

TEST REPORT

on behalf of

SINO CONCEPT EQUIPMENT LIMITED

Cable Protector

M/N: 2 Channels, 3 Channels, 5 Channels.

Prepared For: SINO CONCEPT EQUIPMENT LIMITED
FLAT 03H, 15/F, CARNIVAL COMMERCIAL BUILDING, 18 JAVA
ROAD, NORTH POINT, HONG KONG.

Prepared By: Shanghai Global Testing Services Co., Ltd.
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Report No.: TLGW17041710635

Date of Test: April 17th, 2017 to May 2nd, 2017

Date of Report: May 2nd, 2017

TEST REPORT
BS EN 50085-2-2:2008
Cable trunking systems and cable ducting
systems for electrical installations —
Part 2-2: Particular requirements for cable
trunking systems and cable ducting systems intended for
mounting underfloor, flushfloor, or onfloor

Report reference No. :	TLGW17041710635	
Tested by (name+ signature)	Karl Yip	
Approved by (name+ signature)	Steven Zhang	
Date of issue.....	May 2nd, 2017	
Number of pages	13	
Testing laboratory	Shanghai Global Testing Services Co., Ltd.	
Address.....	No. 968 Meilong West Road, Minhang District, Shanghai,201104 China	
Testing procedure	GTS	
Applicant	SINO CONCEPT EQUIPMENT LIMITED	
Address.....	FLAT 03H, 15/F, CARNIVAL COMMERCIAL BUILDING, 18 JAVA ROAD, NORTH POINT, HONG KONG.	
Manufacturer	SINO CONCEPT EQUIPMENT LIMITED	
Address.....	FLAT 03H, 15/F, CARNIVAL COMMERCIAL BUILDING, 18 JAVA ROAD, NORTH POINT, HONG KONG.	
Test specification	CE	
Standard	BS EN 50085-2-2:2008	
Test Report Form No.	EN 50085_2_2B	
TRFOriinator	GTS	
Master TRF.....	GTS	
Type of test object	Cable Protector	
Model/type reference.....	2 Channels, 3 Channels, 5 Channels.	

Copy of marking plate

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Possible test case verdicts:	
- test case does not apply to the test object..... :	N(.A.)
- test object does meet the requirement..... :	P(ass)
- test object does not meet the requirement..... :	F(ail)
Testing	
Date of receipt of test item	April 17th, 2017
Date (s) of performance of tests	April 17th, 2017 to May 2nd, 2017
<p>General remarks:</p> <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 / point 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>This test report includes the following:</p> <p>Annex I: Photo Documentation, 5 page(s)</p>	

EN 50085-1			
Clause	Requirement – Test	Result - Remark	Verdict
4	General requirements		
	CTS/CDS shall be so designed and constructed that where required they provide reliable mechanical protection to the insulated conductors, cables and possibly other electrical equipment contained therein. Where required the system shall also provide adequate electrical protection.		P
	Furthermore, the system components shall withstand the stresses likely to occur under classified minimum temperature for storage and transport, installation and application and maximum temperature for application and during recommended installation practice and usage.		P
	Equipment associated with or incorporated in a system component but which is not a system component, shall and need only comply with the relevant standard of this equipment, if any. However it may be necessary to include such equipment in a test arrangement for the purpose of testing its interface with the CTS/CDS.		P
5	General conditions for tests		-
5.1	Tests according to this standard are type tests.		P
5.2	Samples of system components are called, hereafter samples.		P
5.3	Unless otherwise specified, tests are carried out, considering the declared classification and functions of the system, with the CTS/CDS assembled and installed as in normal use according to the manufacturer's instructions.		P
	Tests on non-metallic system components or composite system components shall not commence earlier than 168 h after manufacture. During this period the samples may be aged according to 10.3.1.1 when required.		P
5.4	Unless otherwise specified, the tests are carried out at an ambient temperature of 20 °C ± 5 °C.		P
5.5	Samples of trunking lengths or ducting lengths for a given test are taken from different such system components.		P
5.6	Unless otherwise specified, all tests are carried out on new samples.		P
5.7	When toxic or hazardous processes are used, precautions shall be taken to safeguard the test personnel.		P
5.8	Unless otherwise specified, three samples are subjected to the tests and the requirements are satisfied if all the tests are met.		P
9	Construction		-
9.1	Sharp edges		-

