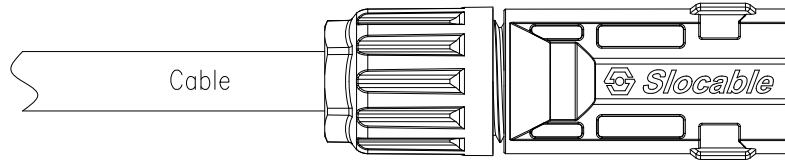
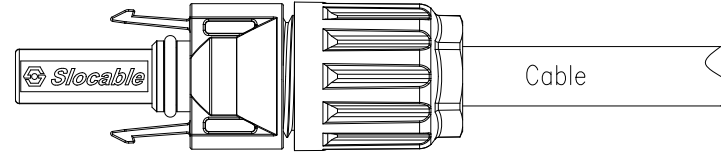


客 户 图
Customer drawings

CN40-CMMM-01



CN40-CFPM-01



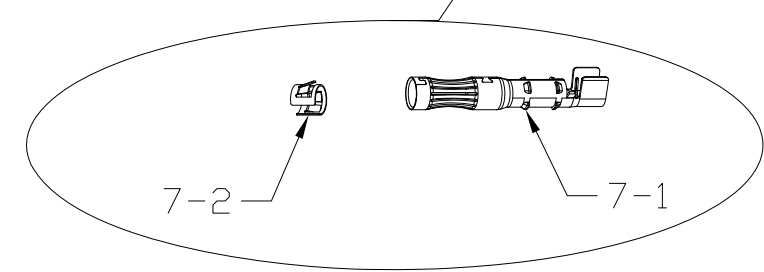
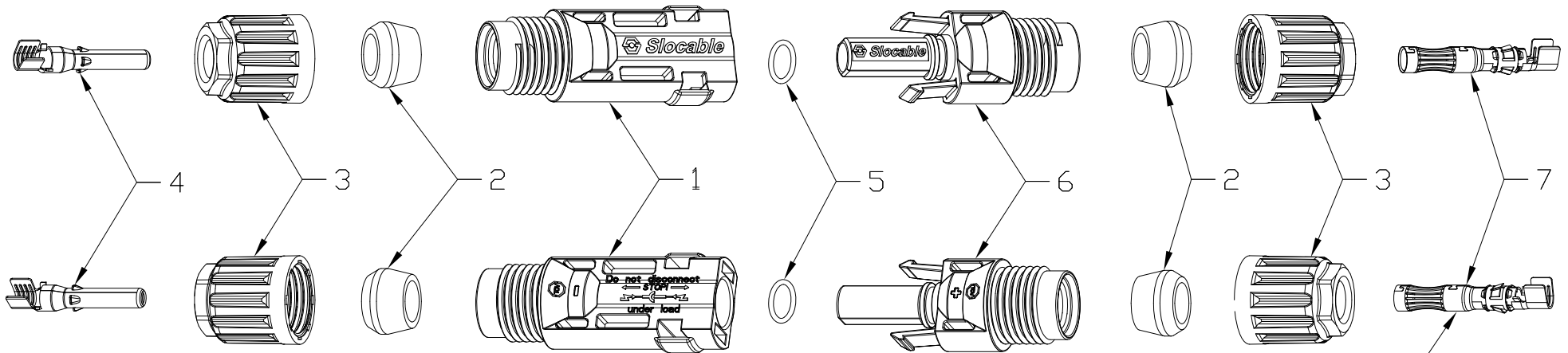
绝缘材料 Insulation material	PPE
额定电流 Rated current	40A(2.5mm ² 、4.0mm ² 、6.0mm ²)
额定电压 Rated voltage	1500V(TUV)
测试电压 Test voltage	8kV(50Hz,1min)
连接器接触电阻 Contact resistance	<0.5mΩ
金属导体材料 Contact material	铜, 镀锡 Copper, Tin plated
保护等级 Degree of protection	IP2X/IP68
过压等级 Safety class	II
阻燃等级 Flame class	UL94-V0
插入力 Insertion force	Max. 50N
拔出力 Withdrawal force	Min. 50N
环境温度范围 Ambient temperature range	-40°C...+90°C(IEC/CEI)
适配电缆 Suitable cable cross sections	2.5/4.0/6.0mm ² AWG14/12/10
连接方式 Connecting system	压接 Crimp connctcion

订货料号 Order No.	零 部 件 料 号 Part P/N		适 用 电 缆 规 格(Cable Spec)	
	连 接 器 Connector	端 子 Terminal	导 体 截 面 (mm ²) Conductor Size	电 缆 外 径 (ΦD mm) Cable OD
CN40-CM-01	公接头 CN40-CMMM-H	公端子 CN40-CM-MT01	AWG14(2.5mm ²) AWG12(4.0mm ²)	Φ4.5~Φ8.5
	母接头 CN40-CFPM-H	母端子 CN40-CM-FT01	AWG10(6.0mm ²)	

版本	修订日期	修订内容	修订人	尺寸公差	角度公差	核准	日期	材质	表面处理	角法	比例	单位	mm	产品名称	产品料号	专案编号	文件编号	图号
A1	2019.08.21	额定电流40A	万能	0.X ±0.13	0.X° ±0.5°	设计	2017.12.15	材料						C4 Cable connector	CN40-CM-01	P-17018		
				X.0 ±0.25	X.0° ±1°	审核	2017.12.15	表面处理										
				0.0X ±0.05	0.0X° ±0.2°	绘图	2017.12.15	角法										

