



**AmerCable**  
INCORPORATED

# Photovoltaic Cables

## Type USE-2

- UL Approved
- TUV Pending

## Type PV

- UL 4703

AMERCABLE USE-2 CABLE

AMERCABLE USE-2 CABLE

AMERCABLE PV CABLE

37-710

# Type USE-2 Photovoltaic Cable

Single-Conductor: 600V • Rated 90°C • RHW-2



## Conductor

Soft annealed tin-coated flexible stranded copper per ASTM B-33

## Insulation

Non-halogenated Extruded thermosetting Ethylene Propylene Rubber (EPR) meeting UL 44 and UL 854

## Jacket

Black, low smoke non-halogenated, flame retardant, oil, abrasion, chemical and sunlight resistant cross-linked compound meeting UL 44 and UL 854



## Conductor

Soft annealed stranded copper per ASTM B-8

## Insulation

Black sunlight resistant and flame retardant cross-linked polyethylene (XLPE) per UL 854



## Applications

AmerCable's Type USE-2 is a versatile single conductor cable designed to meet the different needs of the emerging Solar Industry. Applications include "pigtail" connections on the backside of PV panels; "homerun" connections between PV panels, collector boxes and inverters; and where also allowed by the National Electric Code (NEC).

## Features

- Two (2) distinct designs to satisfy the multitude of applications: A two layer construction with a low-smoke, halogen-free, flame retardant and sunlight resistant cross-linked compound outer layer and Ethylene-Propylene Rubber (EPR) inner layer; and a single layer insulation of sunlight resistant cross-linked compound.
- Suitable for continuous operating temperature of 90°C wet or dry
- UL listed as Sunlight Resistant
- Flame Resistance: UL VW-1

## Ratings & Approvals

- UL listed as Type USE-2
- UL listed as RHW-2
- UL Standard 44: Thermoset Insulated Wires & Cables, Type RHW-2, UL VW-1
- UL Standard 854: Standard for Safety for Service Entrance Cables, Type USE-2
- ASTM B-3: Standard Specification for Soft or Annealed Copper Wire
- ASTM B-8: Standard Specification for Concentric Lay Stranded Copper Conductors, Hard, Medium-Hard or Soft (Class B strand only)
- ASTM B-33: Standard Specification for Tinned Soft or Annealed Copper Wire for Electrical Purposes (Flexible strand only)
- ASTM B-172: Standard Specification for Rope-Lay Stranded Copper Conductors having Bunch-Stranded Members, for Electrical Conductors (Flexible strand only)
- TUV approval pending
- 90°C Temperature Rating

# Type USE-2 Photovoltaic Cable

Single-Conductor: 600V • Rated 90°C • RHW-2

## Type USE-2 • Class B Bare Copper

Part No. 37-710-	Size (AWG)	Number of Wires	Nominal Insulation Thickness (Inches)	Nominal Outer Diameter (Inches)	Approx. Weight (lbs/1000 ft)
101	14	7	0.045	0.173	23
102	12	7	0.045	0.192	33
103	10	7	0.045	0.212	47
104	8	7	0.060	0.271	75
105	6	7	0.060	0.308	110

• Cable diameters and weights are subject to +/- 5% manufacturing tolerance

## Type USE-2 • Low-Smoke/Halogen-Free Flexible Tinned Copper

Part No. 37-712-	Size (AWG)	Number of Wires	Nominal Inner Layer Thickness (Inches)	Nominal Outer Layer Thickness (Inches)	Nominal Outer Diameter (Inches)	Approx. Weight (lbs/1000 ft)
201	14	19	0.045	0.030	0.240	38
202	12	19	0.045	0.030	0.258	48
203	10	37	0.045	0.030	0.282	64
204	8	168	0.060	0.030	0.331	95
205	6	61	0.060	0.030	0.343	119