	Any surface or edge shall not damage the insulated conductors or cables. Compliance is checked by inspection, if necessary after cutting the samples apart. Screws, studs or other securing devices provided shall be fitted so as not to damage the insulated conductors or cables.		P
9.2	Apparatus mounting		
	If the CTS/CDS is provided with means for the mounting of apparatus, these means shall adequately secure this apparatus.		P
9.3	Means for protective separation and/or retention		-
	If the CTS/CDS is provided with means for the protective separation and/or retention, these means shall have adequate mechanical performance to fulfil their function.		P
9.4	Mechanical connections		-
	Screwed connections and other mechanical connections shall withstand the mechanical stresses during installation and normal use.		P
9.5	Accessible conductive parts		-
	Accessible conductive parts of CTS/CDS shall comply with 9.5.1 unless they comply with 9.5.2.		P
9.5.1	Accessible conductive parts of CTS/CDS installed according to the manufacturer's instructions, which are likely to become live in the event of an insulation fault, shall have the provision for reliable connection to earth.		P
	If precautions are taken in order to prevent creepage distances and clearances from becoming less than 3 mm, even if a conductor should become loose from its terminal, the accessible conductive part is not considered likely to become live.		P
	Protection against electric shock in case of a fault may be omitted for accessible conductive parts which, owing to their reduced dimensions (up to approximately 50 mm x 50 mm) or their disposition, cannot be gripped or come into significant contact with a part of the human body and provided that connection with a protective conductor could only be made with difficulty or would be unreliable.		P
9.5.2	Accessible conductive parts need not have provision for connection to earth if they are insulated from live parts with supplementary or reinforced insulation used to form barriers or linings which shall be designed in such a way that: – they cannot be removed without being permanently damaged or, – they cannot be replaced in an incorrect position or, – if omitted, the system is rendered inoperable or manifestly incomplete.		P

9.6	Equipotential bonding		-
9.6.1	The manufacturer shall declare if the CTS/CDS can be used for equipotential bonding.		P
9.6.2	If there is a provision for bonding, compliance is checked by the tests of 11.1.2. Before the test the sample is subjected to conditioning of 11.1.1.		P
9.7	Access to live parts		-
9.7.1	CTS/CDS shall be so designed that when they are installed and fitted with apparatus and/or other electrical equipment as in normal use, live parts are not accessible.		P
9.7.2	The test probe B of EN 61032:1998 is applied in every possible position, an electrical indicator with a voltage not less than 40 V and not more than 50 V being used to show contact with the relevant part.		P
9.7.3	Non-metallic system components and composite system components are subjected to the following additional test, which is carried out at the temperature declared according to Table 3 with a tolerance of ± 2 °C.		P
9.7.4	Knockouts are subjected for 1 min to a force of 10 N applied through the tip of test probe 11 of EN 61032:1998.		P
9.8	Inlet openings		-
	Inlet openings, if any, shall allow the introduction of conduits and/or the like, or the protective covering of the cable at least 1 mm into the system component, in order to maintain the mechanical protection.		P
9.9	Membranes		-
9.9.1	Membranes and the like which prevent access to live parts shall withstand the mechanical stresses occurring in normal use.		P
9.9.3	Entry membranes shall allow the introduction of cables into the system at the minimum installation temperature declared according to Table 2.		P
9.9.4	The system component shall be fitted with entry membranes which have not been subjected to any ageing treatment, those without openings being suitably pierced.		P
9.9.5	After the tests of 9.9.2 and 9.9.4, the membranes shall show no cracks or similar damages visible to normal or corrected vision without magnification that are likely to impair safety.		P
9.10	Cable restrainer		-
	Cable restrainers, if any, shall relieve conductors from strain in terminals or terminations by resisting the pull force on cable or insulated conductors.		P
10	Mechanical properties		-
10.1	Mechanical strength		-
	CTS/CDS shall have adequate mechanical strength.		P

10.2	Cable support test		-
	The test is described in the appropriate Part 2.		P
10.3	Impact test		-
10.3.1	Impact test for storage and transport		-
10.3.1.1	The test is carried out on samples of trunking lengths or ducting lengths each 250 mm ± 5 mm long.		P
10.3.1.2	The test apparatus consists basically of a hammer which falls freely from rest through a vertical height on to an intermediate part placed on the sample held in a horizontal plane.		P
10.3.1.3	After 2 h, each sample is, in turn, removed from the refrigerator and immediately placed in position in the test apparatus.		P
	At 12 s ± 2 s after the removal of the sample from the refrigerator the hammer is allowed to fall so that an impact is applied as far as possible perpendicular to the region likely to be the weakest accessible region. Compliance with impact applied before 10 s provides also compliance with this test of the standard.		P
10.3.1.4	After the test the samples shall show no signs of disintegration nor shall there be any cracks or similar damages visible to normal or corrected vision without magnification that are likely to impair safety.		P
10.4	Linear deflection test		-
	This test is described in the appropriate Part 2.		P
10.5	External load test		-
10.5.1	Fixing test for apparatus mounting of socket outlets		-
	An apparatus-mounting device is fitted on a sample of the relevant system component, in the middle of its length unless otherwise stated in the manufacturer's instructions. When the relevant system component is a trunking length or a ducting length, the sample is 250 mm ± 5 mm long or 100 mm ± 5 mm longer than the apparatus mounting device, whichever is the greater.		P
11	Electrical properties		-
11.1	Electrical continuity		-
	CTS/CDS declared according to 6.5.1 shall have adequate conductivity.		P
11.1.1	Preparation and conditioning		-
	All grease is removed from the parts to be tested, by cleaning with white spirit with a kauri-butanol value of 35 ± 5. The samples are then immersed for 10 min in a 10 % solution of ammoniumchloride in water at a temperature of 20 °C ± 5 °C. Without drying, but after shaking off any drops, the samples are then placed for 10 min in a box containing air saturated with moisture at a temperature of 20 °C ± 5 °C.		P