 **Slocable**
Dongguan Slocable Photovoltaic Technology Co., Ltd.

客户图
Customer drawings



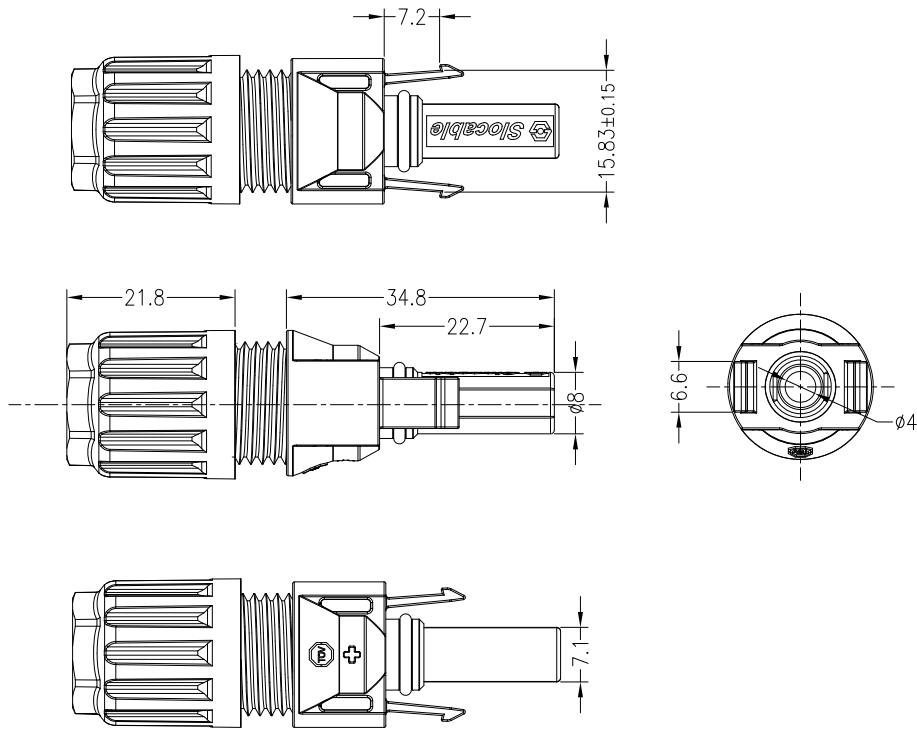
BILL OF MATERIALS

No.	零件编号 P/N	产品名称 Part Name	Q'TY
1	P17018-011	C4公接头主体 C4 Male Housing	1
2	P17018-003	C4接头电缆防水圈 C4 Cable Seal Ring	2
3	P17018-001	M16*1.5旋帽 M16*1.5 Screw Cap	2
4	P17011-110	C4公端子 C4 Male Terminal	1
5	P17018-004	C4母接头密封圈 C4 Female Conn O Ring	1
6	P17018-021	C4母接头主体 C4 Female Housing	1
7-1	P17011-120	C4母端子 C4 Female Terminal	1
7-2	P17011-105	C4母端子定位扣 C4 Female Terminal Fixed buckle	1

版本		修订日期	修订内容	修订人	尺寸公差	角度公差	核准	审核	设计	绘图	日期	材料	表面处理	角法	比例	单位	mm	产品名称	产品料号	专案编号	文件编号	图号
A1		2019.08.21	额定电流40A	万能	0.X ±0.13	0.X° ±0.5°	万能	2017.12.15	万能	2017.12.15	2017.12.15	2017.12.15	2017.12.15					C4 Cable connector	CN40-CM-01	P-17018	DWG-17018-S01	
2019.08.21					X.0 ±0.25	X.0° ±1°	审核	审核	设计	绘图	2017.12.15	2017.12.15	2017.12.15	2017.12.15	2/4							



P/N: CN40-CFPM-H

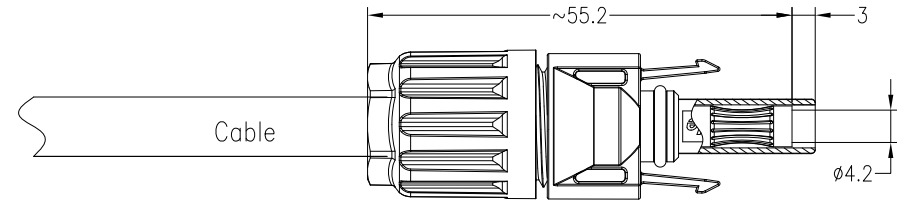
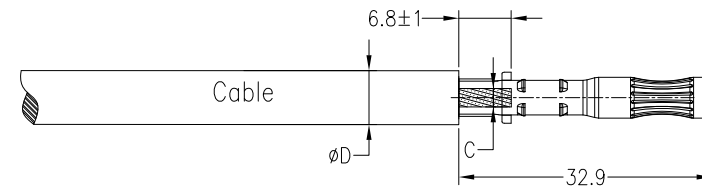
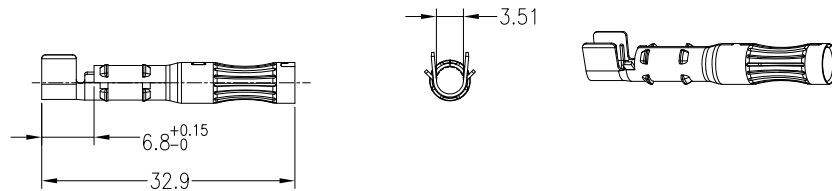


客户图
Customer drawings

订货料号 Order No.	零部件料号 Part P/N		适用电缆规格 (Cable Spec)	
	连接器 Connector	端子 Terminal	导体截面 (mm ²) Conductor Size	电缆外径 (ØD mm) Cable OD
CN40-CFPM-01	CN40-CFPM-H	CN40-CM-FT01	AWG14(2.5mm ²)	Ø4.5~Ø8.5
			AWG12(4.0mm ²)	
			AWG10(6.0mm ²)	

P/N: CN40-CM-FT01

[适用于2.5mm²(14AWG)、4.0mm²(12AWG)、6.0mm²(10AWG)]



				尺寸公差	角度公差	核准	万能 2017.12.15	材质	产品名称 C4 Cable Connector -Female Plug		 Dongguan Slocable Photovoltaic Technology Co., Ltd.	
				X.0 ±0.25	X.0° ±1°	审核	万能 2017.12.15	表面处理	产品料号 CN40-CFPM-01			
A1	2019.08.21	额定电流40A	万能	0.X ±0.13	0.X° ±0.5°	设计	万能 2017.12.15	角法		比例	文件编号 DWG-17018-S01	
版本	修订日期	修订内容	修订人	0.0X ±0.05	0.0X° ±0.2°	绘图	万能 2017.12.15	页次	4/4	单位		

TÜV SÜD
ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



Product Service

CERTIFICATE

No. B 103722 0001 Rev. 00

Holder of Certificate: Dongguan Slocable Photovoltaic Technology Co., Ltd.

