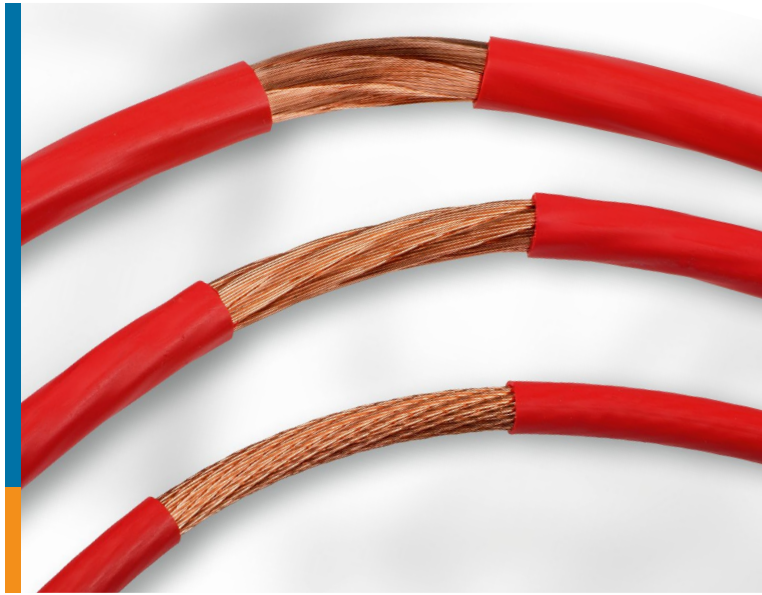


**POWER CABLES**  
**T4 (150° C)**  
**- T6 (200° C)**

for the  
Automotive Industry

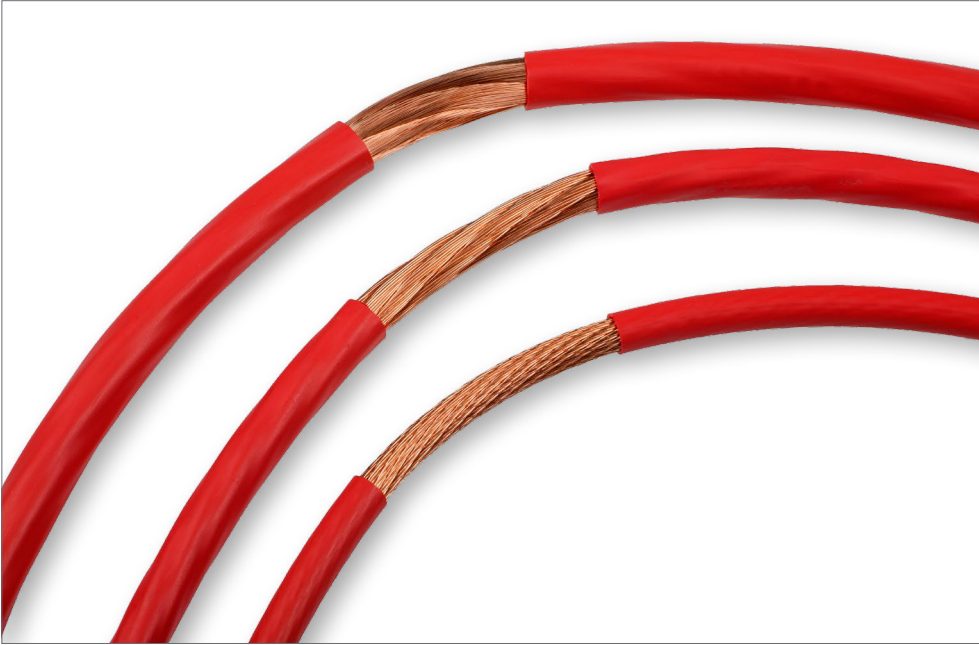


# POWER CABLES

## T4 (150° C) - T6 (200° C)

for the Automotive Industry

High-performance Battery and Power Cables, rated at 150° C and 200° C



In addition to the T4 (150° C) power cables that are currently available to the market, TE Connectivity has expanded the portfolio and added a T6 (200° C) range to the portfolio.

