Prüfbericht - Nr.: *Test Report No.:*	**SHG20090518162**	**Seite 1 von 5** *Page 1 of 5*
Auftraggeber: *Client:*	**Zhejiang Tianqi Electric Co., Ltd.** Tianzi Lake Industrial Zone, Gaoyu, Anji, Huzhou, Zhejiang, P.R. China	
Gegenstand der Prüfung: *Test Item:*	TIP/TX POLYESTER ENCLOSURE, SMC,GREY Details please refer to Page 2	
Bezeichnung: *Identification:*	NA	
Anlieferungszustand: *Delivery condition:*	**einwandfrei** *apparent good*	**Eingangsdatum:** *Date of Receipt:* May 18, 2009
Prüfort: *Testing Location:*	TÜV Rheinland (Shanghai) Co. Ltd.- Product and Environmental Analyses; 3/4F, Building No. 10 Lane 777, Guangzhong Road West Shanghai 200072, P.R.China	
Prüfgrundlage: *Test* Specification:	1. Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)	
Prüfergebnis: *Test Result:*	**Nach Art und Umfang der durchgeführten Prüfungen entspricht der Prüfgegenstand oben genannter Prüfgrundlage.** *According to the kind and extend of tests performed the test item passed test specification.*	

geprüft/ *tested by:*

Jun. 16, 2009 Tina Jin Chemist

Datum *Date*	**Name** *Name*	**Unterschrift** *Signature*

kontrolliert/ *checked by:*

Jun. 16, 2009 Jason He Project Manager

Datum *Date*	**Name** *Name*	**Unterschrift** *Signature*

Sonstiges/ *Other Aspects:*

Test period: Jun. 10, 2009 – Jun. 15, 2009
Attachment: Photographic documentation

Abkürzungen:				*Abbreviations:*			
	ok / P	=	*entspricht Prüfgrundlage*		*ok / P*	=	*passed*
	fail / F	=	*entspricht nicht Prüfgrundlage*		*fail / F*	=	*failed*
	n.a. / N	=	*nicht anwendbar*		*n.a. / N*	=	*not applicable*

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Gegenstand der Prüfung */Test item* :

No.	Sample Description
	TIP/TX POLYESTER ENCLOSURE, SMC,GREY
1.	Panel, grey
2.	Knob, black
3.	Seal, black
4.	Gasket, white
5.	Nut, metal
6.	Gasket, metal
7.	Screw, metal
8.	Connector, metal
9.	Agraff, metal

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Test Results

EC Directive 2002/95/EC _ The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment _ (RoHS)

Test method : With reference to IEC 62321, Edition 1.0, 2008-12

Limit[1] : EC Directive 2002/95/EC, 2005/618/EC, 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC, 2006/692/EC and 2008/385/EC.

Parameter	Unit[2]	Item -1	Item -2	Item -3	Item - 4
Lead (Pb)	mg/kg	21	6	4	<2
Cadmium (Cd)	mg/kg	<2	<2	<2	<2
Mercury (Hg)	mg/kg	<2	<2	<2	<2
Chromium VI (Cr VI)	mg/kg	<2	<2	<2	<2
Polybrominated Biphenyls (PBBs)					
1. Monobromobiphenyls	mg/kg	<5	<5	<5	<5
2. Dibromobiphenyls	mg/kg	<5	<5	<5	<5
3. Tribromobiphenyls	mg/kg	<5	<5	<5	<5
4. Tetrabromobiphenyls	mg/kg	<5	<5	<5	<5
5. Pentabromobiphenyls	mg/kg	<5	<5	<5	<5
6. Hexabromobiphenyls	mg/kg	<5	<5	<5	<5
7. Heptabromobiphenyls	mg/kg	<5	<5	<5	<5
8. Octabromobiphenyls	mg/kg	<5	<5	<5	<5
9. Nonabromobiphenyls	mg/kg	<5	<5	<5	<5
10.Decabromobiphenyl	mg/kg	<5	<5	<5	<5
Group PBBs	mg/kg	<5	<5	<5	<5
Polybrominated Diphenyl Ethers (PBDEs)					
1. Monobromodiphenyl ethers	mg/kg	<5	<5	<5	<5
2. Dibromodiphenyl ethers	mg/kg	<5	<5	<5	<5
3. Tribromodiphenyl ethers	mg/kg	<5	<5	<5	<5
4. Tetrabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
5. Pentabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
6. Hexabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
7. Heptabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
8. Octabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
9. Nonabromodiphenyl ethers	mg/kg	<5	<5	<5	<5
10. Decabromodiphenyl ether	mg/kg	<10	<10	<10	<10
Group PBDEs	mg/kg	<10	<10	<10	<10
Conclusion	-	**Pass**	**Pass**	**Pass**	**Pass**