Huawei Scientific Valley NO.1
Xiangshan Road, Dalingshan Town
523812 Dongguan City, Guangdong Province
PEOPLE'S REPUBLIC OF CHINA

Production Facility(ies): 103722
Certification Mark:



Product: Connector (Connectors for Photovoltaic System)

Model(s): CN40-CM, CN40-CM-01, CN40-PM, BC40, BC50

Parameters:
Rated Voltage: 1500 V d.c.
Rated Current: 40 A
Protection Class: II
Degree of Protection: IP68 (1m, 1h)
Ambient Temperature: -40 °C to +85 °C

Tested according to: IEC 62852(ed.1)
EN 62852:2015

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: 64290190058601
Valid until: 2024-08-20

Date, 2019-08-21

(Symbol Zhao)



CE TEST REPORT

For

PV connector

Model No.: CN40-CM-12 、 CN40-CM-01 、 CN40-CM-14 、 CN40-CM-10 、
CN40-CM-8 、 CN40-PM-01 、 CN40-PM-14 、 CN40-PM-12 、
CN40-PM-10 、 BC40-2M1F 、 BC40-2F1M 、 BC50-3M1F 、
BC50-3F1M 、 BCY3-2F1M 、 BCY3-2M1F 、 BCY4-3F1M 、
BCY4-3M1F 、 BCY5-4F1M 、 BCY5-4M1F 、 BCY6-5F1M 、
BCY6-5M1F 、 CN40-FURY

Applicant : Dongguan Slocable Photovoltaic Technology Co., Ltd.
Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan
City,Guangdong Province,China

Manufacturer : Dongguan Slocable Photovoltaic Technology Co., Ltd.
Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan
City,Guangdong Province,China

Issued By : Shenzhen HTT Technology Co., Ltd.
7F,A Building,Smart valley Science and technology innovation
Park,Xixiang,Baoan District,Shenzhen,Guangdong,China

Tel : 86-755-23595200

Fax : 86-755-23595201

Report Number : HTT180607447LR

Issued Date : Jun.28,2018~Jul.03,2018

Date of Report : Jul.03,2018

Note: This report shall not be reproduced except in full, without the written approval of Shenzhen HTT Technology Co., Ltd. This document may be altered or revised by Shenzhen HTT Technology Co., Ltd. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.



TEST REPORT EN 60998-2-2 :2004 Connecting devices for low-voltage circuits for household and similar purposes — Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	
Report reference No.:	HTT180607447LR
Tested by (+ signature).....:	Darek Wang <i>Darek Wang</i>
Approved by (+ signature).....:	Kevin Yang <i>Kevin Yang</i>
Date of issue :	Jul.03,2018
Testing laboratory	Shenzhen HTT Technology Co., Ltd.
Location.....:	7F,A Building,Smart valley Science and technology innovation Park,Xixiang,Baoan District,Shenzhen,Guangdong,China
Applicant.....:	Dongguan Slocable Photovoltaic Technology Co., Ltd.
Address:.....:	Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan City,Guangdong Province,China
Manufacturer.....:	Dongguan Slocable Photovoltaic Technology Co., Ltd.
Address:.....:	Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan City,Guangdong Province,China
Standards.....:	EN 60998-2-2:2004
Type of test equipment	PV connector
Trade mark.....:	N/A
Model/Type designation.....:	CN40-CM-12、CN40-CM-01、CN40-CM-14、CN40-CM-10、CN40-CM-8、CN40-PM-01、CN40-PM-14、CN40-PM-12、CN40-PM-10、BC40-2M1F、BC40-2F1M、BC50-3M1F、BC50-3F1M、BCY3-2F1M、BCY3-2M1F、BCY4-3F1M、BCY4-3M1F、BCY5-4F1M、BCY5-4M1F、BCY6-5F1M、BCY6-5M1F、CN40-FURY
Rating.....:	1-1500V, 50A





General remarks:	
<p>"(see remark #)" refers to a remark appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15°C to 35°C, RH45% to 75% and an air pressure of 860mbar of 1060mbar</p>	<p>Attachment with:</p> <p>1) Photo documentation</p>

PV connector
Model No. CN40-CM-12



Dongguan Slocable Photovoltaic Technology Co., Ltd.

Note: Due to similarity of the rating labels, only above label is listed.



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
4	General		--
	This clause of Part 1 is applicable.		P
5	General notes on tests		-
	This clause of Part 1 is applicable except as follows:		P
5.3	Replacement:		-
	The tests are carried out in the sequence listed for each set in Annex AA.		P
5.4	Replacement of the first sentence by the following:		-
	The necessary number of new samples to be submitted to the tests are divided into sets as detailed in Annex AA and this standard is met if all tests are satisfied.		P
6	Main characteristics		-
	This clause of Part 1 is applicable.		P
7	Classification		-
	This clause of Part 1 is applicable except as follows:		P
7.101	Classification according to the types of conductors which the terminal can accept		-
7.101.1	Universal terminal		N/A
7.101.2	Non-universal terminal		-
	- terminals for solid conductors ; - terminals for rigid conductors; - terminals for flexible conductors.	terminals for solid conductors;	P
8	Marking		-
	This clause of Part 1 is applicable except as follows:		P
8.101	Addition:		-



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
	<p>Non-universal terminals classified according to 7.101.2 shall be marked as follows:</p> <ul style="list-style-type: none"> – with the letter(s) “s” or “sol” for terminals declared for solid conductors; – with the letter “r” for terminals declared for rigid conductors; – with the letter “f” for terminals declared for flexible conductors. <p>This marking shall appear where it is practical on the end product or on the smallest package unit or in technical information and/or catalogues.</p>		P
8.102	Addition:		-
	An appropriate marking indicating the length of insulation to be removed before insertion of the conductor into the terminal shall be shown on the product or on the smallest package unit or in technical information and/or catalogues.		P
9	Protection against electric shock		-
	This clause of Part 1 is applicable.		N/A
10	Connection of conductors		-
	This clause of Part 1 is applicable except as follows:		P
10.101	The connection or disconnection of conductors shall be made		-
	<ul style="list-style-type: none"> – either by the use of a general purpose tool or a convenient device integral with the terminal to open it and to assist the insertion or the withdrawal of the conductors (for example, for universal terminals); – or by simple insertion. For the disconnection of the conductors an operation other than a pull on the conductor only shall be necessary (for example, for push-wire terminals). 		P



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
10.102	<p>Terminals shall accept two or more conductors of the same or of different nominal cross-sectional areas or compositions if applicable.</p> <p>Universal terminals shall accept rigid (solid or stranded) and flexible unprepared conductors.</p> <p>Non-universal terminals shall accept the types of conductors declared by the manufacturer. The relationship between the rated connecting capacity of clamping units and connectable conductors as well as data on diameters of conductors are given in Table 101.</p>		P
10.103	<p>Each terminal shall accept conductors of cross-sectional areas and types as indicated in Table 101, for the relevant values of the rated connecting capacity. Terminals shall provide, in addition, appropriate connection of at least the two successive smaller crosssectional areas, for example:</p> <p>a) a terminal having the rated connecting capacity of 1 mm² shall clamp reliably a rigid and/or flexible conductor of 0,5 mm², 0,75 mm² and 1 mm²;</p> <p>b) a terminal having the rated connecting capacity of 10 mm² shall clamp reliably rigid conductors of 4 mm², 6 mm² and 10 mm² and/or flexible conductors of 4 mm² and 6 mm².</p> <p>c) a terminal having the rated connecting capacity of 25 mm² shall clamp reliably rigid conductors of 10 mm², 16 mm² and 25 mm² and/or flexible conductors of 6 mm², 10mm²</p>		P