Qualification of a 50mm<sup>2</sup> T4 product (MPCB) is now also available and opportunities can be evaluated by contacting the Product Management team at [AUT-WireTubing-EMEAPM@te.com](mailto:AUT-WireTubing-EMEAPM@te.com)

For 150° C applications TE Connectivity under the trademark Raychem bonded dual-wall (ACW0219) technology offers a unique combination of a crosslinked polyalkene inner layer and a tough fluoropolymer outer layer.

The result is a highly flexible cable that is resistant to automotive fluids and mechanical abuse at 150° C and for short term excursions well above this temperature.

Occasionally power cables must withstand extreme temperatures. In these cases TE Connectivity's Raychem offers a modified fluoroelastomer insulation system that can be rated at 200° C for 3000 hours (HTPC) in the automotive environment.

### TE Connectivity's Raychem ACW

ACW is a dual-wall automotive wire with a polyalkene inner layer and a tough fluoropolymer outer layer. The recently developed unique bonding between the dissimilar inner and outer layers of ACW give the additional benefit of substantial improvement in the mechanical performance of the wire.

**Product Features**

- Continuous operating temperature from -40° C to +150° C (3000 hrs)
- Unique bonded composite-wall insulation system
- Tough, fluoropolymer outer jacket
- Superior fluid resistance compared to cross-linked polyolefins
- Available in thin wall dimensions only
- Designed to be compatible with all harness shop processes

### TE Connectivity's Raychem MPCB

MPCB has been developed to offer cost-effective solutions for power distribution in the car.

**Product Features**

- Continuous operating temperature from -40° C to +150° C (3000 hrs)
- Available in reduced wall only
- Outstanding resistance to automotive fluids
- Light-weight

### TE Connectivity's Raychem HTPC

HTPC has been developed to offer cost-effective solutions for power distributions in the car.

**Product Features**

- Continuous operating temperature from -40° C to +200° C (3000 hrs)
- Available in reduced wall only
- Outstanding resistance to automotive fluids
- Light-weight

**Key Features**

- T4, T6 rated (3000 hours)
- Mechanically tough
- Excellent resistance to automotive fluids
- Compatible with all harness components
- 600 Volts, thin-wall (ACW0219 - 50 Volts)
- Very cost competitive

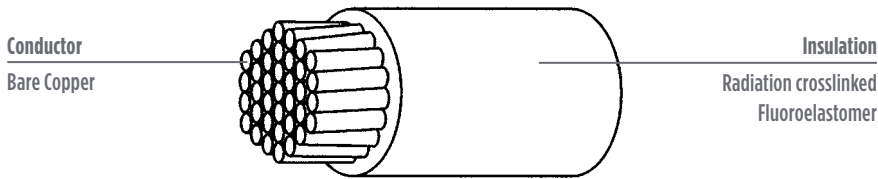
**150° C and 200° C cost-effective Battery and Power Cables**

Typical properties of power cables	ACW0219-10-0	MPCB-16	HTPC-16
Operating temperature	3000 hours @ 150° C	3000 hours @ 150° C	3000 hours @ 200° C
Short-term operating temperature	240 hours @ 175° C	240 hours @ 175° C	240 hours @ 225° C
Cold bend	-40° C	-40° C	-40° C
Flammability	45° 30 seconds	45° 30 seconds	45° 30 seconds
Abrasion (ISO 6722)	-	> 3500 cycles (Ford 597)	> 3500 cycles (Ford 597)
Petrol	20 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell
Diesel	20 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell
Battery acid	20 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	20 mins @ 23° C, no breakdown @ 1kV, max. 1% swell
Screenwash fluid	20 hours @ 70° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 70° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 70° C, no breakdown @ 1kV, max. 1% swell
Engine coolant	20 hours @ 50° C, no breakdown @ 1kV, <1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell
Transmission fluid	24 hours @ 135° C, no breakdown @ 1kV, <1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell
Brake fluid	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell	24 hours @ 23° C, no breakdown @ 1kV, max. 1% swell
Engine oil	20 hours @ 50° C, no breakdown @ 1kV, <1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell	20 hours @ 50° C, no breakdown @ 1kV, max. 1% swell

**Specifications** Release Specification: **TE Connectivity's Raychem WSD 1223, 1734 & 2234**

**Power Cable Performance Highlights** Suitable for direct routing through high temperature areas without use of additional protection or heat-shields due to it's excellent mechanical properties at elevated temperature. Excellent fluid resistance at elevated temperatures. Easily processable on standard stripping equipment. Proven high level of compatibility with materials used in the harnessing process. In particular pvc tapes and wires.

