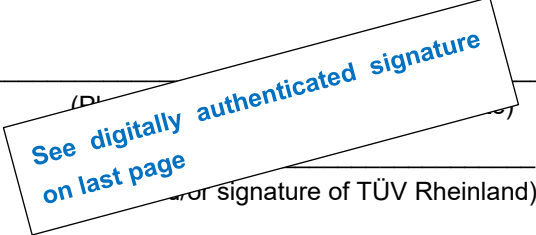
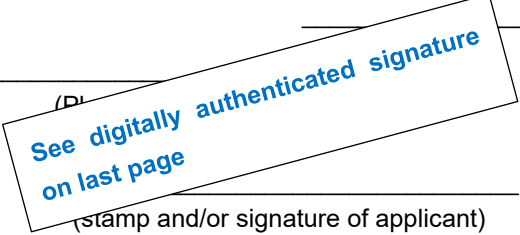


Constructional Data Form for Photovoltaic Modules

Licence holder (full address)	Gokin Solar Co., Ltd. Office 1102, No. 58 Huajin Street, Hengqin Free Trade Zone, Zhuhai, 519000 Guangdong, P.R.China	
Production factory 1 (full address)	Guangzhou Gokin Solar Technology Co., Ltd. No.2, Hejin Avenue, Automobile Industry Base, Huadu District, Guangzhou, 510800 Guangdong, P.R. China	
Production factory 2 (full address)	Sichuan Kuiyu New Energy Co., Ltd Jiutian Logistics Industrial Park, No. 20-12 Jinshan Avenue, Gusong Town, Xingwen County, Yibin City, Sichuan Province, P.R. China	
Production factory 3 (full address)	Lesso Banhao Photovoltaic New Energy Technology (Guangdong) Co., Ltd Bay Area No.1 Key & Core Technology Intellectual Manufacturing Industrial Park, No.1 Xinyu Road, Wusha Community, Daliang Subdistrict, Shunde District, Foshan City, 528300 Guangdong, P.R.China	
Type of product	Photovoltaic (PV) modules	
Trademark		
Type name or model no. (for solar cell 3)	GK-2-66HTBD-xxxM xxx = 670-735, in step of 5	GK-2-60HTBD-xxxM xxx = 610-665, in step of 5
Nominal maximum output power at STC [W]	670/675/680/685/690/695/700/705/ 710/715/720/725/730/735	610/615/620/625/630/635/640/ 645/650/655/660/665
Nominal short-circuit current at STC [A]	17.90/17.93/17.96/17.99/18.02/18.05/18.08/18.11/ 18.15/18.19/18.24/18.32/18.38/18.44	17.83/17.96/17.99/18.02/18.05/18.08/18.11/ 18.14/18.17/18.21/18.25/18.29
Nominal open-circuit voltage at STC [V]	46.50/46.70/46.90/47.10/47.30/47.50/47.90/48.68/ 48.91/49.14/49.36/49.55/49.71/49.87	42.66/42.84/43.01/43.19/43.36/43.54/43.72/ 43.90/44.08/44.26/44.44/44.62
Maximum current at STC [A]	16.86/16.89/16.92/16.95/16.98/17.01/17.04/17.07/ 7.11/17.15/17.18/17.22/17.28/17.34	16.73/16.78/16.82/16.87/16.92/16.97/17.02/17.0 7/17.12/17.17/17.22/17.27
Maximum voltage at STC [V]	39.90/40.10/40.30/40.50/40.70/40.86/41.10/41.29/ 41.50/41.69/41.91/42.10/42.25/42.39	36.46/36.66/36.88/37.06/37.24/37.42/37.60/37.7 9/37.97/38.15/38.33/38.51
Tolerance of rating at STC (Pmax / Isc / Voc) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	740/745/750/755/760/765/770/775/ 780/785/790/795/800/805	675/680/685/690/695/700/705/ 710/715/720/725/730
Nominal short-circuit current at BNPI [A]	19.72/19.75/19.77/19.80/19.83/19.85/19.88/19.92/ 19.96/20.00/20.04/20.08/20.14/20.20	19.66/19.80/19.82/19.85/19.87/19.91/19.95/ 19.99/20.03/20.07/20.11/20.15
Nominal open-circuit voltage at BNPI [V]	46.55/46.75/46.95/47.15/47.35/47.55/47.90/48.73/ 48.94/49.15/49.36/49.57/49.73/49.89	42.75/42.91/43.07/43.23/43.39/43.57/43.75/ 43.93/44.11/44.29/44.47/44.65
Maximum current at BNPI [A]	18.57/18.60/18.62/18.65/18.68/18.70/18.73/18.77/ 18.81/18.85/18.89/18.93/18.96/19.00	18.44/18.49/18.53/18.58/18.63/18.68/18.73/ 18.78/18.83/18.88/18.93/18.98
Maximum voltage at BNPI [V]	39.99/40.18/40.37/40.55/40.74/40.91/41.11/41.29/ 41.50/41.69/41.91/42.10/42.25/42.39	36.61/36.78/36.97/37.14/37.31/37.47/37.64/ 37.81/37.97/38.15/38.33/38.51
Tolerance of rating at BNPI (Pmax / Isc / Voc) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	21.95/22.03/22.05/22.08/22.10/22.18/22.21/22.25/ 22.28/22.30/22.32/22.35/22.38/22.40/22.42/22.45/22.48/22.50/22.52/22.55/22.58/22.60/22.62/22.65/22.68/22.70/22.72/22.75/22.78/22.80/22.82/22.85/22.88/22.90/22.92/22.95/22.98/23.00/23.02/23.05/23.08/23.10/23.12/23.15/23.18/23.20/23.22/23.25/23.28/23.30/23.32/23.35/23.38/23.40/23.42/23.45/23.48/23.50/23.52/23.55/23.58/23.60/23.62/23.65/23.68/23.70/23.72/23.75/23.78/23.80/23.82/23.85/23.88/23.90/23.92/23.95/23.98/24.00	21.92/22.06/22.08/22.10/22.12/22.15/22.18/22.20/22.22/22.25/22.28/22.30/22.32/22.35/22.38/22.40/22.42/22.45/22.48/22.50/22.52/22.55/22.58/22.60/22.62/22.65/22.68/22.70/22.72/22.75/22.78/22.80/22.82/22.85/22.88/22.90/22.92/22.95/22.98/23.00

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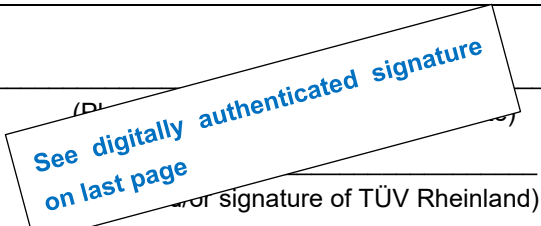
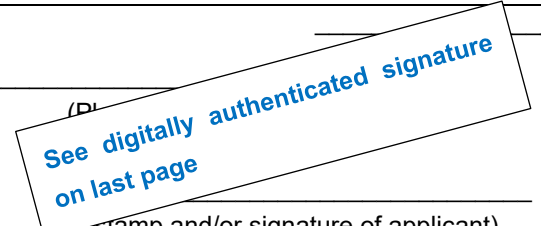
Constructional Data Form for Photovoltaic Modules

	22.29/22.33/22.37/22.41/22.45/22.49	22.21/22.24/22.27/22.31/22.35
Bifaciality coefficient for $P_{\max}$ [%]	80 ± 5	80 ± 5
Bifaciality coefficient for V_{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I_{sc} [%]	80 ± 5	80 ± 5
Dimensions (L x W x H) [mm]	2384 x 1303 x 30/33/35 2382 x 1303 x 30/33/35	2172 x 1303 x 30/33/35
Module area [m²]	3.11 / 3.10	2.83
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V_{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	no
Over-current protection rating [A]	35	35
Defined min. creepage distance [mm]	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	132	120
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	44	40
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (for solar cell 1)	GK-2-66HPBD-xxxM xxx = 650-670, in step of 5	GK-2-60HPBD-xxxM xxx = 590-610, in step of 5
Nominal maximum output power at STC [W]	650/655/660/665/670	590/595/600/605/610
Nominal short-circuit current at STC [A]	18.46/18.50/18.55/18.60/18.65	18.36/18.41/18.46/18.52/18.57
Nominal open-circuit voltage at STC [V]	45.20/45.40/45.60/45.80/46.00	41.24/41.44/41.64/41.84/42.04
Maximum current at STC [A]	17.38/17.42/17.46/17.50/17.54	17.28/17.32/17.37/17.41/17.46
Maximum voltage at STC [V]	37.40/37.60/37.80/38.00/38.20	34.15/34.35/34.55/34.75/34.95
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	710/715/720/725/730	645/650/655/660/665
Nominal short-circuit current at BNPI [A]	20.20/20.24/20.29/20.34/20.39	20.10/20.15/20.20/20.26/20.30
Nominal open-circuit voltage at BNPI [V]	45.28/45.46/45.65/45.83/46.02	41.33/41.51/41.70/41.88/42.07
Maximum current at BNPI [A]	18.93/18.97/19.01/19.04/19.08	18.83/18.87/18.91/18.95/19.00
Maximum voltage at BNPI [V]	37.51/37.69/37.87/38.08/38.26	34.25/34.45/34.64/34.83/35.00
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	22.37/22.40/22.45/22.49/22.54	22.21/22.25/22.29/22.43/22.47
Bifaciality coefficient for P _{max} [%]	70 ± 5	70 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	70 ± 5	70 ± 5
Dimensions (L x W x H) [mm]	2384 x 1303 x 30/33/35 2382 x 1303 x 30/33/35	2172 x 1303 x 30/33/35
Module area [m²]	3.11 / 3.10	2.83
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	No
Over-current protection rating [A]	35	35

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Constructional Data Form for Photovoltaic Modules

Defined min. creepage distance [mm]	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	132	120
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	44	40
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