EN 60998-2-2																																																																																																	
Clause	Requirement – Test	Result	Verdict																																																																																														
	<p>and 16 mm². d) a terminal for flexible conductors only and having a rated connecting capacity of 25 mm² shall clamp reliably flexible conductors of 10 mm², 16 mm² and 25 mm². (Exception: special types of terminals may accept a smaller range of cross-sectional areas as declared by the manufacturer.)</p> <p>Table 101 – Rated connecting capacity and connectable conductors</p> <table border="1"> <thead> <tr> <th rowspan="3">Rated connecting capacity mm²</th> <th colspan="5">Connectable conductors and their theoretical diameters Metric</th> </tr> <tr> <th colspan="3">Rigid</th> <th colspan="2">Flexible</th> </tr> <tr> <th>mm²</th> <th>Solid ø mm</th> <th>Stranded ø mm</th> <th>mm²</th> <th>ø mm</th> </tr> </thead> <tbody> <tr><td>0,2</td><td>0,2</td><td>0,51</td><td>0,53</td><td>0,2</td><td>0,61</td></tr> <tr><td>0,34</td><td>0,34</td><td>0,63</td><td>0,66</td><td>0,34</td><td>0,8</td></tr> <tr><td>0,5</td><td>0,5</td><td>0,9</td><td>1,1</td><td>0,5</td><td>1,1</td></tr> <tr><td>0,75</td><td>0,75</td><td>1,0</td><td>1,2</td><td>0,75</td><td>1,3</td></tr> <tr><td>1,0</td><td>1,0</td><td>1,2</td><td>1,4</td><td>1,0</td><td>1,5</td></tr> <tr><td>1,5</td><td>1,5</td><td>1,5</td><td>1,7</td><td>1,5</td><td>1,8</td></tr> <tr><td>2,5</td><td>2,5</td><td>1,9</td><td>2,2</td><td>2,5</td><td>2,3^a</td></tr> <tr><td>4,0</td><td>4,0</td><td>2,4</td><td>2,7</td><td>4,0</td><td>2,9^a</td></tr> <tr><td>6,0</td><td>6,0</td><td>2,9</td><td>3,3</td><td>4,0</td><td>2,9^a</td></tr> <tr><td>10,0</td><td>10,0</td><td>3,7</td><td>4,2</td><td>6,0</td><td>3,9</td></tr> <tr><td>16,0</td><td>16,0</td><td>4,6</td><td>5,3</td><td>10,0</td><td>5,1</td></tr> <tr><td>25,0</td><td>25,0</td><td>-</td><td>6,6</td><td>16,0</td><td>6,3</td></tr> <tr><td>35,0</td><td>35,0</td><td>-</td><td>7,9</td><td>25,0</td><td>7,8</td></tr> </tbody> </table> <p>Ⓜ Text deleted Ⓜ</p> <p>NOTE 2 Diameters of the largest rigid and flexible conductors are based on Table 1 of IEC 60228 and IEC 60344 Ⓜ Text deleted Ⓜ.</p> <p>^a Dimensions for Class 5 flexible conductors only, according to IEC 60228A.</p>	Rated connecting capacity mm ²	Connectable conductors and their theoretical diameters Metric					Rigid			Flexible		mm ²	Solid ø mm	Stranded ø mm	mm ²	ø mm	0,2	0,2	0,51	0,53	0,2	0,61	0,34	0,34	0,63	0,66	0,34	0,8	0,5	0,5	0,9	1,1	0,5	1,1	0,75	0,75	1,0	1,2	0,75	1,3	1,0	1,0	1,2	1,4	1,0	1,5	1,5	1,5	1,5	1,7	1,5	1,8	2,5	2,5	1,9	2,2	2,5	2,3 ^a	4,0	4,0	2,4	2,7	4,0	2,9 ^a	6,0	6,0	2,9	3,3	4,0	2,9 ^a	10,0	10,0	3,7	4,2	6,0	3,9	16,0	16,0	4,6	5,3	10,0	5,1	25,0	25,0	-	6,6	16,0	6,3	35,0	35,0	-	7,9	25,0	7,8		P
Rated connecting capacity mm ²	Connectable conductors and their theoretical diameters Metric																																																																																																
	Rigid			Flexible																																																																																													
	mm ²	Solid ø mm	Stranded ø mm	mm ²	ø mm																																																																																												
0,2	0,2	0,51	0,53	0,2	0,61																																																																																												
0,34	0,34	0,63	0,66	0,34	0,8																																																																																												
0,5	0,5	0,9	1,1	0,5	1,1																																																																																												
0,75	0,75	1,0	1,2	0,75	1,3																																																																																												
1,0	1,0	1,2	1,4	1,0	1,5																																																																																												
1,5	1,5	1,5	1,7	1,5	1,8																																																																																												
2,5	2,5	1,9	2,2	2,5	2,3 ^a																																																																																												
4,0	4,0	2,4	2,7	4,0	2,9 ^a																																																																																												
6,0	6,0	2,9	3,3	4,0	2,9 ^a																																																																																												
10,0	10,0	3,7	4,2	6,0	3,9																																																																																												
16,0	16,0	4,6	5,3	10,0	5,1																																																																																												
25,0	25,0	-	6,6	16,0	6,3																																																																																												
35,0	35,0	-	7,9	25,0	7,8																																																																																												
10.104	Compliance with the requirements of 10.101 to 10.103 shall be checked by inspection, and by the following tests:		P																																																																																														
10.104.1	<p>The test is carried out on three new terminals with copper conductors of the type and the cross-sectional area, in accordance with Table 101, having the smallest and then the largest diameter conductor being connected to each clamping unit. This connection and subsequent disconnection shall be made 5 times with the smallest diameter conductor and 5 times with the largest diameter conductor.</p> <p>New conductors shall be used each time, except for the 5th time, when the conductor used for the 4th insertion is clamped at the same place. For each insertion, the conductors are either pushed as far as possible into the terminal or shall be inserted so that adequate connection is obvious.</p> <p>After these tests, the terminal shall not be damaged in such a way as to impair its further use.</p>		P																																																																																														



