

光伏以及储能系统用电缆

Cables for photovoltaic and energy storage systems

选型手册

Selection manual



双登电缆股份有限公司

SHUANGDENG CABLE CO., LTD



Photovoltaic Solar Cable PV1-F

Standard: 2Pfg 1169/08.2007

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: AC:0.6/1 kV, DC:1.8kV

Test Voltage: 6.5kV,AC

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

Short Circuit Temperature: 200°C ,5s

Thermal Elongation: 200°C ,less than 100%,permanent elongation $\leq 25\%$

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE 0482-332-1-2

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km	Current Carrying Capacity A
1.5	30 / 0.25	1.58	4.10	13.70	29	30
2.5	49 / 0.25	2.00	4.50	8.21	40	41
4	56 / 0.28	2.35	5.10	5.09	52	55
6	84 / 0.30	3.30	5.80	3.39	75	70





Photovoltaic Solar Cable H1Z2Z2-K

Standard: EN50618

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: DC:1.5kV

Test Voltage: 6.5kV,AC

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

Short Circuit Temperature: 250°C ,5s

Thermal Elongation: 250°C ,less than 100%,permanent elongation $\leq 25\%$

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE 0482-332-1-2

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km	Current Carrying Capacity A
1.5	30 / 0.25	1.58	4.80	13.70	34	30
2.5	49 / 0.25	2.00	5.20	8.21	45	41
4	56 / 0.28	2.35	5.60	5.09	58	55
6	84 / 0.30	3.30	6.50	3.39	82	70





Photovoltaic Solar Cable 62930 IEC 131

Standard: IEC 62930

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: DC:1.5kV, AC1/1kV

Test Voltage: 6.5kV,AC

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

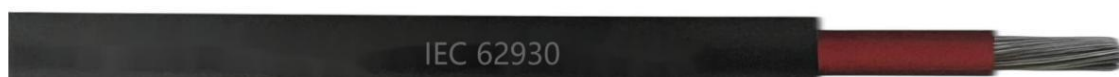
Short Circuit Temperature: 250°C ,5s

Thermal Elongation: 200°C ,less than 100%,permanent elongation $\leq 25\%$

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE 0482-332-1-2

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km	Current Carrying Capacity A
1.5	30 / 0.25	1.58	4.80	13.70	34	31
2.5	49 / 0.25	2.00	5.20	8.21	45	42
4	56 / 0.28	2.35	5.60	5.09	58	57
6	84 / 0.30	3.30	6.50	3.39	82	72





Photovoltaic Solar Cable 1500DC-AL-K

Standard: 2 Pfg 2642/01.22

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: DC:1.5kV

Test Voltage: 6.5kV,AC

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

Short Circuit Temperature: 250°C ,5s

Thermal Elongation: 200°C ,less than 100%,permanent elongation $\leq 25\%$

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE 0482-332-1-2

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance, flexiable al-alloy Ω/km	Nominal Weight kg/km
4	56 / 0.28	2.40	5.60	8.10	37
6	84 / 0.30	3.40	6.60	5.05	52





Photovoltaic Solar Cable UL 4703 PV

Standard: UL 4703

Certified by UL

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: 1000V / 2000V

Test Voltage: according to UL 4703

Minimum Bending Radius: 4xD, when $D < 8\text{mm}$; 6xD, when $D \geq 8\text{mm}$

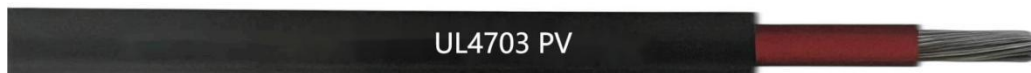
Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