11.1.2	Electrical impedance tests		-
	A current derived from an a.c. source having a no-load voltage not exceeding 12 V and equal to 25 A \pm 1 A at the nominal frequency 50 Hz is passed through the four sample arrangements of 11.1.2.1 to 11.1.2.4,		P
11.2	Electrical insulation		-
11.2.1	Solid insulation		-
	System components, which form part of the enclosure, of CTS/CDS declared according to 6.6.2 shall be capable of withstanding electrical stress, which is likely to occur.		P
	Internal protective partitions, declared by the manufacturer as providing supplementary insulation, shall be capable of withstanding electrical stress, which is likely to occur.		P
11.2.2	Conditioning and preparation		-
	The humidity treatment is carried out in a humidity cabinet with a relative humidity between 91 % and 95 % at a temperature t maintained within \pm 1 °C of any convenient value between 25 °C and 30 °C.		P
11.2.3	Insulation resistance test		-
	The insulation resistance is measured by applying between the electrodes a d.c. voltage of 500 V \pm 25 V. The measurement is made 60 s (+ 10/0) s after the application of the voltage. The insulation resistance shall be not less than 100 M Ω .		P
11.2.4	Dielectric strength test		-
	Immediately after the test of 11.2.3, a voltage of (2 Un + 1 000) V, where Un is the rated voltage, of substantially sine-wave form and having a nominal frequency of 50 Hz, is then applied between electrodes.		P
12	Thermal properties		-
12.1	Resistance to heat		-
	Non-metallic or composite system components shall have adequate resistance to heat.		P
12.2	Non-metallic or composite system components necessary to retain current-carrying parts in position are subjected to a ball-pressure test by means of the apparatus shown in Figure 5.		P
12.3	Non-metallic or composite system components not necessary to retain current-carrying parts in position, but in contact with them and non-metallic or composite system components which retain parts of the protective earthing circuit, are subjected to the ball-pressure test of 12.2 but the test is carried out at a temperature of 70 °C \pm 2 °C.		P
13	Fire hazard		-

13.1	Reaction to fire		-
13.1.1	Initiation of fire		-
	Non-metallic system components and composite system components which might be exposed to abnormal heat due to electrical effects and deterioration of which might impair the safety of the system, shall not initiate fire.		P
13.1.2	Contribution to fire		-
	Non metallic system components and composite system components shall not actively contribute to fire.		P
13.1.3	Spread of fire		-
	Non-flame propagating CTS/CDS declared according to 6.4.2 shall either not ignite or if ignited, shall not continue to burn when the source of ignition is removed		P
	Non-metallic system component or metallic system component coated in paint or any other substance, which is likely to affect its resistance to flame propagation, is to be considered as a composite component and tested accordingly.		P
13.1.4	Additional reaction to fire characteristics		-
	Under consideration		P
13.2	Resistance to fire		-
	Under consideration		P
14	External influences		-
14.1	Degree of protection provided by enclosure		-
	CTS/CDS, when assembled and installed according to the manufacturer's instructions, shall provide adequate protection according to the classification declared by the manufacturer with a minimum of IP20.		P
14.1.1	Protection against ingress of solid foreign objects		-
14.1.1.1	The assembly is tested in accordance with the appropriate test of EN 60529:1991. For numeral 5, category 2 applies.		P
14.1.1.2	The assembly tested for numeral 5 or 6 passes the test if there is no ingress of dust visible to normal or corrected vision without magnification.		P
14.1.2	Protection against ingress of water		-
14.1.2.1	The assembly is tested in accordance with the appropriate test of EN 60529:1991. For numeral 3 and 4 the oscillating tube according to Figure 4 of EN 60529:1991 is used unless the dimensions of the assembly imply using the spray nozzle according to Figure 5 of EN 60529:1991.		P
14.1.2.2	The assembly tested for numeral 1 and above passes the test if there is no ingress of water in hazardous quantity.		N
14.1.3	Protection against access to hazardous parts		-