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
10.104.2	<p>Three new terminals are fitted with new conductors of the type and of the cross-sectional area according to Table 101. Before insertion into the terminal, wires of stranded rigid conductors and flexible conductors shall be reshaped. It shall be possible to fit the conductor into the terminal without undue force in the case of universal terminals and with the force necessary by hand in the case of push-wire terminals. The conductor is either pushed as far as possible into the terminal or has to be inserted so that adequate connection is obvious. After the test, no wire of the conductor shall have escaped outside the terminal.</p>		P
10.105	<p>Three new clamping units are fitted with new conductors of number, cross-sectional area and type (flexible and/or rigid stranded) specified by the manufacturer in the equipment shown in Figure 101.</p> <p>The following tests shall be carried out using new samples for each of the following:</p> <ul style="list-style-type: none">a) the conductors of the smallest cross-sectional area;b) the conductors of the largest cross-sectional area. <p>The length of the test conductor shall be 75 mm longer than the height H specified in Table 102.</p> <p>The test conductor is then connected in the clamping unit in the intended manner.</p> <p>The conductor is subjected to the following test: The end of the conductor shall be passed through an appropriate sized bushing in a platen positioned at a height H below the equipment as given in Table 102. The bushing shall be positioned, in a horizontal plane, such that its centre line describes a circle of 75 mm diameter, concentric with the centre of the clamping unit, in the horizontal plane, the platen is then rotated at a rate of (10 ± 2) r/min.</p>		P



EN 60998-2-2																																																											
Clause	Requirement – Test	Result	Verdict																																																								
	<p>The distance between the mouth of the clamping unit and the upper surface of the bushing shall be within 15 mm of the height in Table 102. The bushing may be lubricated to prevent binding, twisting or rotation of the insulated conductor. A mass, as specified in Table 102, is to be suspended from the end of the conductor. The duration of the test shall be 15 min.</p> <p>NOTE When securing the terminal, care must be taken to avoid exerting excessive force on the terminal which may affect the connection.</p> <p>During the test, the conductor shall neither slip out of the clamping unit, nor break near the clamping unit, nor shall the conductor be damaged in such a way as to render it unfit for further use.</p> <p>Table 102 – Relationship between mass, height and cross-sectional area of conductors</p> <table border="1"> <thead> <tr> <th>Conductor cross-section mm²</th> <th>Diameter of bushing hole ^a mm</th> <th>Height ^b H mm</th> <th>Mass for conductor kg</th> </tr> </thead> <tbody> <tr><td>0,2</td><td>6,4</td><td>260</td><td>0,2</td></tr> <tr><td>0,34</td><td>6,4</td><td>260</td><td>0,2</td></tr> <tr><td>0,5</td><td>6,5</td><td>260</td><td>0,3</td></tr> <tr><td>0,75</td><td>6,5</td><td>260</td><td>0,4</td></tr> <tr><td>1,0</td><td>6,5</td><td>260</td><td>0,4</td></tr> <tr><td>1,5</td><td>6,5</td><td>260</td><td>0,4</td></tr> <tr><td>2,5</td><td>9,5</td><td>280</td><td>0,7</td></tr> <tr><td>4,0</td><td>9,5</td><td>280</td><td>0,9</td></tr> <tr><td>6,0</td><td>9,5</td><td>280</td><td>1,4</td></tr> <tr><td>10,0</td><td>9,5</td><td>280</td><td>2,0</td></tr> <tr><td>16,0</td><td>13,0</td><td>300</td><td>2,9</td></tr> <tr><td>25,0</td><td>13,0</td><td>300</td><td>4,5</td></tr> <tr><td>35,0</td><td>14,5</td><td>300</td><td>6,8</td></tr> </tbody> </table> <p>^a If the bushing hole diameter is not large enough to accommodate the conductor without binding, a bushing having the next largest hole size may be used. ^b Tolerance for height: H ± 15 mm.</p>	Conductor cross-section mm ²	Diameter of bushing hole ^a mm	Height ^b H mm	Mass for conductor kg	0,2	6,4	260	0,2	0,34	6,4	260	0,2	0,5	6,5	260	0,3	0,75	6,5	260	0,4	1,0	6,5	260	0,4	1,5	6,5	260	0,4	2,5	9,5	280	0,7	4,0	9,5	280	0,9	6,0	9,5	280	1,4	10,0	9,5	280	2,0	16,0	13,0	300	2,9	25,0	13,0	300	4,5	35,0	14,5	300	6,8		P
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10.106	<p>After the test of 10.105, the pull force given in Table 103 shall be applied to each conductor tested in accordance with 10.105. The force shall be applied in one smooth and continuous application, for 1 min, in the direction of the axis of the conductor. During the test the conductor shall not come out of the terminal.</p>		P																																																								
	<p>Table 103 – Relationship between pull force and cross-sectional area</p> <table border="1"> <thead> <tr> <th>Cross-sectional area mm²</th> <th>0,2</th> <th>0,34</th> <th>0,5</th> <th>0,75</th> <th>1,0</th> <th>1,5</th> <th>2,5</th> <th>4</th> <th>6</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>Pull force N</td> <td>10</td> <td>15</td> <td>20</td> <td>30</td> <td>35</td> <td>40</td> <td>50</td> <td>60</td> <td>80</td> <td>90</td> <td>100</td> <td>135</td> <td>190</td> </tr> </tbody> </table>	Cross-sectional area mm ²	0,2	0,34	0,5	0,75	1,0	1,5	2,5	4	6	10	16	25	35	Pull force N	10	15	20	30	35	40	50	60	80	90	100	135	190		P																												
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Pull force N	10	15	20	30	35	40	50	60	80	90	100	135	190																																														
11	Construction		-																																																								
	This clause of Part 1 is applicable except as follows:		P																																																								