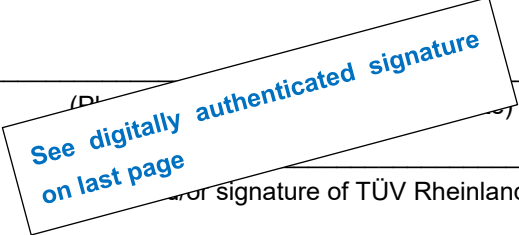
Type name or model no. (for solar cell 4)	GK-1-54HTBD-xxxM xxx = 420-455, in step of 5	GK-1-60HTBD-xxxM xxx = 465-505, in step of 5	GK-1-72HTBD-xxxM xxx = 560-605, in step of 5	GK-1-78HTBD-xxxM xxx = 610-660, in step of 5
Nominal maximum output power at STC [W]	420/425/430/435/440/445/450/455	465/470/475/480/485/490/495/500/505	560/565/570/575/580/585/590/595/600/605	610/615/620/625/630/635/640/645/650/655/660
Nominal short-circuit current at STC [A]	14.07/14.15/14.23/14.30/14.37/14.44/14.51/14.59	14.07/14.15/14.23/14.31/14.39/14.48/14.56/14.64/14.72	14.13/14.19/14.25/14.31/14.37/14.43/14.49/14.55/14.61/14.67	13.65/13.71/13.77/13.83/13.89/13.95/14.01/14.06/14.11/14.17/14.23
Nominal open-circuit voltage at STC [V]	38.11/38.30/38.49/38.68/38.87/39.06/39.25/39.44	42.22/42.38/42.54/42.71/42.86/43.02/43.18/43.34/43.50	50.67/50.87/51.07/51.27/51.47/51.67/51.87/52.07/52.27/52.47	56.27/56.44/56.61/56.78/56.95/57.12/57.29/57.47/57.63/57.79/57.95
Maximum current at STC [A]	13.33/13.41/13.49/13.57/13.65/13.73/13.81/13.89	13.33/13.41/13.49/13.57/13.65/13.73/13.81/13.89/13.97	13.35/13.41/13.48/13.55/13.62/13.69/13.76/13.83/13.90/13.96	12.98/13.05/13.12/13.19/13.25/13.31/13.37/13.42/13.48/13.54/13.60
Maximum voltage at STC [V]	31.51/31.70/31.88/32.07/32.26/32.45/32.59/32.76	34.89/35.05/35.21/35.38/35.54/35.70/35.84/36.00/36.15	41.95/42.14/42.29/42.44/42.59/42.74/42.89/43.04/43.19/43.36	47.00/47.15/47.30/47.45/47.60/47.75/47.90/48.06/48.22/48.38/48.54
Tolerance of rating at STC (P _{mp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	460/470/475/480/485/490/495/500	510/520/525/530/535/540/545/550/555	615/625/630/635/640/645/650/655/660/665	675/680/685/690/695/700/705/710/715/720/725
Nominal short-circuit current at BNPI [A]	15.44/15.60/15.68/15.75/15.82/15.88/15.95/16.03	15.45/15.60/15.68/15.76/15.84/15.93/16.01/16.09/16.17	15.52/15.64/15.70/15.76/15.82/15.88/15.94/16.00/16.06/16.11	15.02/15.08/15.14/15.20/15.26/15.32/15.38/15.44/15.50/15.56/15.62
Nominal open-circuit voltage at BNPI [V]	38.12/38.37/38.54/38.71/38.90/39.09/39.28/39.47	42.23/42.47/42.60/42.75/42.88/43.04/43.20/43.36/43.52	50.68/50.97/51.17/51.37/51.57/51.77/51.97/52.17/52.37/52.57	56.68/56.81/56.94/57.07/57.20/57.33/57.46/57.59/57.72/57.86/58.00
Maximum current at BNPI [A]	14.62/14.78/14.86/14.94/15.02/15.10/15.18/15.26	14.63/14.78/14.86/14.94/15.02/15.11/15.19/15.27/15.35	14.66/14.78/14.85/14.92/14.99/15.07/15.14/15.21/15.28/15.35	14.30/14.36/14.42/14.48/14.54/14.60/14.66/14.72/14.78/14.84/14.90
Maximum voltage at BNPI [V]	31.51/31.80/31.97/32.13/32.30/32.48/32.61/32.78	34.89/35.18/35.33/35.48/35.62/35.74/35.88/36.02/36.16	41.95/42.29/42.42/42.56/42.70/42.80/42.94/43.07/43.20/43.36	47.23/47.35/47.50/47.65/47.80/47.95/48.09/48.23/48.38/48.53/48.68
Tolerance of rating at BNPI (P _{mp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	17.21/17.38/17.45/17.52/17.59/17.74/17.81/17.89	17.29/17.37/17.45/17.53/17.68/17.78/17.86/17.94/18.00	17.33/17.39/17.51/17.57/17.63/17.69/17.81/17.87/17.93/17.99	16.74/16.80/16.86/16.92/16.98/17.10/17.16/17.22/17.28/17.34/17.40
Bifaciality coefficient for P _{max} [%]	80 ± 5	80 ± 5	80 ± 5	80 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	80 ± 5	80 ± 5	80 ± 5	80 ± 5

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Constructional Data Form for Photovoltaic Modules

Dimensions (L x W x H) [mm]	1722 x 1134 x 30/35	1903 x 1134 x 30/35 1908 x 1134 x 30/35	2278 x 1134 x 30/35	2465 x 1134 x 30/35
Module area [m²]	1.95	2.16	2.58	2.80
Class (IEC 61730-1:2023)	II	II	II	II
Maximum system voltage [V _{DC}]	1500	1500	1500	1500
Pollution degree	I	I	I	I
Qualified as cemented joint design	no	no	no	no
Over-current protection rating [A]	30	30	30	30
Defined min. creepage distance [mm]	11.0	11.0	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0	11.0	11.0
Max. operational altitude [masl]	2000	2000	2000	2000
Design load – downwards [Pa]	3600	3600	3600	3600
Design load – upwards [Pa]	1600	1600	1600	1600
Safety factor for mechanical load	1.5	1.5	1.5	1.5
Number of solar cells	108	120	144	156
Connection of cells (S, SP, PS)	SP	SP	SP	SP
Number of diodes	3	3	3	3
Cells per diode	36	40	48	52
Fire Test (acc. UL 790)	C	A	A	A

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (for solar cell 2)	GK-1-54HPBD-xxxM xxx = 405-420, in step of 5	GK-1-60HPBD-xxxM xxx = 450-465, in step of 5	GK-1-72HPBD-xxxM xxx = 540-560, in step of 5
Nominal maximum output power at STC [W]	405/410/415/420	450/455/460/465	540/545/550/555/560
Nominal short-circuit current at STC [A]	13.85/13.92/14.01/14.10	13.85/13.93/14.01/14.09	13.89/13.95/14.01/14.07/14.13
Nominal open-circuit voltage at STC [V]	37.06/37.14/37.22/37.31	41.18/41.33/41.48/41.63	49.73/49.92/50.11/50.30/50.49
Maximum current at STC [A]	13.27/13.39/13.48/13.60	13.27/13.36/13.45/13.53	13.13/13.19/13.25/13.31/13.37
Maximum voltage at STC [V]	30.52/30.62/30.79/30.88	33.91/34.06/34.20/34.37	41.13/41.32/41.51/41.70/41.89
Tolerance of rating at STC (P _{mp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	440/445/450/455	490/495/500/505	590/595/600/605/610
Nominal short-circuit current at BNPI [A]	15.12/15.19/15.28/15.37	15.13/15.21/15.30/15.38	15.20/15.26/15.32/15.38/15.44
Nominal open-circuit voltage at BNPI [V]	37.07/37.16/37.25/37.34	41.19/41.34/41.49/41.64	49.82/49.99/50.16/50.34/50.51
Maximum current at BNPI [A]	14.41/14.54/14.63/14.75	14.43/14.52/14.61/14.69	14.30/14.36/14.42/14.48/14.54
Maximum voltage at BNPI [V]	30.53/30.62/30.79/30.88	33.96/34.09/34.22/34.38	41.26/41.43/41.61/41.78/41.95
Tolerance of rating at BNPI (P _{mp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	16.71/16.86/16.95/17.04	16.73/16.81/16.97/17.05	16.80/16.86/16.92/17.04/17.10
Bifaciality coefficient for P _{max} [%]	70±5	70±5	70±5
Bifaciality coefficient for V _{oc} [%]	100±5	100±5	100±5
Bifaciality coefficient for I _{sc} [%]	70±5	70±5	70±5
Dimensions (L x W x H) [mm]	1722 x 1134 x 30/35	1903 x 1134 x 30/35 1908 x 1134 x 30/35	2278 x 1134 x 30/35
Module area [m²]	1.95	2.16	2.58
Class (IEC 61730-1:2023)	II	II	II
Maximum system voltage [V _{DC}]	1500	1500	1500
Pollution degree	I	I	I
Qualified as cemented joint design	no	no	no
Over-current protection rating [A]	30	30	30

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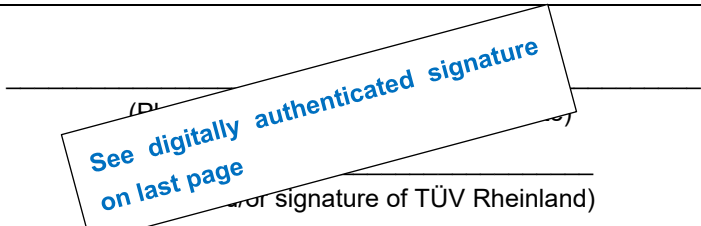
Constructional Data Form for Photovoltaic Modules

Defined min. creepage distance [mm]	11.0	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0	11.0
Max. operational altitude [masl]	2000	2000	2000
Design load – downwards [Pa]	3600	3600	3600
Design load – upwards [Pa]	1600	1600	1600
Safety factor for mechanical load	1.5	1.5	1.5
Number of solar cells	108	120	144
Connection of cells (S, SP, PS)	SP	SP	SP
Number of diodes	3	3	3
Cells per diode	36	40	48
Fire Test (acc. UL 790)	A	A	A

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (for solar cell 5)	GK-3-72HTBD -xxxM xxx = 590-620, in step of 5	GK-3-54HTBD -xxxM xxx = 440-470, in step of 5
Nominal maximum output power at STC [W]	590/595/600/605/610/615/620	440/445/450/455/460/465/470
Nominal short-circuit current at STC [A]	14.55/14.62/14.69/14.76/14.83/14.90/14.97	14.60/14.67/14.74/14.81/14.88/14.95/15.02
Nominal open-circuit voltage at STC [V]	51.30/51.47/51.64/51.81/51.98/52.15/52.32	38.50/38.67/38.84/39.01/39.18/39.35/39.52
Maximum current at STC [A]	13.64/13.71/13.78/13.85/13.92/13.99/14.06	13.60/13.68/13.76/13.84/13.93/14.02/14.11
Maximum voltage at STC [V]	43.28/43.43/43.58/43.73/43.88/44.02/44.16	32.42/32.58/32.73/32.89/33.04/33.19/33.34
Tolerance of rating at STC (P _{mpp} / I _{sc} / Voc) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	650/655/660/665/675/680/685	485/490/495/500/505/510/520
Nominal short-circuit current at BNPI [A]	16.01/16.08/16.15/16.22/16.35/16.42/16.49	16.07/16.14/16.21/16.27/16.34/16.41/16.56
Nominal open-circuit voltage at BNPI [V]	51.30/51.47/51.64/51.81/52.09/52.26/52.43	38.51/38.69/38.86/39.03/39.20/39.37/39.60
Maximum current at BNPI [A]	15.00/15.08/15.15/15.22/15.35/15.42/15.49	14.96/15.04/15.12/15.20/15.30/15.39/15.55
Maximum voltage at BNPI [V]	43.33/43.46/43.59/43.73/44.02/44.15/44.27	32.46/32.61/32.74/32.89/33.04/33.19/33.45
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / Voc) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	17.88/17.95/18.02/18.10/18.23/18.30/18.37	17.87/18.02/18.09/18.15/18.22/18.37/18.43
Bifaciality coefficient for P _{max} [%]	80 ± 5	80 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	80 ± 5	80 ± 5
Dimensions (L x W x H) [mm]	2382 x 1134 x 30/35	1800 x 1134 x 30/35
Module area [m²]	2.70	2.04
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	no
Over-current protection rating [A]	30	30