Remark

1 See limit in annex.

2 "mg/kg" denotes milligram per kilogram

Main test instruments used for this method

Parameter	Instrument	Manufactory	Model / Type
Pb & Cd	ICP-OES	PerkinElmer	Optima 5300
Hg	ICP-OES	PerkinElmer	Optima 5300
Cr VI	UV-Vis	PerkinElmer	Lambda 35
PBBs & PBDEs	GC-MS	PerkinElmer	Clarus 500

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Test Report No.:

EC Directive 2002/95/EC _ The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment _ (RoHS)

Test method : With reference to IEC 62321, Edition 1.0, 2008-12

Limit[1] : EC Directive 2002/95/EC, 2005/618/EC, 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC, 2006/692/EC and 2008/385/EC.

Parameter	Unit[2]	Item - 5	Item - 6	Item - 7
Lead (Pb)	mg/kg	25	<2	<2
Cadmium (Cd)	mg/kg	<2	<2	<2
Mercury (Hg)	mg/kg	<2	<2	<2
The Chromium(VI) in Colorless and Colored Chromate Coatings on Metals.	mg/kg	ND in the boiling water extract (surface area 50 cm^2)	ND in the boiling water extract (surface area 50 cm^2)	ND in the boiling water extract (surface area 50 cm^2)
Material (alloy)	-	-	Steel	Steel
Conclusion	-	**Pass**	**Pass***	**Pass***

Parameter	Unit[2]	Item - 8	Item - 9
Lead (Pb)	mg/kg	44	<2
Cadmium (Cd)	mg/kg	<2	<2
Mercury (Hg)	mg/kg	<2	<2
The Chromium(VI) in Colorless and Colored Chromate Coatings on Metals.	mg/kg	ND in the boiling water extract (surface area 50 cm^2)	ND in the boiling water extract (surface area 50 cm^2)
Material (alloy)	-	-	Steel
Conclusion	-	**Pass**	**Pass***

Remark

1. * See exemption list in annex
2. "n.d." denotes not detected, less than 0.02 mg/kg in extract

Main test instruments used for this method:

Parameter	Instrument	Manufactory	Model / Type
Pb & Cd	ICP-OES	PerkinElmer	Optima 5300
Hg	ICP-OES	PerkinElmer	Optima 5300
Cr VI	UV-Vis	PerkinElmer	Lambda 35

End

Attached please find photographic documentation of submitted specimen(s).

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ANNEX: Limit and Exemption

1 Limit of material

Parameter:	Cadmium (Cd)	Lead (Pb)	Mercury (Hg)	Chromium(VI)	PBBs	PBDEs
Limit	100	1000	1000	1000	1000	1000

2 Exemption

The below items are quoted according to 2002/95/EC, 2005/717/EC, 2005/747/EC, 2006/310/EC, 2006/690/EC, 2006/691/EC, 2006/692/EC and 2008/385/EC.

Applications of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) which are exempted from the requirements of Article 4(1)

1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
2. Mercury in straight fluorescent lamps for general purposes not exceeding:
   — halophosphate 10 mg
   — triphosphate with normal lifetime 5 mg
   — triphosphate with long lifetime 8 mg.
3. Mercury in straight fluorescent lamps for special purposes.
4. Mercury in other lamps not specifically mentioned in this Annex.
5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
6. Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminum containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.
7. — Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead),
   — lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications,
   — lead in electronic ceramic parts (e.g. piezoelectronic devices).
8. Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC (*) amending Directive 76/769/EEC (**) relating to restrictions on the marketing and use of certain dangerous substances and preparations.
9. Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators.