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
11.2	<p>Replacement: Clamping units shall be so designed and constructed that they clamp the conductors without undue damage to the conductor. Compliance is checked by inspection and by clauses 10.105 and 10.106. Tests for terminals where the conductor is not clamped between metal surfaces are under consideration.</p>		P
11.5	<p>Addition: Test refers to 15.101.</p>		- N/A
	<p>Replacement: NOTE 1 Springs, resilient parts, clamping means, and the like are not considered as parts mainly intended for carrying current. Addition:</p>		-
11.101	<p>Clamping units shall be so designed and constructed that contact pressure shall not be transmitted via insulating material, other than ceramic or pure mica, unless there is sufficient resiliency in the metallic parts, to compensate for any possible shrinkage or yielding of the insulated material. For clamping units for conductors up to and including 0,75 mm², one of the surfaces may be of insulating material other than ceramic or pure mica. The possibility of using material other than metal, as compensation for any possible deformation, for example shrinkage, is under consideration. Compliance is checked by inspection. A test for the efficiency of the resiliency is under consideration.</p>		P
11.102	<p>The insertion and disconnection of the conductors shall be made in accordance with the manufacturer's instructions. Openings for the use of a tool intended to assist the insertion or disconnection shall be clearly distinguishable from the openings intended for the conductor(s). Compliance is checked by inspection.</p>		N/A



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
11.103	Terminals shall be so designed and constructed that – each conductor is clamped individually; – during the connection or disconnection the conductors can be connected or disconnected either at the same time or separately. It shall be possible to clamp securely any number of conductors up to the maximum provided for. Compliance is checked by inspection and by the tests of 10.105 and 10.106.		P
11.104	Terminals shall be so designed and constructed that inadequate insertion of the conductor is avoided. Compliance is checked by inspection.		P
11.105	Screwless terminals shall be so designed that the connected conductor remains clamped, even when it has been bent during normal installation. NOTE This test is intended to simulate the bending forces on the conductor being transferred to the clamping unit during installation. Compliance is checked by the test of 14.101.		P
12	Resistance to ageing, to humid conditions, to ingress of solid foreign objects and to harmful ingress of water		-
	This clause of Part 1 is applicable.		P
13	Insulation resistance and electric strength		-
	This clause of Part 1 is applicable.		P
14	Mechanical strength		-
	This clause of Part 1 is applicable except as follows:		P
14..101	For the bending test, three new samples shall be used.		N/A
	The test apparatus, the principle of which is shown in Figure 103 a), shall be constructed so That – the test conductor, properly inserted into a clamping unit of the connecting devices shall be allowed to be bent (deflected) in all 12 directions each of them differing from the adjacent directions by $30^\circ \pm 5^\circ$;		P



EN 60998-2-2																								
Clause	Requirement – Test	Result	Verdict																					
	<p>– the starting-point can be varied by 10° and 20° from the original point. NOTE 1 A reference direction and starting-point is not specified. The bending of the conductor from its straight position to the testing positions shall be effected by means of a suitable device applying a force as specified in Table 104 to the conductor at a certain distance from the clamping unit of the connecting device. The bending apparatus shall be so designed that</p> <ul style="list-style-type: none"> – the force is applied in the direction perpendicular to the conductor; – the bending is attained without rotation of the conductor within the clamping unit; – the force remains applied while the prescribed voltage drop measurement is made. <p>The force for bending the conductor is specified in Table 104. The distance d shall be measured from the extremity of the connecting device, including the guidance for the conductor, if any, to the point of application of the force to the conductor.</p> <p>Table 104 – Deflection test forces</p> <table border="1"> <thead> <tr> <th>Cross-section of the test conductor mm²</th> <th>Force for deflection of the test conductor ^a N</th> <th>Distance d mm</th> </tr> </thead> <tbody> <tr> <td>≤0,5</td> <td>0,09</td> <td>100</td> </tr> <tr> <td>0,75</td> <td>0,16</td> <td>100</td> </tr> <tr> <td>1,0</td> <td>0,25</td> <td>100</td> </tr> <tr> <td>1,5</td> <td>0,5</td> <td>100</td> </tr> <tr> <td>2,5</td> <td>1,0</td> <td>100</td> </tr> <tr> <td>4</td> <td>2,0</td> <td>100</td> </tr> </tbody> </table> <p><small>Ⓜ Text deleted Ⓜ</small></p> <p><small>^a The forces are chosen so that they stress the conductors close to the limit of elasticity.</small></p> <p>Provisions shall be made so that the voltage drop across the clamping units under test can be measured when the conductor is connected, as shown for example in Figure 103 b). The sample is mounted on the fixed part of the test apparatus in such a way that the test conductor can be freely bent. The surface of the test conductor shall be free of detrimental contamination or corrosion. A clamping unit is fitted as for normal use with a rigid solid copper conductor having the smallest cross-sectional area specified in 10.103 and is submitted to a first test sequence; the same clamping unit is submitted to a second test sequence using the conductor having the largest cross-sectional area, unless the first test sequence has failed.</p>	Cross-section of the test conductor mm ²	Force for deflection of the test conductor ^a N	Distance d mm	≤0,5	0,09	100	0,75	0,16	100	1,0	0,25	100	1,5	0,5	100	2,5	1,0	100	4	2,0	100		P
Cross-section of the test conductor mm ²	Force for deflection of the test conductor ^a N	Distance d mm																						
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1,5	0,5	100																						
2,5	1,0	100																						
4	2,0	100																						



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
	<p>The test shall be made with the current flowing (i.e. the current is not switched on and off during the test). A suitable power supply shall be used so that the current variations are kept with $\pm 5\%$.</p> <p>A 10th of the test current assigned to the connected conductor, according to Table 2 of Part 1 shall flow through the connecting devices. A bending force shall be applied as shown in Figure 103 a), in one of the 12 directions and the voltage drop across this clamping unit shall be measured.</p> <p>The force shall then be applied successively on each one of the remaining 11 directions shown in Figure 103 a) following the same test procedure.</p> <p>If at any of the 12 test directions the voltage drop is greater than 2,5 mV, the force shall be maintained in this direction until the voltage drop is reduced to a value below 2,5 mV, but for not more than 1 min. After the voltage drop has reached a value below 2,5 mV, the force shall be maintained in the same direction for a further period of 30 s during which period the voltage drop shall not have increased.</p> <p>The other two samples of the test set shall be tested according to the same test procedure, but moving the 12 directions of the force, so that they differ by approximately by 10° for each sample.</p> <p>If one sample has failed at one of the directions of application of the test force, the tests shall be repeated on another set of samples, all of which shall comply with the repeated tests.</p>		P
15	Temperature rise		-
	This clause of Part 1 is applicable except as follows:		P
15.1	Addition:		-
	The test shall be made on a set of new samples fitted with new conductors.		P