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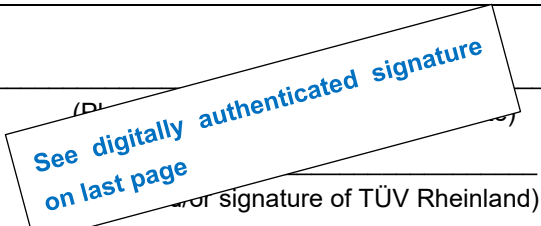
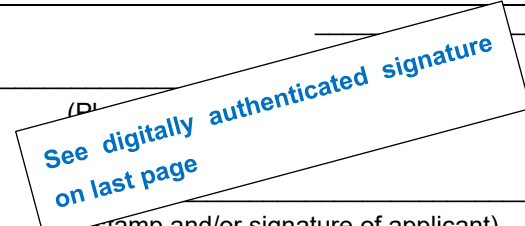
Constructional Data Form for Photovoltaic Modules

Defined min. creepage distance [mm]	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	144	108
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	48	36
Fire Test (acc. UL 790)	A	C

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Constructional Data Form for Photovoltaic Modules

Type name or model no.	GK-4-78HTBD-xxxM xxx = 720-750, in step of 5 (for solar cell 10)	GK-4-54HTBD-xxxM xxx = 480-520, in step of 5 (for solar cell 6)
Nominal maximum output power at STC [W]	720/725/730/735/740/745/750	480/485/490/495/500/505/510/515/520
Nominal short-circuit current at STC [A]	16.06/16.12/16.18/16.24/16.30/16.36/16.42 16.14	15.62/15.68/15.74/15.81/15.88/15.95/16.02/16.08 16.14
Nominal open-circuit voltage at STC [V]	56.77/56.92/57.07/57.22/57.37/57.52/57.67	39.21/39.41/39.61/39.81/40.02/40.22/40.42/40.62 40.82
Maximum current at STC [A]	15.17/15.23/15.29/15.36/15.42/15.48/15.54	14.89/14.95/15.01/15.07/15.13/15.19/15.25/15.31 /15.37
Maximum voltage at STC [V]	47.47/47.60/47.73/47.86/47.99/48.12/48.25	32.25/32.45/32.65/32.85/33.05/33.25/33.45/33.64 /33.84
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	790/795/800/805/810/815/820	530/535/540/545/550/555/560/565/570
Nominal short-circuit current at BNPI [A]	17.63/17.69/17.75/17.81/17.87/17.93/17.99	17.23/17.28/17.34/17.41/17.47/17.53/17.59/17.64 17.70
Nominal open-circuit voltage at BNPI [V]	56.77/56.92/57.07/57.22/57.37/57.52/57.67	39.21/39.41/39.61/39.81/40.02/40.22/40.42/40.62 40.82
Maximum current at BNPI [A]	16.64/16.69/16.75/16.81/16.87/16.93/16.99	16.42/16.48/16.54/16.59/16.64/16.69/16.74/16.80 /16.86
Maximum voltage at BNPI [V]	47.49/47.62/47.75/47.88/48.01/48.14/48.27	32.28/32.47/32.65/32.85/33.05/33.25/33.45/33.64 /33.84
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	19.54/19.60/19.66/19.72/19.78/19.84/19.90	19.17/19.22/19.27/19.32/19.37/19.42/19.47/19.51 /19.56
Bifaciality coefficient for P _{max} [%]	80 ± 5	80 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	80 ± 5	80 ± 5
Dimensions (L x W x H) [mm]	2465 x 1303 x 30/33/35 2450 x 1303 x 30/33/35	1961 x 1134 x 30/35
Module area [m²]	3.21/3.19	2.22
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	no

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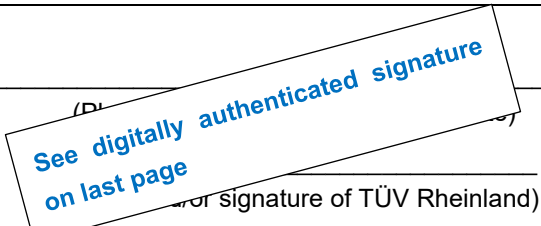
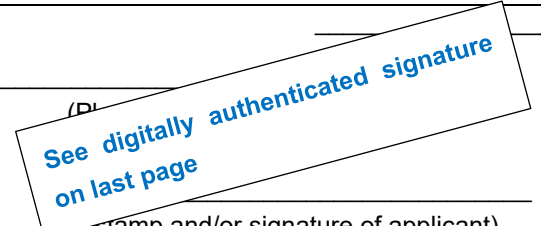
Constructional Data Form for Photovoltaic Modules

Over-current protection rating [A]	35	35
Defined min. creepage distance [mm]	12.0	12.0
Defined min. clearance distance [mm]	12.0	12.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	156	108
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	52	36
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

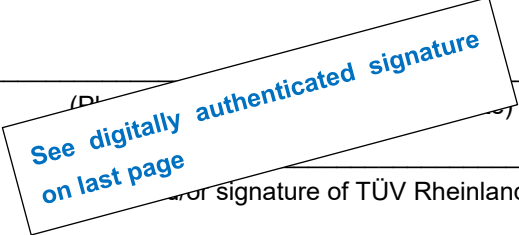
Type name or model no. (for solar cell 6)	GK-4-66HTBD-xxxM xxx = 590-640, in step of 5	GK-4-48HTBD-xxxM xxx = 425-465, in step of 5
Nominal maximum output power at STC [W]	590/595/600/605/610/615/620/625/630/635/640	425/430/435/440/445/450/455/460/465
Nominal short-circuit current at STC [A]	15.79/15.86/15.93/16.00/16.07/16.14/16.21/16.28/ 16.35/16.42/16.49	15.73/15.80/15.87/15.94/16.01/16.08/16.15/16.21/ 16.28
Nominal open-circuit voltage at STC [V]	47.32/47.49/47.66/47.83/48.00/48.17/48.34/48.51/ 48.68/48.85/49.02	34.38/34.55/34.72/34.89/35.06/35.23/35.40/35.60/ 35.80
Maximum current at STC [A]	14.88/14.96/15.03/15.10/15.18/15.25/15.33/15.41/ 15.48/15.55/15.62	14.66/14.74/14.82/14.90/14.98/15.05/15.13/15.19/ 15.26
Maximum voltage at STC [V]	39.67/39.81/39.95/40.09/40.22/40.35/40.48/40.63/ 40.73/40.85/40.98	29.00/29.18/29.36/29.54/29.72/29.90/30.08/30.28/ 30.48
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	650/655/660/665/675/680/685/690/695/700/705	465/470/475/480/485/490/495/505/510
Nominal short-circuit current at BNPI [A]	17.37/17.44/17.51/17.58/17.72/17.79/17.97/18.05/ 18.12/18.19/18.26	17.37/17.44/17.51/17.58/17.65/17.72/17.79/17.85/ 17.91
Nominal open-circuit voltage at BNPI [V]	47.32/47.49/47.66/47.83/48.10/48.27/48.44/48.61/ 48.78/48.95/49.12	34.41/34.58/34.75/34.92/35.09/35.26/35.43/35.60/ 35.80
Maximum current at BNPI [A]	16.37/16.45/16.52/16.59/16.74/16.81/16.89/16.97/ 17.04/17.11/17.18	16.10/16.19/16.27/16.35/16.43/16.50/16.55/16.66/ 16.73
Maximum voltage at BNPI [V]	39.71/39.84/39.96/40.09/40.35/40.47/40.58/40.73/ 40.81/40.93/41.06	29.00/29.18/29.36/29.54/29.72/29.90/30.08/30.30/ 30.49
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	19.41/19.48/19.55/19.62/19.75/19.82/20.02/20.09/ 20.16/20.23/20.30	19.02/19.10/19.18/19.26/19.34/19.42/19.48/19.56/ 19.63
Bifaciality coefficient for P _{max} [%]	80 ± 5	80 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	80 ± 5	80 ± 5
Dimensions (L x W x H) [mm]	2382 x 1134 x 30/35	1762 x 1134 x 30/35
Module area [m²]	2.70	2.00
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	no

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Constructional Data Form for Photovoltaic Modules

Over-current protection rating [A]	35	35
Defined min. creepage distance [mm]	11.0	11.0
Defined min. clearance distance [mm]	11.0	11.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	132	96
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	44	32
Fire Test (acc. UL 790)	A	C

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (mono c-Si BC 20BB)	GK-1-78HGBD-xxxM xxx = 655-685, in step of 5 (for solar cell 7)	GK-3-72HGBD-xxxM xxx = 635-665, in step of 5 (for solar cell 8)
Nominal maximum output power at STC [W]	655/660/665/670/675/680/685	635/640/645/650/655/660/665
Nominal short-circuit current at STC [A]	14.21/14.28/14.35/14.42/14.49/14.56/14.64	14.88/14.94/15.00/15.06/15.12/15.18/15.24
Nominal open-circuit voltage at STC [V]	58.74/58.80/58.86/58.92/58.98/59.04/59.10	53.70/53.80/53.90/54.00/54.10/54.20/54.30
Maximum current at STC [A]	13.48/13.57/13.65/13.74/13.82/13.91/14.00	14.12/14.20/14.27/14.35/14.43/14.51/14.59/14.67
Maximum voltage at STC [V]	48.61/48.67/48.73/48.79/48.85/48.91/48.97	45.00/45.10/45.20/45.30/45.40/45.50/45.60/45.70
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	715/720/725/730/735/740/745	690/695/700/705/710/715/720
Nominal short-circuit current at BNPI [A]	15.50/15.55/15.63/15.69/15.77/15.83/15.89	16.13/16.21/16.29/16.37/16.45/16.53/16.61
Nominal open-circuit voltage at BNPI [V]	58.74/58.80/58.86/58.92/58.98/59.04/59.10	53.70/53.80/53.90/54.00/54.10/54.20/54.30
Maximum current at BNPI [A]	14.70/14.78/14.87/14.95/15.04/15.12/15.20	15.34/15.42/15.49/15.57/15.64/15.71/15.79/15.87
Maximum voltage at BNPI [V]	48.66/48.72/48.78/48.84/48.90/48.96/49.02	45.00/45.10/45.20/45.30/45.40/45.50/45.60/45.70
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	16.79/16.86/16.93/17.00/17.07/17.14/17.21	17.72/17.80/17.88/17.96/18.04/18.12/18.20/18.28
Bifaciality coefficient for P _{max} [%]	70 ± 5	70 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	70 ± 5	70 ± 5
Dimensions (L x W x H) [mm]	2465×1134×35/33/30	2382×1134×35/33/30
Module area [m²]	2.80	2.70
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	no	no
Over-current protection rating [A]	30	30

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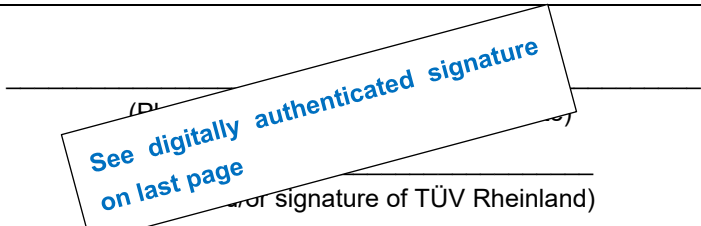
Constructional Data Form for Photovoltaic Modules