Flame Retardant according to UL 1581 VW-1 and passed

Weathering and UV resistance according to UL 2556

Cold bending test according to UL 854





LSZH Cable GF-WDZCEESR,GF-WDZCEER23

Standard: CEEIA B218.2-2012

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: DC1.8V , AC0.6/1kV

Test Voltage: DC6.5kV,5min; AC3.5kV,5min

Temperature Rating: -40°C to +90°C

Maximum Conductor Temperature: +125°C

Short Circuit Temperature: 200°C,5s

Laying Temperature $\geq$ 0°C

Service Life: 25years

Thermal Elongation: 200°C,less than 175%,permanent elongation $\leq$ 25%

Cold resistance,heat resistance,UV resistance,Ozone resistance,

Acid and Alkaline Resistance According to EN 60811-2

Low Smoke Zero Halogen(LSZH)





Photovoltaic Cable 1500DC-SWR

Standard: 2 Pfg 2962

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863

Passed

CHARACTERISTICS

Voltage Rating: DC:1.5kV

Test Voltage: AC6.5kV,5min,without breakdown

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+120^{\circ}\text{C}$

Short Circuit Temperature: 250°C ,5s

Thermal Elongation: 200°C ,less than 100%,permanent elongation $\leq 25\%$

Sea water testing: 3.6kV in water temperature $90^{\circ}\text{C} \pm 2^{\circ}\text{C}$, continuous 2016h,no breakdown

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE

0482-332-1-2

Other features:

UV resistance,Ozone resistance,Mildew resistance,Salt mist resistance,Damp heat resistance,Acid and Alkaline resistance

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km
4	56 / 0.28	2.40	5.80	5.09	61
6	84 / 0.30	3.20	6.80	3.39	84





Photovoltaic Cable GF-WDZENS53,GF-WDZELHNSR53

Standard: enterprise standard,or customize

CHARACTERISTICS

Voltage Rating: DC:1.8kV, AC:0.6/1kV

Test Voltage: DC6.5kV,5min; AC3.5kV,5min

Temperature Rating: -40℃ to + 90℃

Maximum Conductor Temperature: +125℃

Laying Temperature $\geq 0^{\circ}\text{C}$

Short Circuit Temperature: 200℃,5s

Service Life: 25years

Thermal Elongation: 200℃,less than 175%,permanent elongation $\leq 25\%$

Advantage

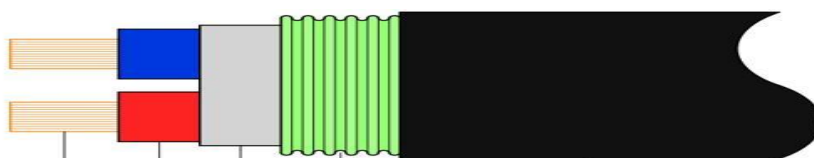
Paralleled cores,corrugated armoring makes smaller bending radius,to save laying space

Other features:

UV resistance,Ozone resistance,Acid and Alkaline resistance,Water resistance,Pressure resistance,cold/heat resistance

DIMENSIONS

Nominal Cross Sectional Area mm ²	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm ²	Nominal Overall Diameter mm ²	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km
4	56 / 0.28	2.40	13.0*7.6	5.09	177
6	84 / 0.30	3.20	14.6*8.6	3.39	237
Nominal Cross Sectional Area mm ²	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm ²	Nominal Overall Diameter mm ²	conductor DC Resistance,flexiable al-alloy Ω/km	Nominal Weight kg/km
6	84 / 0.30	3.20	15.5*9.5	5.05	179





Photovoltaic Rodent Proof Cable FSY21-PV1-F

Standard: enterprise standard,or customize

CHARACTERISTICS

Voltage Rating: DC:1.5kV,

Test Voltage: AC6.5kV,5min,no breakdown

Temperature Rating: -40℃ to + 90℃

Maximum Conductor Temperature: +120℃

Laying Temperature $\geq 0^{\circ}\text{C}$

Short Circuit Temperature: 250℃,5s

Service Life: 25years

Thermal Elongation: 200℃,less than 100%,permanent elongation $\leq 25\%$

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Tested according to

Generality of rat and termite proof wires and cables GB/T 34016-2017

Other features:

UV resistance,Ozone resistance,Acid and Alkaline resistance,Water resistance,cold/heat resistance