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
15.4	<p>Addition: When the connecting device is designed with clamping units of different rated connecting capacities, the test(s) is(are) made with the current(s) corresponding to the largest size of the conductor to be connected to the part of the terminal having the lowest rated connecting capacity according to the chosen current path. NOTE See Annex CC for examples.</p>		P
15.101	<p>The electrical performance of screwless-type terminals is verified by the following test, which is made on new samples which have not been used for any other test. The test is made with new copper conductors having the minimum and maximum crosssectional areas according to Table 101.</p> <ul style="list-style-type: none"> – Universal terminals for rigid (solid/stranded) and flexible conductors: six samples for each type of conductor. – Non-universal terminals for solid conductors only: six samples. – Non-universal terminals for rigid (solid and stranded) conductors: six samples for each type of conductor. – Non-universal terminals for flexible conductors only: six samples. <p>NOTE 1 In case of rigid conductors up to and including 10 mm² solid conductors are to be used (for certain crosssectional areas, if solid conductors are not available in a given country, stranded conductors may be used). A conductor having the smallest cross-sectional area is connected as in normal use, to each of three terminals, and a conductor having the largest cross-sectional area is connected as in normal use, to each of the three other terminals. Each set of three terminals is connected in series.</p> <p>NOTE 2 Figure 1 and Figure 2 of Part 1 illustrate how this can be done. The whole test arrangement including the conductors is placed in a heating cabinet which is initially kept at a temperature of 20 °C ± 2 °C. To avoid any movement of the test arrangement until all the following voltage drop tests have been completed it is recommended that the terminals are fixed on a common support.</p>		P



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
	<p>Except for during the cooling period, test current is applied to the circuit. The test current shall be applied for the initial 30 min of each cycle. The test current, established in the series circuit according to the conductor cross-sectional area, is identical to the test current established according to the corresponding rated connecting capacity as defined in Table 2 of Part 1.</p> <p>The terminals shall then be subjected to 192 temperature cycles, each cycle having a duration of approximately 1 h, as follows: The air temperature in the cabinet is raised in approximately 20 min to 40 °C or to the value of the T-marking. It is maintained within ± 5 °C of this value for approximately 10 min. The terminals are then allowed to cool down in approximately 20 min to a temperature of approximately 30 °C forced cooling being allowed. They are kept at this temperature for approximately 10 min and if necessary for measuring the voltage drop, allowed to cool down further, to a temperature of $20\text{ °C} \pm 2\text{ °C}$.</p> <p>The maximum allowable voltage drop measured at each clamping unit, at the end of the 192nd cycle, with the current as specified in Table 2 of Part 1 shall not exceed the smaller of the two following values: – either 22,5 mV; – or 1,5 times the value measured after the 24th cycle.</p> <p>The measurement shall be made as near as possible to the area of contact on the clamping unit. If the measuring points cannot be positioned closely to the point of contact, the voltage drop within the part of the conductor between the ideal and the actual measuring points shall be deducted from the voltage drop measured. The temperature in the heating cabinet shall be measured at a distance of at least 50 mm from the samples. After this test an inspection with the naked eye, by normal or corrected vision, without additional magnification, shall show no changes evidently impairing further use, such as cracks, deformations or the like.</p>		P
16	Resistance to heat		-



EN 60998-2-2			
Clause	Requirement – Test	Result	Verdict
	This clause of Part 1 is applicable.		P
17	Clearances and creepage distances		-
	This clause of Part 1 is applicable.		N/A
18	Resistance of insulating material to abnormal heat and fire		-
	This clause of Part 1 is applicable		P
19	Resistance of insulating material to tracking		-
	This clause of Part 1 is applicable.		N/A
20	EMC requirement		N/A

Photographs

Appendix 1

Photo documentation



THE END



RoHS Test Report

Applicant name:	Dongguan Slocable Photovoltaic Technology Co., Ltd.
Applicant address:	Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan City, Province,China

Sample information:

Sample Name:	PV connector
Sample Model:	CN40-CM-12、CN40-CM-01、CN40-CM-14、CN40-CM-10、CN40-CM-8、 CN40-PM-01、CN40-PM-14、CN40-PM-12、CN40-PM-10、BC40-2M1F、 BC40-2F1M、BC50-3M1F、BC50-3F1M、BCY3-2F1M、BCY3-2M1F、 BCY4-3F1M、BCY4-3M1F、BCY5-4F1M、BCY5-4M1F、BCY6-5F1M、 BCY6-5M1F、CN40-FURY
Trade mark :	N/A
Manufacturer:	Dongguan Slocable Photovoltaic Technology Co., Ltd. Floor 4th,Huawei Scientific Valley,Dalingshan Town,Dongguan City, Guangdong Province,China
Sample Received Date:	Jun.28,2018
Testing Period:	Jun.28,2018~Jul.03,2018

Test Requested As specified by client, to determine the Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content in the submitted sample RoHS Directive 2011/65/EU Annex II amending Annex (EU)2017/2102

Test Method:

Tested Item(s)	Test Method	Measured Equipment(s)	MDL
Lead(Pb)	IEC 62321-5:2013	ICP-OES	2mg/kg
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES	2mg/kg
Mercury(Hg)	IEC 62321-4:2013	ICP-OES	2mg/kg
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017	UV-VIS	2mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	5mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	5mg/kg

Test Result(s) Please refer to the following page(s).

Test by : James Huang

Inspected by : Robert Chen

Approved by : Kevin Yang
Technical Manager

Date : Jul.03,2018





RoHS Test Report

Test Result(s):

Tested Item(s)	Content	Limit	MDL
Lead(Pb)	N.D.	1000	2
Cadmium(Cd)	N.D.	100	2
Mercury(Hg)	N.D.	1000	2
Hexavalent Chromium(Cr(VI))	N.D.	1000	2
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	-	5
Dibromobiphenyl	N.D.	-	5
Trbromobiphenyl	N.D.	-	5
Tetrabromobiphenyl	N.D.	-	5
Pentabromobiphenyl	N.D.	-	5
Hexabromobiphenyl	N.D.	-	5
Heptabromobiphenyl	N.D.	-	5
Octabromobiphenyl	N.D.	-	5
Nonabromobiphenyl	N.D.	-	5
Decabromobiphenyl	N.D.	-	5
Sum of PBBs	N.D.	1000	-
Polybrominated Diphenyl Ethers(PBDEs)			
Monobromodiphenyl ether	N.D.	-	5
Dibromodiphenyl ether	N.D.	-	5
Tribromodiphenyl ether	N.D.	-	5
Tetrabromodiphenyl ether	N.D.	-	5
Pentabromodiphenyl ether	N.D.	-	5
Hexabromodiphenyl ether	N.D.	-	5
Heptabromodiphenyl ether	N.D.	-	5
Octabromodiphenyl ether	N.D.	-	5
Nonabromodiphenyl ether	N.D.	-	5
Decabromodiphenyl ether	N.D.	-	5
Sum of PBDES	N.D.	1000	-