Defined min. creepage distance [mm]	12.0	12.0
Defined min. clearance distance [mm]	12.0	12.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	156	144
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	52	48
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (mono c-Si BC 20BB)	GK-1-60HGBD-xxxM GK-1-60HGDb-xxxM xxx = 500-530, in step of 5 (for solar cell 7)	GK-3-54HGDb-xxxM GK-3-54HGBD-xxxM xxx = 470-500, in step of 5 (for solar cell 8)
Nominal maximum output power at STC [W]	500/505/510/515/520/525/530	470/475/480/485/490/495/500
Nominal short-circuit current at STC [A]	14.05/14.11/14.17/14.23/14.29/14.35/14.41	14.82/14.89/14.96/15.03/15.10/15.17/15.24
Nominal open-circuit voltage at STC [V]	45.02/45.12/45.22/45.32/45.42/45.52/45.62	40.50/40.63/40.76/40.89/41.02/41.15/41.28
Maximum current at STC [A]	13.20 /13.30 /13.39 /13.49 /13.58 /13.68 /13.77	13.98/14.09/14.19/14.30/14.40/14.50/14.60
Maximum voltage at STC [V]	37.90 /38.00 /38.10 /38.20 /38.30 /38.40 /38.50	33.64/33.74/33.84/33.94/34.04/34.14/34.24
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	525/530/535/540/545/550/555	510/515/520/525/530/535/540
Nominal short-circuit current at BNPI [A]	14.84/14.91/14.98/15.05/15.12/15.19/15.26	15.96/16.06/16.16/16.26/16.36/16.46/16.56
Nominal open-circuit voltage at BNPI [V]	45.02/45.12/45.22/45.32/45.42/45.52/45.62	40.53/40.63/40.73/40.83/40.93/41.03/41.13
Maximum current at BNPI [A]	13.86 /13.95 /14.05 /14.14 /14.23 /14.33 /14.42	15.17/15.27/15.37/15.47/15.57/15.67/15.77
Maximum voltage at BNPI [V]	37.90 /38.00 /38.10 /38.20 /38.30 /38.40 /38.50	33.65/33.75/33.85/33.95/34.05/34.15/34.25
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	15.73/15.77/15.83/15.88/15.94/15.98/16.04	17.64/17.72/17.80/17.88/17.96/18.04/18.12
Bifaciality coefficient for P _{max} [%]	70 ± 5	70 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	70 ± 5	70 ± 5
Dimensions (L x W x H) [mm]	1907×1134×35 1907×1134×33 1907×1134×30	1800×1134×35 1800×1134×33 1800×1134×30
Module area [m²]	2.16	2.04
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I

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Constructional Data Form for Photovoltaic Modules

Qualified as cemented joint design	no	no
Over-current protection rating [A]	30	30
Defined min. creepage distance [mm]	12.0	12.0
Defined min. clearance distance [mm]	12.0	12.0
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	120	108
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	40	36
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

Type name or model no. (mono c-Si BC 20BB)	GK-5-60HGBD-xxxM GK-5-60HGDb-xxxM xxx = 495-540, in step of 5 (for solar cell 9)	GK-5-54HGBD-xxxM GK-5-54HGDb-xxxM xxx = 445-485, in step of 5 (for solar cell 9)
Nominal maximum output power at STC [W]	495/500/505/510/515/520/525/530/535/540	445/450/455/460/465/470/475/480/485
Nominal short-circuit current at STC [A]	13.99/14.05/14.11/14.17/14.23/14.29/14.35/14.41/14.47/14.53	14.02/14.12/14.22/14.25/14.29/14.32/14.36/14.41/14.47
Nominal open-circuit voltage at STC [V]	44.92/45.02/45.12/45.22/45.32/45.42/45.52/45.62/45.72/45.82	40.88/40.94/41.00/41.06/41.12/41.18/41.24/41.30/41.36
Maximum current at STC [A]	13.10/13.20/13.30/13.39/13.49/13.58/13.68/13.77/13.86/13.95	12.80/12.93/13.05/13.17/13.29/13.41/13.54/13.66/13.78/13.90
Maximum voltage at STC [V]	37.80/37.90/38.00/38.10/38.20/38.30/38.40/38.50/38.60/38.70	34.38/34.44/34.50/34.56/34.62/34.68/34.74/34.80/34.86/34.92
Tolerance of rating at STC (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Nominal maximum output power at BNPI [W]	520/525/530/535/540/545/550/555/560/565	465/470/475/480/485/490/495/500/505
Nominal short-circuit current at BNPI [A]	14.77/14.84/14.91/14.98/15.05/15.12/15.19/15.26/15.33/15.40	14.63/14.73/14.83/14.93/15.03/15.13/15.23/15.33/15.43
Nominal open-circuit voltage at BNPI [V]	44.92/45.02/45.12/45.22/45.32/45.42/45.52/45.62/45.72/45.82	40.88/40.94/41.00/41.06/41.12/41.18/41.24/41.30/41.36
Maximum current at BNPI [A]	13.80/13.86/13.95/14.05/14.14/14.23/14.32/14.42/14.51/14.60	13.38/13.51/13.63/13.75/13.87/13.99/14.11/14.23/14.35/14.47
Maximum voltage at BNPI [V]	37.80/37.90/38.00/38.10/38.20/38.30/38.40/38.50/38.60/38.70	34.38/34.44/34.50/34.56/34.62/34.68/34.74/34.80/34.86/34.92
Tolerance of rating at BNPI (P _{mpp} / I _{sc} / V _{oc}) [%]	±3 / ±3 / ±3	±3 / ±3 / ±3
Short-circuit current at BSI [A]	15.69/15.73/15.77/15.83/15.88/15.94/15.98/16.04/16.09/16.14	15.50/15.58/15.68/15.78/15.80/15.82/15.83/15.86/15.90/15.95
Bifaciality coefficient for P _{max} [%]	70 ± 5	70 ± 5
Bifaciality coefficient for V _{oc} [%]	100 ± 5	100 ± 5
Bifaciality coefficient for I _{sc} [%]	70 ± 5	70 ± 5
Dimensions (L x W x H) [mm]	1954×1134×35 1954×1134×33 1954×1134×30	1757/1762×1134×35 1757/1762×1134×33 1757/1762×1134×30
Module area [m²]	2.22	1.99/2.00
Class (IEC 61730-1:2023)	II	II
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I

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Constructional Data Form for Photovoltaic Modules

Qualified as cemented joint design	no	no
Over-current protection rating [A]	30	30
Defined min. creepage distance [mm]	12	12
Defined min. clearance distance [mm]	12	12
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600
Safety factor for mechanical load	1.5	1.5
Number of solar cells	120	108
Connection of cells (S, SP, PS)	SP	SP
Number of diodes	3	3
Cells per diode	40	36
Fire Test (acc. UL 790)	A	A

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Constructional Data Form for Photovoltaic Modules

Copy of marking plate

 高景太阳能 Gokin Solar	Type: GK-1-72HTBD-590M			Power Rating [W] 30-35 Maximum series fuse [A] 30 Maximum system voltage [V] 1500 Min.Design Load [Pa] +3600/-1600 Module [T_{all}] max[°C] 70 Bifaciality coefficient: @Pmax=40±5%, @Isc=40±5%, @Voc=100±5% Connector Manufacturer: Gokin Solar Co., Ltd. Connector Type: PV-GK01		Safety Information   WARNING-ELECTRICAL HAZARD This unit produces electricity when exposed to sunlight. Do not disconnect under load! Tested to IEC 61215:2021 and IEC 61730:2023  Gokin Solar Co., Ltd. Office 1102, No. 58 Huijin Street, Hengjin Free Trade Zone 519000 Zhushan, Guangdong Province, PEOPLE'S REPUBLIC OF CHINA Made in China in 2024.9.30
	Maximum Power (P _{max}) [W]	STC	BNPL	BSI		
	Maximum Power Voltage (V _{pm}) [V]	42.89	42.94			
	Maximum Power Current (I _{pm}) [A]	13.76	15.14			
	Open Circuit Voltage (V _{oc}) [V]	51.87	51.97			
	Short Circuit Current (I _{sc}) [A]	14.49	15.94	17.81		
	Tolerance of P_{max}, I_{sc} and I_{sc} is ±3% STC: front 1000W/m², AM1.5, Cell 25°C; BNPL: front 1000W/m², rear 1350W/m²; BSF: front 1000W/m², rear 1000W/m²					

Marking plate is in compliance with IEC 61215:2021 and IEC 61730:2023.

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Constructional Data Form for Photovoltaic Modules

List of critical components (add lines for multiple material sources)

Object	Manufacturer	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Solar cell 1	Gokin Solar Co., Ltd.	GK-210M-12D1	Technology: Bifacial PERC mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 210x105x0.160 Number of busbars: 12	—	—
Solar cell 2	Gokin Solar Co., Ltd.	GK-182M-10D1	Technology: Bifacial PERC mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 182x91x0.160 Number of busbars: 10	—	—
Solar cell 3	Gokin Solar Co., Ltd.	GK-210T-18D1	Technology: Bifacial N type Topcon Mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 210x105x0.130 Number of busbars: 18	—	—
Solar cell 4	Gokin Solar Co., Ltd.	GK-182T-16D1	Technology: Bifacial N type Topcon Mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 182.2x91.875x0.130 182x91x0.130 Number of busbars: 16	—	—
Solar cell 5	Gokin Solar Co., Ltd.	GK-182R-16D1	Technology: Bifacial N type Topcon Mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 182.2x95.8x0.130 Number of busbars: 16	—	—
Solar cell 6	Gokin Solar Co., Ltd.	GK-210R-16D1	Technology: Bifacial N type Topcon Mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 182x105x0.130 Number of busbars: 16	—	—
Solar cell 7	Gokin Solar Co., Ltd.	GK-184G-20D1	Technology: Mono BC c-Si L (±0.25) x W (±0.25) x T (±0.015) [mm]: 182.2x184x0.120 Number of busbars: 20	—	—
Solar cell 8	Gokin Solar Co., Ltd.	GK-192G-20D1	Technology: Mono BC c-Si L (±0.25) x W (±0.25) x T (±0.015) [mm]: 182.2x192.5x0.125	—	—

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			Number of busbars: 20		
Solar cell 9	Gokin Solar Co., Ltd.	GK-188G-20D1	Technology: Mono BC c-Si L (±0.25) x W (±0.25) x T (±0.015) [mm]: 182.2x187.75x0.125 Number of busbars: 20	—	—
Solar cell 10	Gokin Solar Co., Ltd.	GK-210R-18D1	Technology: Bifacial N type Topcon Mono c-Si L (±0.5) x W (±0.5) x T (±10%) [mm]: 210x91x0.130 Number of busbars: 18	—	—
Front cover 1	Flat Glass Group Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 2.0 Surface treatment: AR Coating Tempering method: Semi-tempered	EN 12150	—
			Thickness [mm]: 1.6 Surface treatment: AR Coating Tempering method: Semi-tempered Only used in: 1.GK-1-54HTBD-xxxM 2.GK-3-54HTBD-xxxM 3.GK-4-48HTBD-xxxM	EN 12150	—
Front cover 2	GUANGXI XINFUXING SILICON TECHNOLOGY CO., LTD	AR coating Semi-tempered glass	Thickness [mm]: 2.0 Surface treatment: AR Coating Tempering method: Semi-tempered	EN 12150	—
Front cover 3	Dongguan CSG Solar Glass Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 2.0 Surface treatment: AR Coating Tempering method: Semi-tempered	EN 12150	—
Front cover 4	Gokin Solar Co., Ltd. Manufactured by: 1.Flat Glass Group Co., Ltd. 2.GUANGXI XINFUXING SILICON TECHNOLOGY CO., LTD 3. Dongguan CSG Solar Glass Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 2.0 Surface treatment: AR Coating Tempering method: Semi-tempered	EN 12150	—