9a. DecaBDE in polymeric applications

Note: The European Court of Justice annulled Deca-BDE exemption from July 1, 2008.

9b. Lead in lead-bronze bearing shells and bushes

10. --
11. Lead used in compliant pin connector systems.
12. Lead as a coating material for the thermal conduction module c-ring.
13. Lead and cadmium in optical and filter glass.
14. Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight
15. Lead in solders to complete a viable electrical between semiconductor die and carrier within integrated circuit Flip Chip packages.
16. Lead in linear incandescent lamps with silicate coated tubes.
17. Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications
18. Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP ($BaSi_2O_5$:Pb) as well as when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ($(Sr,Ba)_2MgSi_2O_7$:Pb).
19. Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact Energy Saving Lamps (ESL). Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
20. Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCD).
21. Lead and cadmium in printing inks for the application of enamels on borosilicate glass.
22. Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fibre optic communications systems.
23. Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead frames.
24. Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.
25. Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.
26. Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.
27. Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.
28. Hexavalent chromium in corrosion preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment).Exemption granted until 1 July 2007
29. Lead bound in crystal glass as defined in Annex I (Categories1, 2, 3 and 4) of Council Directive 69/493/EEC
30. Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100db(A) and more.
31. Lead in soldering materials in mercury free fluorescent lamps(which e.g. are used for liquid crystal display, design or industrial lighting).
32. Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes.'

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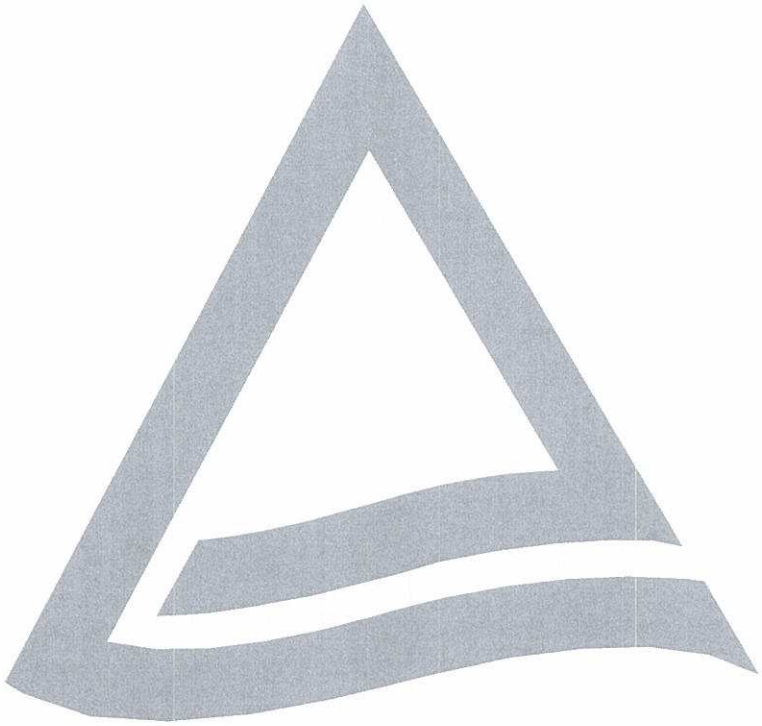
Precisely Right.