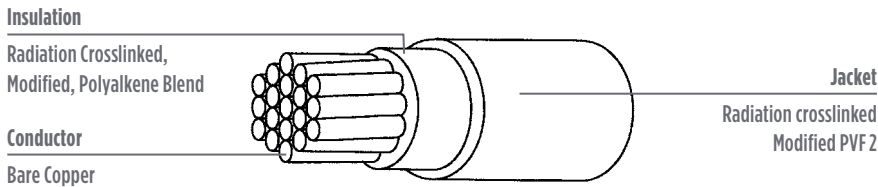
## 150° C Battery and Power Cables: MPCB



Part Number	Conductor Cross Stranding No./diam.	Nominal Conductor (mm) Max.	Conductor Diameter Resistance @20° C Max.	Conductor Overall Insulation (mm)	Minimum Lower Limit	Finished Wire Diameter (mm)		Weight per Unit (kg/km)	Approximate Weight Information (g/m)	Copper
						Upper Limit	Weight			
MPCB-10-*	10.0	1180/0.41	4.00	1.821	0.43	4.89	5.01	5.14	108	195
MPCB-25-*	25.0	1196/0.40	7.00	0.741	0.53	7.89	8.25	8.67	271	220
MPCB-35-*	35.0	1106/0.20	8.20	0.527	0.53	9.15	9.43	9.70	349	300

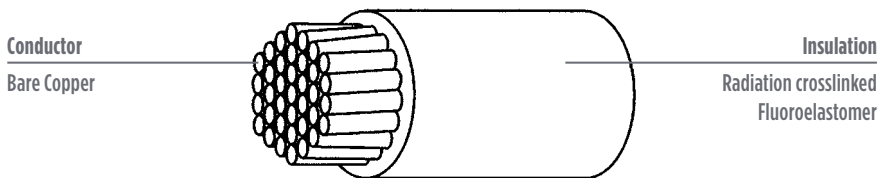
MPCB-50 available: Opportunities can be evaluated by contacting the Product Management team at [AUT-WireTubing-EMEAPM@te.com](mailto:AUT-WireTubing-EMEAPM@te.com)

## 150° C Battery and Power Cables: ACW0219



Part Number	Conductor Cross Sectional Area (mm²)	Nominal Conductor Stranding No./diam. (mm)	Conductor Diameter (mm) Max.	Conductor Resistance @20° C (ohms/km)		Minimum Overall Insulation Thickness (mm)	Finished Wire Diameter (mm)			Approximate Weight per Unit Length (kg/km)	Copper Weight Information only (g/m)
				Min.	Max.		Lower Spec Limit	Target	Upper Spec Limit		
ACW0219-4.0-*	14.00	56/0.31	2.50	4.42	4.70	0.32	3.4	3.55	3.7	140	36.0
ACW0219-6.0-*	16.00	84/0.31	2.95	2.91	3.10	0.32	4.0	4.15	4.3	161	54.0
ACW0219-10.0-*	10.00	80/0.41	4.50	1.70	1.82	0.48	5.5	5.75	6.0	104	95.0

## 200° C Battery and Power Cables: HTPC



Part Number	Conductor Cross Sectional Area (mm²)	Nominal Conductor Stranding No./diam. (mm)	Conductor Diameter (mm) Max.	Conductor Resistance @20° C (ohms/km) Max.	Minimum Overall Insulation Thickness (mm)	Finished Wire Diameter (mm)		Weight per Unit Length (kg/km)	Approximate Weight per Unit Length (kg/km)	Copper Weight Information only (g/m)
						Lower Spec Limit	Target			
HTPC-10-*	10.0	1180/0.41	1.82	0.431	0.43	4.89	5.01	5.14	108	195
HTPC-16-*	16.0	1133/0.40	5.75	1.167	0.43	6.44	6.77	7.10	162	139
HTPC-25-*	25.0	1196/0.40	7.00	0.747	0.53	7.89	8.25	8.67	271	220
HTPC-35-*	35.0	1106/0.20	8.20	0.527	0.53	9.15	9.43	9.70	349	300

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Status 04/2013

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1654312-1 | Revised 10-2014 | 3M · EB