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	4. Jiangxi Ganyue New Material Co., Ltd. 5. Beihai Changli New Material Technology Co., Ltd.				
	Gokin Solar Co., Ltd. Manufactured by: 1.Flat Glass Group Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 1.6 Surface treatment: AR Coating Tempering method: Semi-tempered Only used in: 1.GK-1-54HTBD-xxxM 2.GK-3-54HTBD-xxxM 3.GK-4-48HTBD-xxxM	EN 12150	—
Front cover 5	Jiangxi Ganyue New Material Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 2.0 Surface treatment: AR Coating Tempering method: Semi-tempered	EN 12150	—
Front cover 6	Beihai Changli New Material Technology Co., Ltd.	AR coating Semi-tempered glass	Thickness [mm]: 2.0	EN 12150	—
Backside cover 1	Flat Glass Group Co., Ltd.	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid	EN 12150	—
			Thickness[mm]: 1.6 Color: transparent Only used in: 1.GK-1-54HTBD-xxxM 2.GK-3-54HTBD-xxxM 3.GK-4-48HTBD-xxxM	EN 12150	—
Backside cover 2	GUANGXI XINFUXING SILICON TECHNOLOGYCO., LTD	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid or black ceramic grid	EN 12150	—
Backside cover 3	Dongguan CSG Solar Glass Co., Ltd.	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid	EN 12150	—
Backside cover 4	Gokin Solar Co., Ltd. Manufactured by: 1.Flat Glass Group Co., Ltd.	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid or black ceramic grid	EN 12150	—

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	2.GUANGXI XINFUXING SILICON TECHNOLOGY CO., LTD 3. Dongguan CSG Solar Glass Co., Ltd. 4. Jiangxi Ganyue New Material Co., Ltd. 5. Beihai Changli New Material Technology Co., Ltd.				
	Gokin Solar Co., Ltd. Manufactured by: 1. Flat Glass Group Co., Ltd.	Semi-tempered photovoltaic glass	Thickness[mm]: 1.6 Color: transparent Only used in: 1.GK-1-54HTBD-xxxM 2.GK-3-54HTBD-xxxM 3.GK-4-48HTBD-xxxM	EN 12150	—
Backside cover 5	Jiangxi Ganyue New Material Co., Ltd.	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid or black ceramic grid	EN 12150	—
Backside cover 6	Beihai Changli New Material Technology Co., Ltd.	Semi-tempered photovoltaic glass	Thickness [mm]: 2.0 Color: transparent or white ceramic grid	EN 12150	—
Cell connector 1	Gokin Solar Co., Ltd. Manufactured by: 1. Suzhou YourBest New- type Materials Co., Ltd. 2. Jiangsu Weiteng New Materials Technology Co., Ltd. 3. Tony Share (Suzhou) Electronic Materials Technology Co., Ltd. 4. Jiangsu Telison New Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: $\Phi 0.24/$ 0.26/ 0.27/ 0.28/ 0.29/ 0.30/ 0.31/ 0.32 0.25×0.6mm Composition of alloy: Base material Cu $\geq 99.97\%$	—	—

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Constructional Data Form for Photovoltaic Modules

Cell connector 2	Suzhou YourBest New-type Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: $\Phi 0.24/$ $0.26/ 0.27/ 0.28/ 0.29/ 0.30/$ $0.31/ 0.32$ $0.25 \times 0.6 \text{ mm}$ Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
Cell connector 3	Jiangsu Weiteng New Materials Technology Co., Ltd.	Sn60Pb40	Dimensions [mm]: $\Phi 0.24/$ $0.26/ 0.27/ 0.28/ 0.29/ 0.30/$ $0.31/ 0.32$ Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
Cell connector 4	Tony Share (Suzhou) Electronic Materials Technology Co., Ltd.	Sn60Pb40	Dimensions [mm]: $\Phi 0.24/$ $0.26/ 0.27/ 0.28/ 0.29/ 0.30/$ $0.31/ 0.32$ Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
Cell connector 5	Jiangsu Telison New Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: $0.25 \times 0.6 \text{ mm}$ Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
String connector 1	Gokin Solar Co., Ltd. Manufactured by: 1. Suzhou YourBest New-type Materials Co., Ltd. 2. Jiangsu Weiteng New Materials Technology Co., Ltd. 3. Tony Share (Suzhou) Electronic Materials Technology Co., Ltd. 4. Jiangsu Telison New Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: $4 \times 0.3/$ $4 \times 0.4/ 4 \times 0.35/ 6 \times 0.35/$ $7 \times 0.35/ 4 \times 0.35/ 6 \times 0.35$ Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
String connector 2	Suzhou YourBest New-type Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: $4 \times 0.3/$ $4 \times 0.4/ 4 \times 0.35/ 6 \times 0.35/$ 7×0.35 Composition of alloy: Base material Cu $\geq 99.97\%$	—	—
String connector 3	Jiangsu Weiteng New Materials Technology Co., Ltd.	Sn60Pb40	Dimensions [mm]: $4 \times 0.3/$ $4 \times 0.4/ 4 \times 0.35/ 6 \times 0.35/$ 7×0.35	—	—

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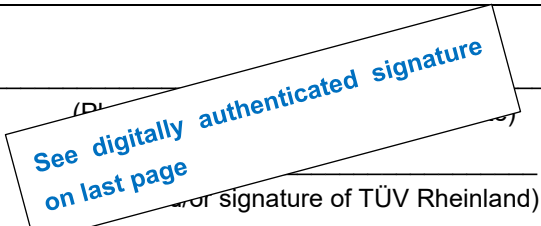
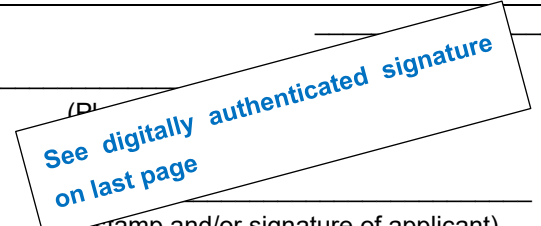
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Constructional Data Form for Photovoltaic Modules

			Composition of alloy: Base material Cu ≥99.97%		
String connector 4	Tony Share (Suzhou) Electronic Materials Technology Co., Ltd.	Sn60Pb40	Dimensions [mm]: 4x0.3/ 4x0.4/ 4x0.35/ 6x0.35/ 7x0.35 Composition of alloy: Base material Cu ≥99.97%	—	—
String connector 5	Jiangsu Telison New Materials Co., Ltd.	Sn60Pb40	Dimensions [mm]: 4x0.3/ 4x0.4/ 4x0.35/ 6x0.35/ 7x0.35 Composition of alloy: Base material Cu ≥99.97%	—	—
Fluxing agent 1	Shenzhen Vital New Material Company Limited	WTO-PV107	—	—	—
Fluxing agent 2	Shenzhen Embrace Glory Electronics Material Co., Ltd	8000T20	—	—	—
Fluxing agent 3	SHENZHEN TONGFANG ELECTRONIC NEW MATERIAL CO., LTD	AATF9800	—	—	—
Fluxing agent 4	Zhejiang QLG Holdings Co.,Ltd.	QL-F501HF	—	—	—
Cell fixing tape 1	3M China Limited	UV-1	Dimensions [mm]: 0.06	—	—
Cell fixing tape 2	Lu Qin New Materials Technology (Jiangsu) Co., Ltd.	D60F6-2	Dimensions [mm]: 0.065/0.13	—	—
Cell fixing tape 3	Shanghai Hyperion Adhesive Material Co.,Ltd.	9966	Dimensions [mm]: 0.06	—	—
Solder paste 1	Shenzhen Vital New Material Co., Ltd.	GW9098-GF	Sn63Pb37	—	—
Solder paste 2	Beijing RTAX Technology Co., Ltd.	SNP146S	Sn63Pb37	—	—
Bonding tape 1	SHENZHEN RONGDA PHOTSENSITIVE SCIENCE&TECHNOLOGY CO., LTD.	THW-5DN207	Hardness: ≥5H Curing condition: 120-130C, 20-25min Colour is green	—	—
Bonding tape 2	XIAMEN HOWER MATERIAL CO., LTD.	RT-2	Hardness: ≥6H Curing condition: 110 or 200C, 20 or 5min Colour is green		

Junction box combination 1

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Junction box	Ningbo Minghe New Energy Technology Co., Ltd.	MH2z (z=3, 3B, 4 or 4B)	Max. voltage [V]: 1500 Max. current [A]: 30 RTI [°C]: 110	IEC 62790:2020	No.: R 50527916
Bypass diode 1	Yangzhou Yangjie Electronic Co., Ltd.	30SQ045-SL	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 2	Yangzhou Yangjie Electronic Co., Ltd.	40SQ045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Cable 1	Wuxi Xinhongye Wire&Cable Co., Ltd.	62930 IEC131 1*4mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50439595
Cable 2	Ningbo Kibor Wire&CableCo., Ltd	62930 IEC131 1*4mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50413678
Cable 3	Xinya Electronic Co., Ltd.	62930 IEC131 1*4mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50484553
Connector 1	Ningbo Minghe New Energy Technology Co., Ltd.	PV-MH5	Max. voltage [V]: 1500 Max. current [A]: 41	IEC 62852:2014 + Amd. 1:2020	No.: R 50528808
Connector 2	Stäubli Electrical connectors AG	PV-KST4-EVO2/xy_UR; PV-KBT4-EVO2/xy_UR	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Adhesive 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SKF323-AB	white or black	—	—
Potting material 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—

Junction box combination 2

Junction box	QC Solar (Suzhou) Corporation	3Qxy(x=1, 2, 3, 4 or 5; y=1, 2, 3, 5, 6 or 7) ; 3Qxy(x=1, 3 or 4; y=4) ; 3Qxy(x=6, 7 or 8; y=1, 2 or 3) ; 3Qxy(x=9; y=5); 3Qxy(x=3 or 4, y=8).	Max. voltage [V]: 1500 Rated current [A]: 35A for (x=5); 32A for (x=6); 30A for (x=4); 28,5A for (x=7); 25A for (x=3); 22A for (x=2); 20A for (x=1); 18A for (x=8); 10A for (x=9) Reverse Current : 55A RTI [°C]: 110	IEC 62790:2020	No.: R 50510013
Bypass diode 1	QC Solar (Suzhou) Corporation	QCMK4045	Max. diode current [A]: 40 T _j [°C]: 200	—	—