PHOTO DOCUMENTATION

SHG20090518162



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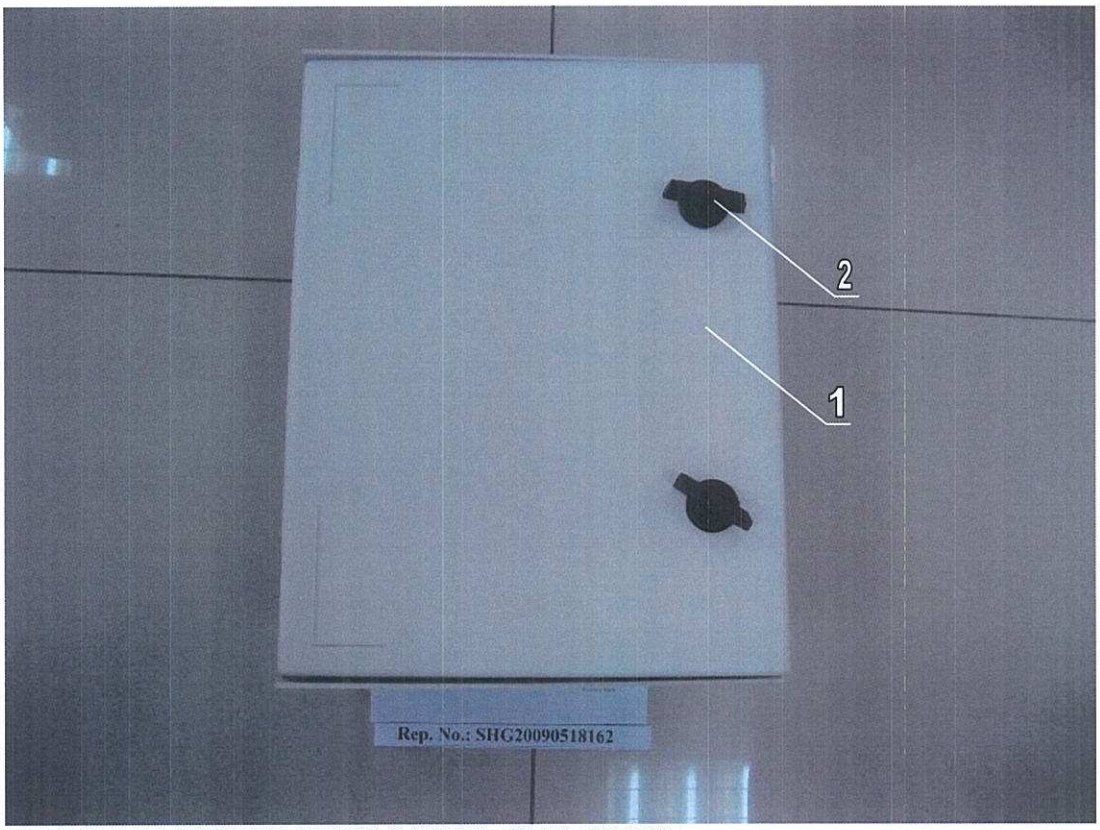
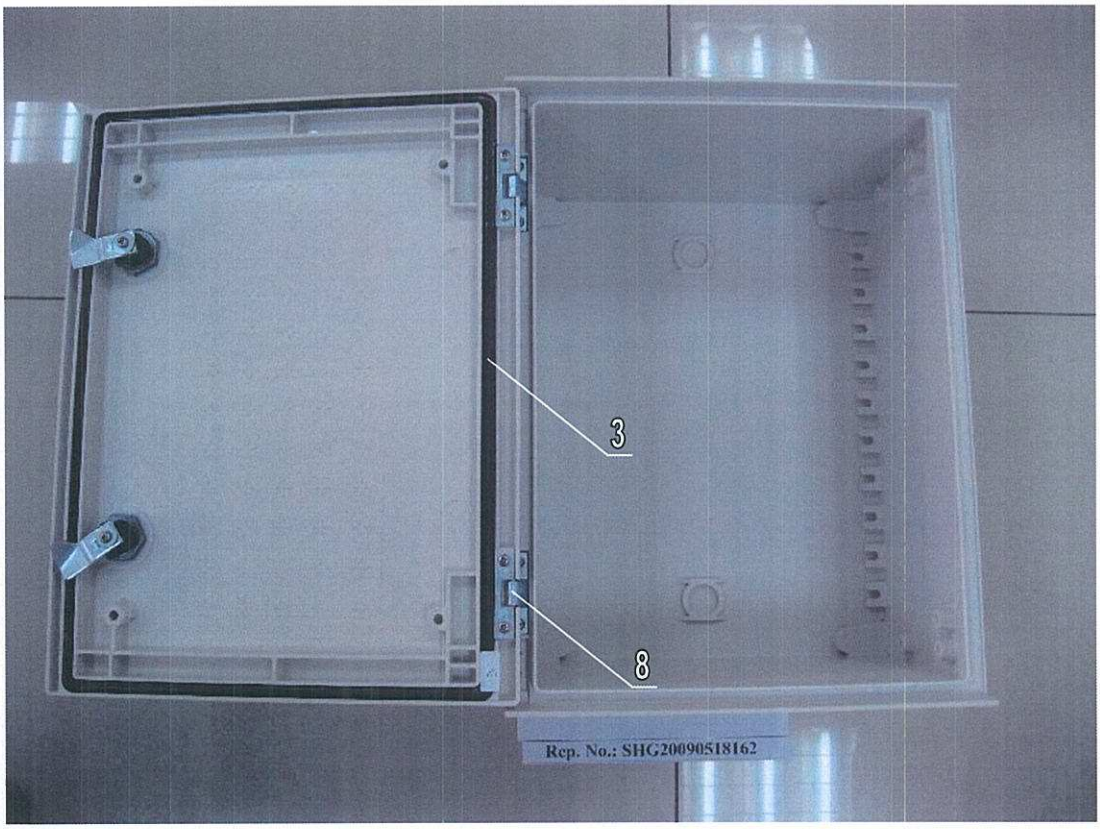
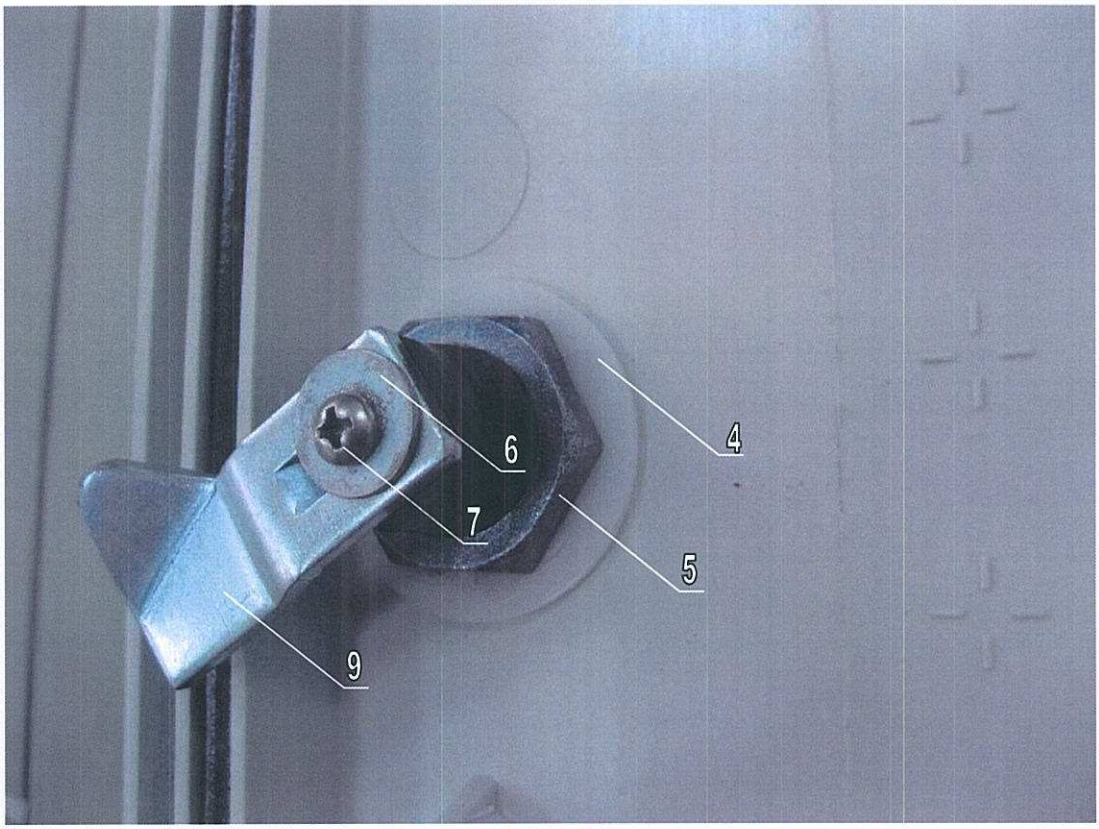


TIP/TX POLYESTER ENCLOSURE, SMC,GREY
1. Panel, grey
2. Knob, black



3. Seal, black
8. Connector, metal



4. Gasket, white
5. Nut, metal
6. Gasket, metal
7. Screw, metal
9. Agraff, metal