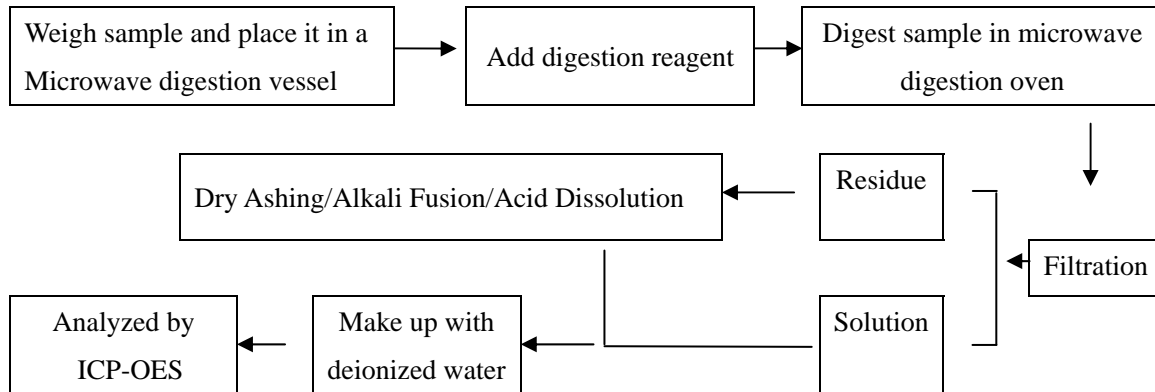
Note: MDL = Method Detection Limit N.D. =Not Detected(<MDL)
mg/kg = ppm =parts per million “-”=Not specified



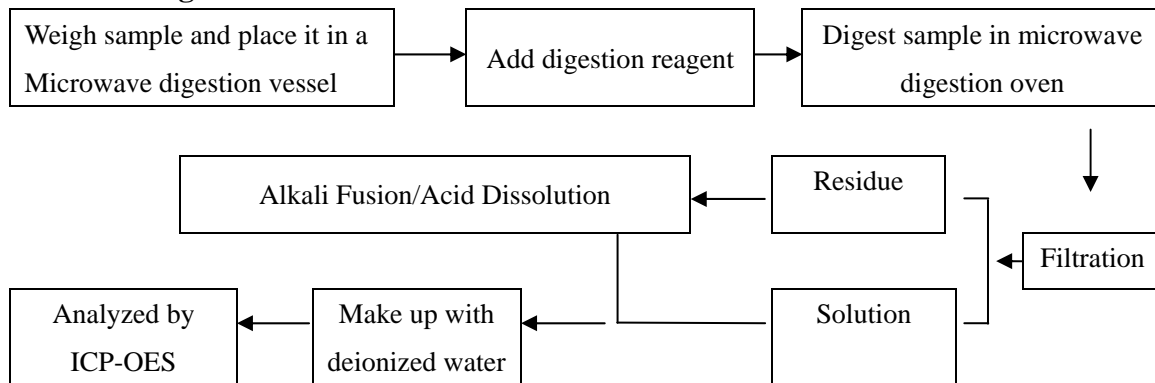
RoHS Test Report

Test process

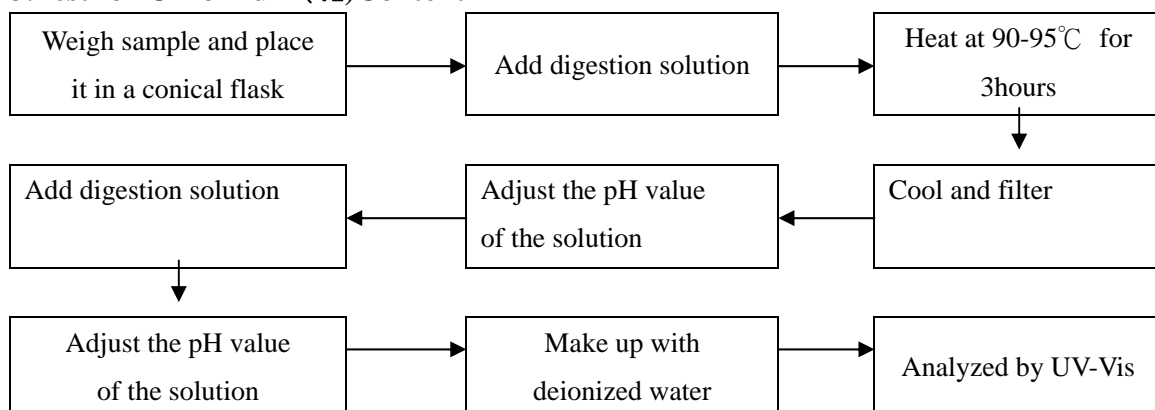
1. Test for Pb/Cd Content



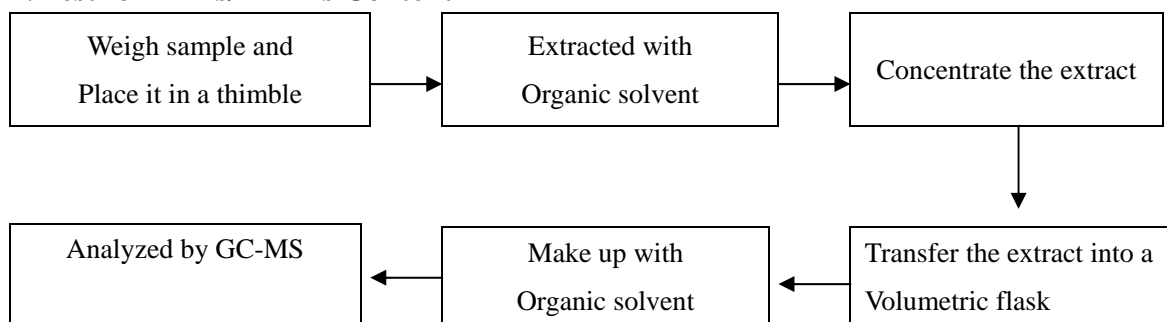
2. Test for Hg Content



3. Test for Chromium (VI) Content



4. Test for PBBs/PBDEs Content





RoHS Test Report

Photo(s) of the sample(s)



*** End of report ***

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