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Bypass diode 2	QC Solar (Suzhou) Corporation	QCMK4045B	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 3	QC Solar (Suzhou) Corporation	QCMK5045	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 4	QC Solar (Suzhou) Corporation	30SQ050A	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 5	QC Solar (Suzhou) Corporation	40SQ045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 6	QC Solar (Suzhou) Corporation	QCM4045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 7	QC Solar (Suzhou) Corporation	QCM5045	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 8	QC Solar (Suzhou) Corporation	QCM5045B	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 9	QC Solar (Suzhou) Corporation	QCM6045	Max. diode current [A]: 60 T _j [°C]: 200	—	—
Cable 1	QC Solar (Suzhou) Corporation	H1Z2Z2-K, 1*4mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50348871
Cable 2	QC Solar (Suzhou) Corporation	62930 IEC131 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No.: TÜV SÜD B 0773620010 Rev.08
Cable 3	QC Solar (Suzhou) Corporation	62930 IEC 131 1x4mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50447239
Connector 1	QC Solar (Suzhou) Corporation	QC4.10-cds	Max. voltage [V]: Max. current [A]:	IEC 62852:2014 + Amd. 1:2020	No.: R 50505605
Connector 2	QC Solar (Suzhou) Corporation	QC4.10-ab	Max. voltage [V]: Max. current [A]:	IEC 62852:2014 + Amd. 1:2020	No.: TÜV SÜD B 0773620004 Rev.05
Connector 3	QC Solar (Suzhou) Corporation	QC4	Max. voltage [V]: Max. current [A]:	IEC 62852:2014 + Amd. 1:2020	No. R 50188687
Connector 4	Changshu Tlian Co., Ltd.	T4-PPE-1	Max. voltage [V]: 1500 Max. current [A]: 32	IEC 62852:2014 + Amd. 1:2020	No. TÜV SÜD B 002626 0003 Rev.00
Connector 5	Changshu Tlian Co., Ltd.	T4-PC-1	Max. voltage [V]: 1500 Max. current [A]: 32	IEC 62852:2014 + Amd. 1:2020	No. TÜV SÜD B 002626 0003 Rev.00
Connector 6	Tyco Electronics Austria GmbH.	PV4-Syx; PV4-Slyx	Max. voltage [V]: 1500 Max. current [A]: 40	IEC 62852:2014 + Amd. 1:2020	No. R 60148776
Connector 7	Stäubli Electrical connectors AG	PV-KST4-EVO2/xy; PV-KBT4-EVO2/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No. R 60127169
Connector 8	Stäubli Electrical connectors AG	PV-KST4-EVO2A/xy; PV-KBT4-EVO2A/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No. R 60127169

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Constructional Data Form for Photovoltaic Modules

Adhesive 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SKF323-AB	white or black	—	—
Potting material 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—

Junction Box Combination 3

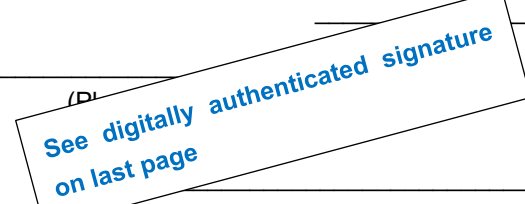
Junction box	Jiangxi Jinko PV Material Co., Ltd.	PV-JK09Exy (x=R2, y=3 or 4)	Max. voltage [V]: 1500 Max. current [A]: 30 RTI [°C]: 110	IEC 62790:2020	No.: R 50525963
Bypass diode 1	Jiangxi Jinko PV Material Co., Ltd.	TPA4050U-2	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 2	Jiangxi Jinko PV Material Co., Ltd.	TPA4050U-3	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 3	Jiangxi Jinko PV Material Co., Ltd.	TPA3550U	Max. diode current [A]: 35 T _j [°C]: 200	—	—
Cable 1	RUIXU INDUSTRY CO., Ltd.	62930 IEC 131 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. TÜV SÜD B 1132510001 Rev.00
Cable 2	RUIXU INDUSTRY CO., Ltd.	H1Z2Z2-K 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. TÜV SÜD B 1132510001 Rev.00
Cable 3	SUZHOU YONGHAO CABLE CO., LTD.	62930 IEC 131 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. TÜV SÜD B 0954640006 Rev.00
Cable 4	SUZHOU YONGHAO CABLE CO., LTD.	H1Z2Z2-K 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. TÜV SÜD B 0954640007 Rev.00
Cable 5	Jiangxi Jinko PV Material Co., Ltd.	H1Z2Z2-K 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. TÜV SÜD B 1123700006 Rev.00
Cable 6	Jiangxi Jinko PV Material Co., Ltd.	62930 IEC 131 1X1,5...10mm ² HALOGEN FREE LOW SMOKE	1x4,0mm ²	IEC 62930:2017	No. R 50486802
Cable 7	Jiangxi Jinko PV Material Co., Ltd.	62930 IEC 131 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. R 50488206
Cable 8	SUZHOU YONGHAO CABLE CO., LTD.	62930 IEC 131 1x4.0mm ²	1x4,0mm ²	IEC 62930:2017	No. R 50401233
Connector 1	Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: TÜV SÜD B 112370 0004 Rev.01
Connector 2	Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M1/xyz	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: TÜV SÜD B 112370 0005 Rev.02
Connector 3	Jiangxi Jinko PV Material Co., Ltd.	PV-JK03M2/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: TÜV SÜD B 112370 0008 Rev.00

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Constructional Data Form for Photovoltaic Modules

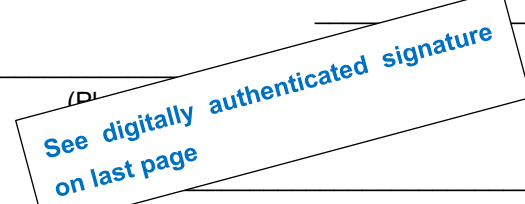
Connector 4	Stäubli Electrical connectors AG	PV-KST4-EVO2/xy_UR; PV-KBT4-EVO2/xy_UR	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Connector 5	Stäubli Electrical connectors AG	PV-KST4-EVO2A/xy; PV-KBT4-EVO2A/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Adhesive 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SKF323-AB	white or black	—	—
Potting material 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—
Junction box combination 4					
Junction box	Suzhou Xtong Photovoltaic Technologies Co., Ltd	PV-XT1609Nxyz (x=2, 3 or 4)	Max. voltage [V]: 1500 Max. current [A]: 35 RTI [°C]: 110	IEC 62790:2020	No.: TÜV SÜD B 0760610014 Rev.04
Bypass diode 1	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT3050A (x=3, y=3, z=7)	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 2	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4050M-A (x=2 or 4, y=3, z=9)	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 3	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4050M-B (x=2 or 4, y=3, z=10)	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 4	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4050M-B, TM3045-20 (x=2 or 4, y=3, z=10)	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 5	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4550M-A (x=2 or 4, y=4, z=11)	Max. diode current [A]: 45 T _j [°C]: 200	—	—
Bypass diode 6	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4550M-B, TM3045-25 (x=2 or 4, y=4, z=12)	Max. diode current [A]: 45 T _j [°C]: 200	—	—
Bypass diode 7	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4050M-B, TM3045-25 (x=4, y=3, z=10)	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 8	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT4550M-B, TM3045-30 (x=4, y=4, z=12)	Max. diode current [A]: 45 T _j [°C]: 200	—	—
Bypass diode 9	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT5050M-A (x=2 or 4, y=5, z=13)	Max. diode current [A]: 50 T _j [°C]: 200	—	—

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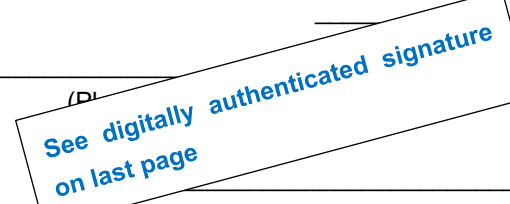
Bypass diode 10	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT5050M-B (x=5, y=5, z=15)	Max. diode current [A]: 45 T _j [°C]: 200	—	—
Cable 1	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1X1,5...35mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50439595
Cable 2	Suzhou Xtong Photovoltaic Technologies Co., Ltd	62930 IEC 131 1X1,5...35mm ² HALOGEN FREE LOW SMOKE	1x4,0mm ²	IEC 62930:2017	No.: R 50453577
Connector 1	Suzhou Xtong Photovoltaic Technologies Co., Ltd	PV-XT101.1	Max. voltage [V]: 1500 Max. current [A]: 41	IEC 62852:2014 + Amd. 1:2020	No.: TUV SUD B 0760610016 Rev.01
Connector 2	Suzhou Xtong Photovoltaic Technologies Co., Ltd	PV-XT101.2	Max. voltage [V]: 1500 Max. current [A]: 41	IEC 62852:2014 + Amd. 1:2020	No.: TUV SUD B 0760610016 Rev.01
Connector 3	Suzhou Xtong Photovoltaic Technologies Co., Ltd	XT2	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: TUV SUD B 0760610016 Rev.01
Connector 4	Stäubli Electrical connectors AG	PV-KST4- EVO2/xy_UR; PV-KBT4- EVO2/xy_UR	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Connector 5	Stäubli Electrical connectors AG	PV-KST4- EVO2A/xy; PV-KBT4- EVO2A/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Adhesive 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SKF323-AB	white or black	—	—
Potting material 2 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—
Junction box combination 5					
Junction box	Gokin Solar Co., Ltd.	GKxy (x=3 or 4, y=1)	Max. voltage [V]: 1500 Max. current [A]: 30 RTI [°C]: 110	IEC 62790:2020	No.: B 122205 0023 Rev.00
Bypass diode 1	Yangzhou Yangjie Electronic Co., Ltd.	30SQ045-SL	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 2	Yangzhou Yangjie Electronic Co., Ltd.	40SQ045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Cable 1	Wuxi Xinhongye Wire & Cable Co., Ltd.	62930 IEC 131 1X1,5...35mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50439595

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Cable 2	Ningbo Minghe New Energy Technology Co., Ltd.	62930 IEC 131 1X4,0mm ²	1x4,0mm ²	IEC 62930:2017	No.: R 50413678
Cable 3	XinYa Electronic Co., Ltd.	62930 IEC 131 1X1,5...10mm ² HALOGEN FREE LOW SMOKE	1x4,0mm ²	IEC 62930:2017	No.: R 50484553
Connector 1	Stäubli Electrical connectors AG	PV-KST4- EVO2/xy_UR; PV-KBT4- EVO2/xy_UR	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Connector 2	Stäubli Electrical connectors AG	PV-KST4- EVO2A/xy; PV-KBT4- EVO2A/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No.: R 60127169
Connector 3	Gokin Solar Co., Ltd.	PV-GK01	Max. voltage [V]: 1500 Max. current [A]: 41	IEC 62852:2014 + Amd. 1:2020	No.: B 122205 0022 Rev.00
Adhesive 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (junction box)	Gucheng Xingfa New Materials. Co., Ltd.	GS PV589	white or black	—	—
Adhesive 3 (junction box)	Jiang Men Jia Di New Materials Co., Ltd.	JD-615	white or black	—	—
Adhesive 4 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Guangzhou Baiyun Technology Co., Ltd.	SKF323-AB	white or black	—	—
Potting material 2 (junction box)	Gucheng Xingfa New Materials. Co., Ltd.	GS PV586-AB	white or black	—	—
Potting material 3 (junction box)	Jiang Men Jia Di New Materials Co., Ltd.	JD-130	white or black	—	—
Potting material 4 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—

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Constructional Data Form for Photovoltaic Modules