14.1.3.1	The assembly is tested in accordance with the appropriate test of EN 60529:1991.		P
14.1.3.2	The probe shall not enter the space for the accommodation of circuits.		P
14.2	Protection against corrosive or polluting substances		-
	Under consideration		P
15	Electromagnetic compatibility		-
	Products covered by this standard are, in normal use, passive in respect of electromagnetic influences (emission and immunity).		P

EN 50085-2-2:2008			
Clause	Requirement – Test	Result - Remark	Verdict
1	Scope		--
2	Normative references		--
3	Definitions		--
4	General requirements		--
	This clause of Part 1 is applicable.		
5	General conditions for tests		--
	This clause of Part 1 is applicable.		P
6	Classification		--
	This clause of Part 1 is applicable except as follows.		P
6.101	According to floor treatment		--
6.102	According to resistance to vertical load applied through small surface area		P
6.103	Optional classification according to resistance to vertical load applied through large surface area		P
7	Marking and documentation		--
7.101	Access units and service units of systems classified according to 6.101.1 shall be marked that they are suitable for dry treatment of floor only. The marking shall be visible by the user which may be achieved by opening the cover.		P
7.102	Service units shall be marked with a warning about the potential damage to electrical accessories by closing the cover. The marking shall be visible by the user which may be achieved by opening the cover.		P
7.103	Compliance with 7.101 and 7.102 is checked by inspection.		P
8	Dimensions		--
	This clause of Part 1 is applicable except as follows.		--
	Addition: There are no dimensions requirements.		P
9	Construction		--
9.101	Access covers of underfloor, flushfloor and onfloor CTS/CDS, which in normal use are subjected to external mechanical loads, shall resist movement and unintentional opening.		--
	Compliance is checked by inspection and by the tests of 10.5.		P

EN 50085-2-2:2008			
Clause	Requirement – Test	Result - Remark	Verdict
9.102	Service units installed flushfloor shall protect the installed electrical apparatus and the plug from direct impact when in use. This protection shall be effective and shall not cause damage to the outgoing cable.		P
	Compliance is checked by inspection and by the tests of 10.3.		P
9.103	Compliance is checked by the tests of 10.3 and 10.5.1.		P
9.104	Compliance is checked by inspection and measurement.		P
	Compliance is checked by inspection and measurement.		P
9.105	Compliance is checked by inspection and measurement.		P
9.106	CTS/CDS declared according to 6.101.2 and 6.101.3 shall avoid water coming into contact with insulated conductors and live parts during wet-treatment of floor by one or a combination of the following methods which may vary within the system.		P
9.107	Access cover of service unit, if any, shall withstand repeated opening and closing as in normal use.		P
9.108	Additional requirements are under consideration for service units intended to be installed onfloor with reference to EN 50085-2-4.		P
10	Mechanical properties		--
10.1	Replacement: Underfloor, flushfloor and onfloor CTS/CDS shall have adequate mechanical strength.		P
10.2	Not applicable.		N/A
10.3	Impact test		P
10.4	Not applicable.		N/A
10.5	External mechanical load test		P
11	Electrical properties		--
	This clause of Part 1 is applicable.		P
12	Thermal properties		--
	This clause of Part 1 is applicable.		P
13	Fire hazard		--
	This clause of Part 1 is applicable.		P
14	External influences		P

EN 50085-2-2:2008			
Clause	Requirement – Test	Result - Remark	Verdict
15	Electromagnetic compatibility		--
	This clause of Part 1 is applicable.		P

- End of Test Report -

Type of equipment, model: Cable Protector, the model: 2 Channels, 3 Channels, 5 Channels.

Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom

A photograph showing a black cable protector with a prominent yellow stripe running horizontally across its center. The protector is placed on a white surface. A metal ruler is positioned vertically to the left of the protector, and another ruler is placed horizontally below it, providing a scale for the object's dimensions. The protector has a textured, diamond-patterned surface and several circular holes along its length.

Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom

A photograph providing a closer view of the cable protector. A hand is visible on the right side, pointing towards the yellow stripe. The black textured surface and circular holes are more clearly visible. A metal ruler is placed vertically on the left side of the protector, and another ruler is placed horizontally below it. The background is a white surface.

Details of:

View:

general

front

rear

right

left

top

bottom



Details of:

View:

general

front

rear

right

left

top

bottom



Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom



Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom



Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom



Details of:

View:

- general
- front
- rear
- right
- left
- top
- bottom



Details of:

View:

general

front

rear

right

left

top

bottom



- End of Annex I -