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	Nominal Weight kg/km
4	56 / 0.28	2.40	5.80	5.09	60
6	84 / 0.30	3.20	6.80	3.39	83





UL 11627

Standard: UL 11627

Certified by UL

CHARACTERISTICS

Voltage Rating: AC:2.0kV / DC2.0kV

Test Voltage: According to UL 4703

Temperature Rating: -40°C to +105°C

Maximum Conductor Temperature: +105°C

Service Life: 25years

Minimum Bending Radius: 4xD,when D < 8mm; 6xD,when D ≥ 8mm

Oil resistance qualified by UL758

Flame Retardant qualified by UL 1581 VW-1 flame test

DIMENSIONS

Nominal Cross Sectional Area mm ²	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm ²	Nominal Overall Diameter mm ²	conductor DC Resistance bare copper Ω/km
4	420 / 0.254	6.47	9.50	0.848
6	266 / 0.254	5.20	8.50	1.348





型号：UL 10974

电压：AC 2000V

执行标准：UL 10974

认证：UL 认证

产品特性：

环境温度	-40℃～+105℃
导体最高工作温度	105℃
使用寿命	25 年
弯曲半径	$D < 8\text{mm}, \geq 4D$; $D \geq 8\text{mm}, \geq 6D$
试验电压	UL 4703
耐油性	通过 UL 758
阻燃测试	通过 UL 1581 VW-1 燃烧测试

产品结构：

导体标称截面	导体根数/单丝直径 mm	导体绞合计算外径 mm	成品计算外径 mm	导体直流电阻 (裸铜) Ω/km
4	420/0.254	6.47	9.5	0.848
6	266/0.254	5.20	8.5	1.348

产品示意图：





UL 10974

Standard: UL 10974

Certified by UL

CHARACTERISTICS

Voltage Rating: AC:2.0kV

Test Voltage: According to UL 4703

Temperature Rating: -40°C to +105°C

Maximum Conductor Temperature: +105°C

Service Life: 25years

Minimum Bending Radius: 4xD,when D < 8mm; 6xD,when D ≥ 8mm

Oil resistance qualified by UL758

Flame Retardant qualified by UL 1581 VW-1 flame test

DIMENSIONS

Nominal Cross Sectional Area mm ²	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm ²	Nominal Overall Diameter mm ²	conductor DC Resistance bare copper Ω/km
4	420 / 0.254	6.47	9.50	0.848
6	266 / 0.254	5.20	8.50	1.348





ESL15Z3-H

Standard: 2 Pfg 2963 / 03.23

Certified by TÜV Rheinland

(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863 Passed

CHARACTERISTICS

Voltage Rating: DC:1.5kV

Test Voltage: 6.8kV,5min,without breakdown

Minimum Bending Radius: 4xD,when $D < 8\text{mm}$; 6xD,when $D \geq 8\text{mm}$

Temperature Rating: -40°C to $+90^{\circ}\text{C}$

Maximum Conductor Temperature: $+125^{\circ}\text{C}$

Short Circuit Temperature: 200°C ,5s

Service Life: 25years

Thermal Elongation: 200°C ,less than 100%,permanent elongation $\leq 25\%$

Flame Retardant according to EN 50265-2-1,IEC 60332,DIN EN60332-1-2,VDE 0482-332-1-2

Flame Retardant qualified by EN60332-1-Vertical single wire flame test

Other features:

Good chemical resistance,UV resistance,Ozone resistance,Salt mist resistance,cold/heat resistance,Acid and Alkaline resistance,LSZH

DIMENSIONS

Nominal Cross Sectional Area mm^2	No.of Cores / Diameter of one core	Nominal Diameter of stranded conductors mm^2	Nominal Overall Diameter mm^2	conductor DC Resistance,tinned copper Ω/km	current carrying capacity A in 45°C air
4	118 / 0.20	2.40	4.80	4.95	43
6	175 / 0.20	3.10	5.40	3.30	55
10	308 / 0.20	4.10	7.00	1.91	79