Junction box combination 6

Junction box	Win Win Precision Technology Co., Ltd.	3Qxy(x=1, 2, 3, 4 or 5; y=1, 2, 3, 5, 6 or 7) 3Qxy(x=1, 3 or 4; y=4) 3Qxy(x=6, 7 or 8; y=1, 2 or 3) 3Qxy(x=9; y=5) 3Qxy(x=3 or 4, y=8)	Max. voltage [V]: 1500 Rated current [A]: 35A for (x=5); 32A for (x=6); 30A for (x=4); 28,5A for (x=7); 25A for (x=3); 22A for (x=2); 20A for (x=1); 18A for (x=8); 10A for (x=9) Reverse Current: 55A RTI [°C]: 110	IEC 62790:2020 EN IEC 62790:2020	No.: R 50673544
Bypass diode 1	QC Solar (Suzhou) Corporation	QCM2545	Max. diode current [A]: 25 T _j [°C]: 200	—	—
Bypass diode 2	QC Solar (Suzhou) Corporation	QCM3045	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 3	QC Solar (Suzhou) Corporation	QCM4045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 4	QC Solar (Suzhou) Corporation	QCM5045	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 5	QC Solar (Suzhou) Corporation	QCM5045B	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 6	QC Solar (Suzhou) Corporation	QCM6045	Max. diode current [A]: 60 T _j [°C]: 200	—	—
Bypass diode 7	QC Solar (Suzhou) Corporation	20SQ050	Max. diode current [A]: 20 T _j [°C]: 200	—	—
Bypass diode 8	QC Solar (Suzhou) Corporation	30SQ050A	Max. diode current [A]: 30 T _j [°C]: 200	—	—
Bypass diode 9	QC Solar (Suzhou) Corporation	40SQ045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 10	QC Solar (Suzhou) Corporation	QCM4045	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 11	QC Solar (Suzhou) Corporation	QCM1845	Max. diode current [A]: 18 T _j [°C]: 200	—	—
Bypass diode 12	QC Solar (Suzhou) Corporation	QCM4045B	Max. diode current [A]: 40 T _j [°C]: 200	—	—
Bypass diode 13	QC Solar (Suzhou) Corporation	QCM5045B	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 14	QC Solar (Suzhou) Corporation	QCM5045C	Max. diode current [A]: 50 T _j [°C]: 200	—	—
Bypass diode 15	QC Solar (Suzhou) Corporation	QCM10A10	Max. diode current [A]: 10 T _j [°C]: 200	—	—

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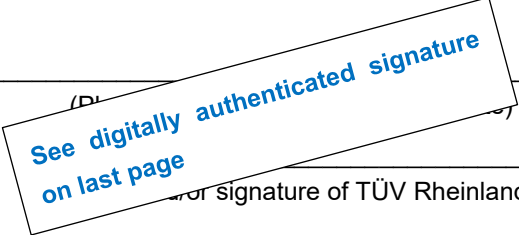
Cable 1	QC Solar (Suzhou) Corporation	389980 62930 IEC 1311 x 2,5mm ² ... 10,0mm ² HALOGEN FREE LOW SMOKE	1x4,0mm ² , 1x6,0mm ²	IEC 62930:2017	No.: R 50447239
				IEC 62930:2017	No.: R 50447239 & UL E335336
Connector 1	QC Solar (Suzhou) Corporation	QC4.10-cds	Max. voltage [V]: Max. current [A]:	IEC 62852:2014 + Amd. 1:2020	No.: R 50505605
Connector 2	Stäubli Electrical connectors AG	PV-KST4-EVO2/xy; PV-KBT4-EVO2/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No. R 60127169
Connector 3	Stäubli Electrical connectors AG	PV-KST4-EVO2A/xy; PV-KBT4-EVO2A/xy	Max. voltage [V]: 1500 Max. current [A]: 45	IEC 62852:2014 + Amd. 1:2020	No. R 60127169
Adhesive 1 (junction box)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Potting material 1 (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	white or black	—	—

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Constructional Data Form for Photovoltaic Modules

Encapsulation material 1	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	F406PS (between front cover and cells) / EP304 (between cells and rear cover)	Thickness [mm]: F406PS 0.40-0.80 / EP304 0.40-0.80 CTI: 600	—	—
Encapsulation material 2	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	EP304 (between front cover and cells) / F406PS (between cells and rear cover)	Thickness [mm]: EP304 0.40-0.80 / F406PS 0.40-0.80 CTI: 600	—	—
Encapsulation material 3	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	TF4 (between front cover and cells) / F406PS (between cells and rear cover)	Thickness [mm]: TF4 0.40-0.80 / F406PS 0.40-0.80 CTI: 600	—	—
Encapsulation material 4	Changzhou Sveck Photovoltaic New Material Co., Ltd.	SE-556 (between front cover and cells) / SV-15296P (between cells and rear cover)	Thickness [mm]: SE-556 0.40-0.80 / SV-15296P 0.40-0.80 CTI: 600	—	—
Encapsulation material 5	Changzhou Sveck Photovoltaic New Material Co., Ltd.	CO-556 (between front cover and cells) / SV-15296P (between cells and rear cover)	Thickness [mm]: CO-556 0.40-0.80 / SV-15296P 0.40-0.80 CTI: 600	—	—
Encapsulation material 6	Zhejiang Tony Electronic Co., Ltd.	EPE2100 (between front cover and cells) / TRA2500 (between cells and rear cover)	Thickness [mm]: EPE2100 0.40-0.80 / TRA2500 0.40-0.80 CTI: 600	—	—
Encapsulation material 7	Changzhou Betterial Film Technologies Co., Ltd.	B602M (between front cover and cells) / B601HP (between cells and rear cover)	Thickness [mm]: B602M 0.20-0.80 / B601HP 0.20-0.80 CTI: 600	—	—

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Constructional Data Form for Photovoltaic Modules

Frame parts 1	Gokin Solar Co., Ltd. Manufactured by: 1. JIANGYIN YURUN ENERGY TECHNOLOGY CO., LTD 2. Jiangxi Jinko PV Material Co., Ltd. 3. Jiangyin Akcome Metals Technology Co., Ltd 4. Chuzhou Ruida New Energy Materials Co., Ltd. 5. Jiangsu Sulv New Material Technology Co., Ltd. 6. Foshan Tuowei Technology Co., Ltd 7. Anhui Xinbo Technology Co., Ltd. 8. Guangxi Guangyin Aluminum Co., Ltd. Tianyang branch 9. Guangzhou Jingteng Metal Products Co., Ltd. 10. Huajia Aluminum Industry Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 2	JIANGYIN YURUN ENERGY TECHNOLOGY CO., LTD	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 3	Jiangxi Jinko PV Material Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy	—	—

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			Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15		
Frame parts 4	Jiangyin Akcome Metals Technology Co., Ltd	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 5	Chuzhou Ruida New Energy Materials Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 6	Jiangsu Sulv New Material Technology Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 7	Foshan Tuowei Technology Co., Ltd	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black	—	—

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			Thickness [mm]: 30/33/35 Coating: Silver coating, AA15		
Frame parts 8	Anhui Xinbo Technology Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Frame parts 9	Guangzhou Jingteng Metal Products Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA10	—	—
Frame parts 10	Huajia Aluminum Industry Co., Ltd.	6005-T6	Material: Anodized aluminum alloy Color: Silver Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
		6005-T6	Material: Anodized aluminum alloy Color: Black Thickness [mm]: 30/33/35 Coating: Silver coating, AA15	—	—
Adhesive 1 (frame)	Guangzhou Baiyun Technology Co., Ltd.	SMG533	white or black	—	—
Adhesive 2 (frame)	Shanghai Huitian New Material Co., Ltd.	HT906Z	white or black	—	—
Adhesive 3 (frame)	Gucheng Xingfa New Materials. Co., Ltd.	GS PV589	white or black	—	—
Adhesive 4 (frame)	Jiang Men Jia Di New Materials Co.,Ltd.	JD-615	white or black	—	—
Rating label 1	Foshan Kaisheng Printing Co., Ltd	0740	Matte silver	—	—
Rating label 2	SEAPRINTING CHANGZHOU CO., LTD.	72826	—	—	—
Rating label 3	Suzhou Hanshan Paper Products Co., Ltd.	JT18A	Matte silver	—	—

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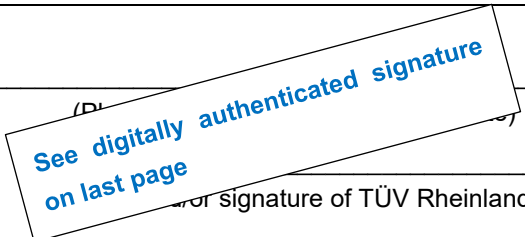
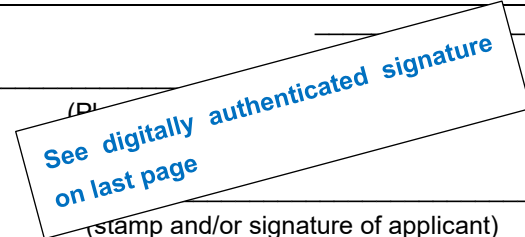
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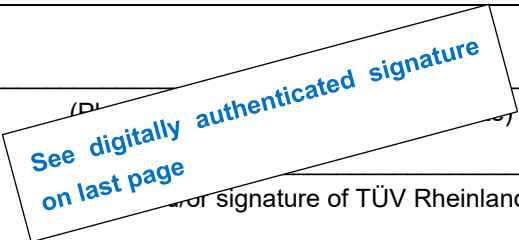
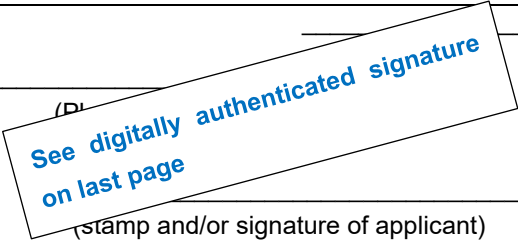
Constructional Data Form for Photovoltaic Modules

Rating label 4	Suzhou ZhengAo Packing Material limited company	MZS1207	Matte silver	—	—
Isolation materials 1	SUZHOU FIRST PV MATERIAL CO., LTD.	BEC-201/BEC-201B	white or black	—	—
Isolation materials 2	Wuxi YKC New Material Co., Ltd.	YKC-HBC450(B)	black	—	—
Solar cell gap masking film 1	Heyu Renewable Technology Co., Ltd	BC81	Thickness [mm]: 0.075-0.135	—	—
Solar cell gap masking film 2	Heyu Renewable Technology Co., Ltd	BM306	Thickness [mm]: 0.125±0.015 Color: Black	—	—
Solar cell gap masking film 3	Wuxi YKC New Material Co., Ltd.	YKC-125	Thickness [mm]: 0.125±0.02	—	—
Solar cell gap masking film 4	Changzhou Sveck Photovoltaic New Material Co., Ltd.	SVK-JX02	Thickness [mm]: 0.128±0.015	—	—
Remarks	For extension qualifications, new materials introduced shall be highlighted in bold . Substituted materials shall still be listed.				