Cable diameters and weights are subject to +/- 5% manufacturing tolerance

## Type USE-2 • Low-Smoke/Halogen-Free Metric Tinned Copper

Part No. 37-712-	Size (mm)	Number of Wires	Nominal Inner Layer Thickness (mm)	Nominal Outer Layer Thickness (mm)	Nominal Outer Diameter (mm)	Approx. Weight (kg/km)
505	2.5	45	1.140	0.760	6.220	58
506	4.0	52	1.140	0.760	6.730	76
507	6.0	78	1.140	0.760	7.260	97

Cable diameters and weights are subject to +/- 5% manufacturing tolerance



# Type PV • UL4703 Photovoltaic Cable

Single-Conductor: 2kV • Rated 90°C

**Conductor**

Soft annealed stranded copper per ASTM B-3

**Insulation**

Extruded thermosetting Ethylene Propylene Rubber (EPR) meeting UL 44 and UL 4703

**Jacket**

Black, flame retardant, oil, abrasion, chemical and sunlight resistant chlorinated polyethylene (CPE) meeting UL 44 and UL 4703

**Applications**

AmerCable's Type PV is a single conductor cable that meets the newest standards as introduced in National Electrical Code (NEC) Article 690. Applications include "pigtail" connections on the backside of PV panels; "homerun" connections between PV panels, collector boxes and inverters; and where also allowed by the NEC.

**Features**

- A two layer construction of flame retardant, oil and sunlight resistant Chlorinated Polyethylene (CPE) over an Ethylene-Propylene Rubber (EPR) inner layer. This design is based on a construction allowed for use on ungrounded systems as described in NEC Article 690 without the need for conduit when installed exposed.
- Suitable for continuous operating temperature of 90°C wet or dry
- UL listed as Sunlight Resistant
- Flame Resistance: UL VW-1

**Ratings & Approvals**

- UL listed as Type PV
- UL listed as RHH/RHW-2
- 90°C Temperature Rating
- UL Standard 44: Thermoset Insulated Wires & Cables, Types RHH, RHW-2, UL VW-1
- UL Subject 4703: Outline of Investigation for Photovoltaic Wire, Type PV
- ASTM B-3: Standard Specification for Soft or Annealed Copper Wire
- ASTM B-8: Standard Specification for Concentric Lay Stranded Copper Conductors, Hard, Medium-Hard or Soft (Class B strand only)
- ASTM B-33: Standard Specification for Tinned Soft or Annealed Copper Wire for Electrical Purposes (Flexible strand only)
- ASTM B-172: Standard Specification for Rope-Lay Stranded Copper Conductors having Bunch-Stranded Members, for Electrical Conductors (Flexible strand only)

**Type PV – Flexible Tinned Copper**

Part No. 37-711-	Size		Number of Wires	Nominal Inner Layer Thickness		Nominal Outer Layer Thickness		Nominal Outer Diameter		Approx. Weight	
	(AWG)	mm		Inches	mm	Inches	mm	Inches	mm	lbs/1000ft	(kg/km)
201	14	-	19	0.045	-	0.030	-	0.240	-	37	-
505	-	2.5	45	-	1.140	-	0.760	-	6.220	-	58
202	12	-	19	0.045	-	0.030	-	0.258	-	48	-
506	-	4.0	52	-	1.140	-	0.760	-	6.730	-	75
203	10	-	37	0.045	-	0.030	-	0.282	-	63	-
507	-	6.0	78	-	1.140	-	0.760	-	7.260	-	97
204	8	-	168	0.055	-	0.030	-	0.351	-	100	-

Cable diameters and weights are subject to +/- 5% manufacturing tolerance

**Type PV – Class B Bare Copper**

Part No. 37-711-	Size (AWG)	Number of Wires	Nominal Inner Layer Thickness (Inches)	Nominal Outer Layer Thickness (Inches)	Nominal Outer Diameter (Inches)	Approx. Weight (lbs/1000 ft)
101	14	7	0.045	0.030	0.243	37
102	12	7	0.045	0.030	0.262	48
103	10	7	0.045	0.030	0.282	64
104	8	7	0.055	0.030	0.331	94

**Consult factory  
for other avail-  
able sizes**

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