10	1.98	17.30	886
4/0	1 x 106.76	2107/0.26	15.97	1.98	19.17	1105

*Note: Other configurations, sizes, colors and length not specified herein are available upon request.



Caledonian Cables

Merchant Ind. Centre
Mill-Lane, Laughton, Lewes, Sussex, BN8 6AJ
England
United Kingdom
Tel: 44- 207- 4195087
Fax: 44- 207- 8319489
Email: sales@caledonian-cables.net
sales@caledonian-cables.co.uk
uk@addison-cables.com