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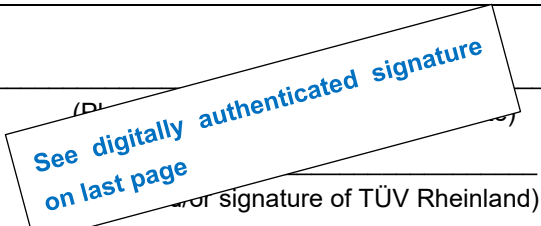
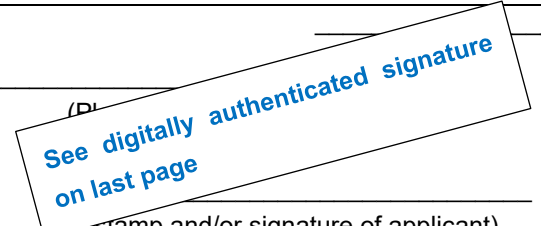
Qualified material combinations				
	Encapsulation material 1 F406PS / EP304 (HANGZHOU FIRST)	Encapsulation material 2 EP304 / F406PS (HANGZHOU FIRST)	Encapsulation material 3 TF4 / F406PS (HANGZHOU FIRST)	Encapsulation material 4 SE-556 / SV-15296P (Changzhou Sveck)
Solar cell 1 GK-210M-12D1 (Gokin)	✓			
Solar cell 2 GK-182M-10D1 (Gokin)	✓			
Solar cell 3 GK-210T-18D1 (Gokin)		✓	✓	✓
Solar cell 4 GK-182T-16D1 (Gokin)		✓	✓	✓
Solar cell 5 GK-182R-16D1 (Gokin)		✓		✓
Solar cell 6 GK-210R-16D1 (Gokin)		✓		✓
Solar cell 7 GK-184G-20D1 (Gokin)		✓		
Solar cell 8 GK-192G-20D1 (Gokin)		✓		
Solar cell 9 GK-188G-20D1 (Gokin)		✓		
Solar cell 10 GK-210R-18D1 (Gokin)		✓		✓
Backside cover 1-6 Semi-tempered photovoltaic glass (Flat)		✓	✓	
Isolation materials 1 BEC-201/BEC-201B (SUZHOU FIRST)				

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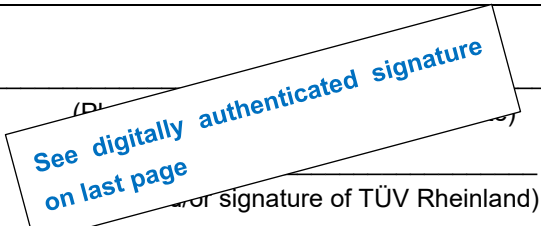
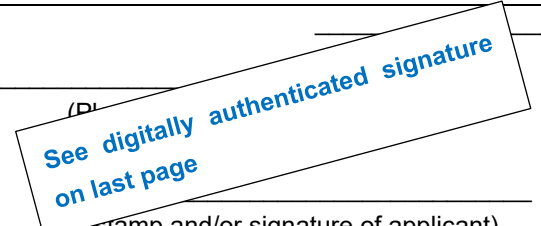
Isolation materials 2 YKC-HBC450(B) (Wuxi YKC)				
Fluxing agent 1 WTO-PV107 (Shenzhen Vital)			✓	
Fluxing agent 2 8000T20 (Shenzhen Embrace)				
Fluxing agent 3 AATF9800 (TONGFANG)				
Fluxing agent 4 QL-F501HF (QLG)		✓		
Cell fixing tape UV-1 (3M)	✓	✓	✓	
Cell fixing tape D60F6-2 (Lu Qin)				
Cell fixing tape 9966 (Hyperion)		✓		
Solder paste GW9098-GF		✓		
Solder paste SNP146S		✓		
Bonding tape THW-5DN207		✓		
Bonding tape RT-2		✓		
Remarks	Reference numbers for the materials are acceptable if listed above in the list of critical components. Further material combinations considered critical may be added in additional tables.			

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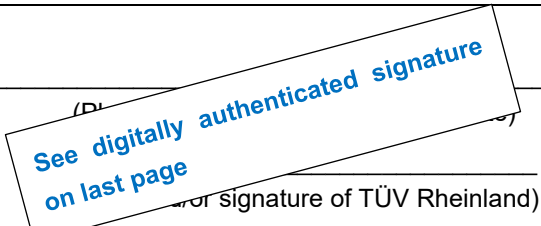
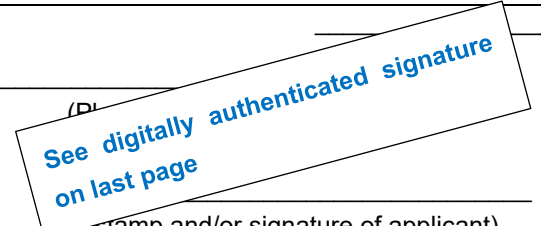
Qualified material combinations				
	Encapsulation material 5 CO-556 / SV-15296P (Changzhou Sveck)	Encapsulation material 6 EPE2100 / TRA2500 (Zhejiang Tony)	Encapsulation material 7 B602M / B601HP (Changzhou Betterial)	
Solar cell 1 GK-210M-12D1 (Gokin)				
Solar cell 2 GK-182M-10D1 (Gokin)				
Solar cell 3 GK-210T-18D1 (Gokin)	✓	✓	✓	
Solar cell 4 GK-182T-16D1 (Gokin)	✓	✓	✓	
Solar cell 5 GK-182R-16D1 (Gokin)	✓	✓	✓	
Solar cell 6 GK-210R-16D1 (Gokin)	✓	✓	✓	
Solar cell 7 GK-184G-20D1 (Gokin)	✓			
Solar cell 8 GK-192G-20D1 (Gokin)	✓			
Solar cell 9 GK-188G-20D1 (Gokin)	✓			
Solar cell 10 GK-210R-18D1 (Gokin)	✓	✓	✓	
Backside cover 1-6 Semi-tempered photovoltaic glass	✓	✓	✓	
Isolation materials 1 BEC-201/BEC-201B (SUZHOU FIRST)				

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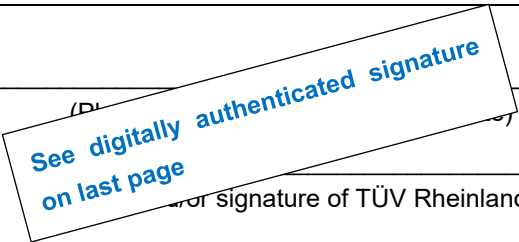
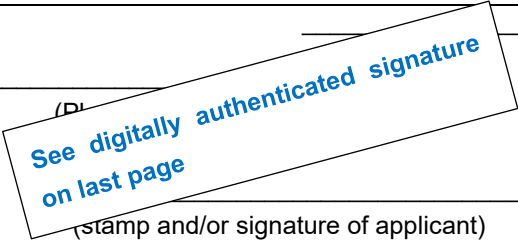
Isolation materials 2 YKC-HBC450(B) (Wuxi YKC)	✓			
Fluxing agent 1 WTO-PV107 (Shenzhen Vital)				
Fluxing agent 2 8000T20 (Shenzhen Embrace)	✓			
Fluxing agent 3 AATF9800 (TONGFANG)	✓			
Fluxing agent 4 QL-F501HF (QLG)			✓	
Cell fixing tape UV-1 (3M)	✓	✓		
Cell fixing tape D60F6-2 (Lu Qin)	✓		✓	
Cell fixing tape 9966 (Hyperion)				
Solder paste GW9098-GF	✓			
Solder paste SNP146S	✓			
Bonding tape THW-5DN207	✓			
Bonding tape RT-2	✓			
Remarks	Reference numbers for the materials are acceptable if listed above in the list of critical components. Further material combinations considered critical may be added in additional tables.			

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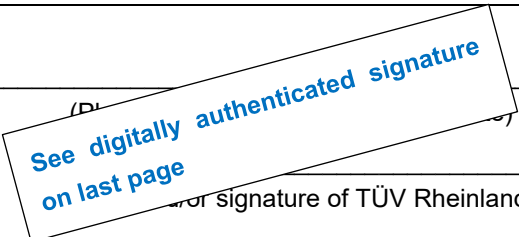
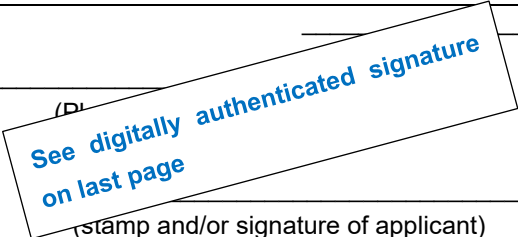
Qualified material combinations			
Junction box 1 MH2z (Ningbo Minghe)	Adhesive (JB) 1 SMG533 (Guangzhou Baiyun)	Adhesive (JB) 2 HT906Z (Shanghai Huitian)	Adhesive (JB) 3 GS PV589 (Gucheng Xingfa)
Backside cover 1 Semi-tempered photovoltaic glass (Flat)	✓	✓	
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓	✓	
Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓	✓	
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓	✓	
Junction box 2 3Qxy (QC Solar)	Adhesive (JB) 1 SMG533 (Guangzhou Baiyun)	Adhesive (JB) 2 HT906Z (Shanghai Huitian)	Adhesive (JB) 3 GS PV589 (Gucheng Xingfa)
Backside cover 1 Semi-tempered photovoltaic glass (Flat)	✓	✓	
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓	✓	
Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓	✓	
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓	✓	
Junction box 3 PV-JK09Exy (Jiangxi Jinko)	Adhesive (JB) 1 SMG533 (Guangzhou Baiyun)	Adhesive (JB) 2 HT906Z (Shanghai Huitian)	Adhesive (JB) 3 GS PV589 (Gucheng Xingfa)
Backside cover 1	✓	✓	

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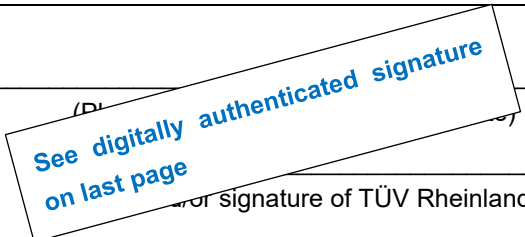
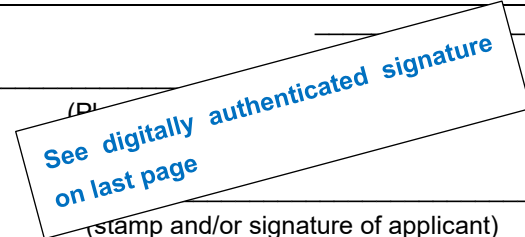
Semi-tempered photovoltaic glass (Flat)			
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓	✓	
Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓	✓	
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓	✓	
Junction box 4 PV-XT1609Nxyz (Suzhou Xtong)	Adhesive (JB) 1 SMG533 (Guangzhou Baiyun)	Adhesive (JB) 2 HT906Z (Shanghai Huitian)	Adhesive (JB) 3 GS PV589 (Gucheng Xingfa)
Backside cover 1 Semi-tempered photovoltaic glass (Flat)	✓	✓	
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓	✓	
Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓	✓	
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓	✓	

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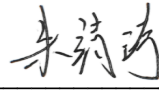
Junction box 5 GKxy (Gokin)	Adhesive (JB) 1 SMG533 (Guangzhou Baiyun)	Adhesive (JB) 2 HT906Z (Shanghai Huitian)	Adhesive (JB) 3 GS PV589 (Gucheng Xingfa)	Adhesive (JB) 4 JD-615 (Jia Di)
Backside cover 1 Semi-tempered photovoltaic glass (Flat)	✓		✓	
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓		✓	
Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓		✓	
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓		✓	
Backside cover 5 Semi-tempered photovoltaic glass (Ganyue)				✓
Junction box 6 3Qxy (Win Win)	Adhesive (JB) 1 HT906Z (Shanghai Huitian)			
Backside cover 1 Semi-tempered photovoltaic glass (Flat)	✓			
Backside cover 2 Semi-tempered photovoltaic glass (GUANGXI XINFUXI)	✓			

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Backside cover 3 Semi-tempered photovoltaic glass (Dongguan CSG)	✓			
Backside cover 4 Semi-tempered photovoltaic glass (Gokin)	✓			
Remarks	Combinations for further junction boxes can be added if required.			

_____ Shanghai (Place)	_____ 19/09/2025 (date)	_____ Guangzhou (Place)	_____ 19/09/2025 (date)
_____ (stamp and/or signature of TÜV Rheinland)		 _____ (stamp and/or signature of applicant)	

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