

Test Report No. 7191346814-EEC24/CKH
dated 23 Jan 2025



Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

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Inspire trust.**

Subject

TYPE TESTING OF STEEL SURFACE CABLE TRUNKING AND ACCESSORIES

Client

Tan Teck Seng Electric Co (Pte) LTD
137, Kaki Bukit Avenue 1
Shun Li industrial Park
Singapore 416003

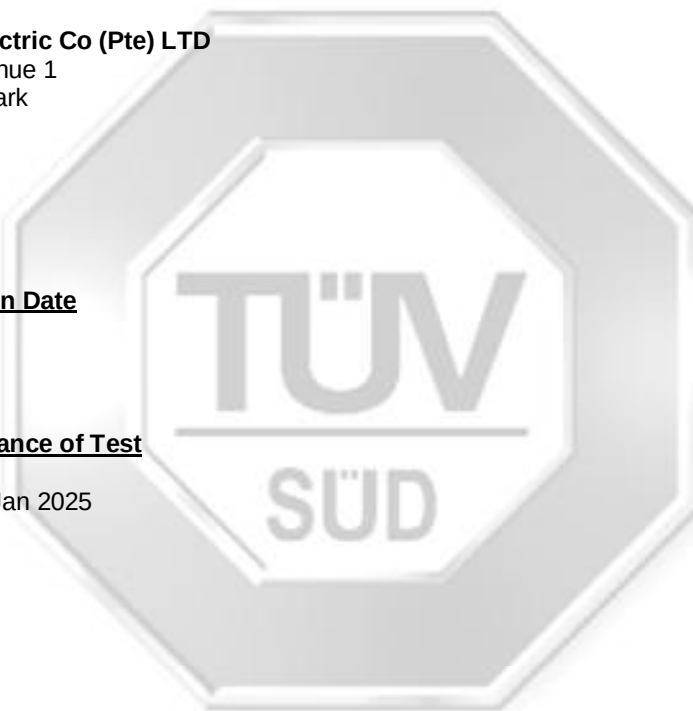
Attn: Annie Tan

Sample Submission Date

28 Nov 2024

Date(s) of Performance of Test

28 Nov 2024 to 17 Jan 2025



LA-2007-0380-A
LA-2007-0381-F
LA-2007-0382-B
LA-2007-0383-G
LA-2007-0384-G
LA-2007-0385-E
LA-2007-0386-C
LA-2010-0464-D
LA-2018-0702-B
LA-2018-0703-G
LA-2020-0747-L

The results reported herein have been performed in accordance with the terms of accreditation under the Singapore Accreditation Council. Inspections/Calibrations/Tests marked "Not SAC-SINGLAS Accredited" in this Report are not included in the SAC-SINGLAS Accreditation Schedule for our inspection body/laboratory.

TÜV SÜD PSB Pte. Ltd.
TÜV SÜD @ IBP
15 International Business Park
Singapore 609937

Phone : +65-6778 7777
E-mail: info.sg@tuvsud.com
<https://www.tuvsud.com/en-sg>
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
TÜV SÜD @ IBP
15 International Business Park
Singapore 609937
TUV®



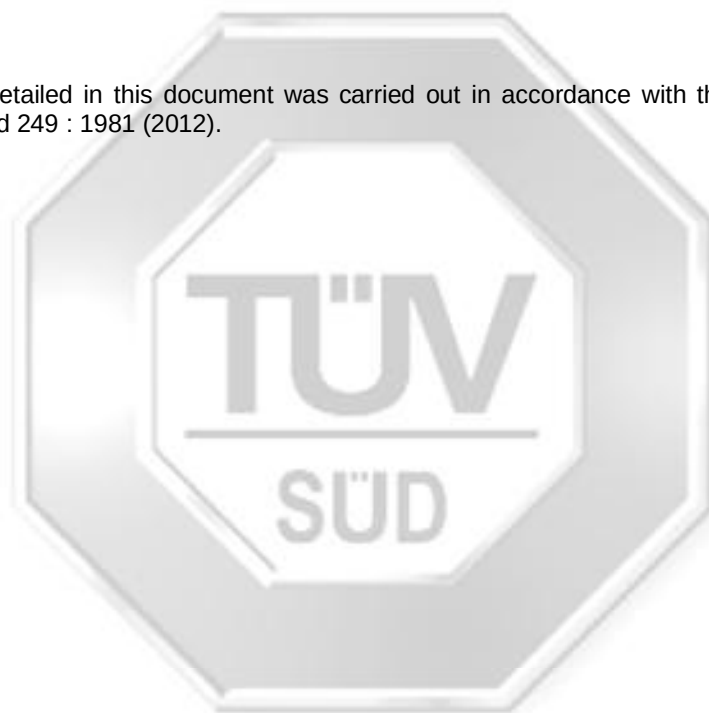
Description of Sample

Steel Surface Cable Trunking and Accessories

Brand	:	LIPKO
Size	:	100mm(W) X 50mm(H)
Colour / model	:	Grey / ST-42 & White / ST-42-W
Classification	:	Class 1
Quantity	:	Ten (10) complete lengths for each size of trunking & accessories
Manufacturer	:	LIPKO®. Cable Support System
Country	:	Malaysia

Method of Test

The assessment detailed in this document was carried out in accordance with the appropriate clauses of Singapore Standard 249 : 1981 (2012).



Test Report No. 7191346814-EEC24/CKH
dated 23 Jan 2025



Results (For Steel trunking size 100X50mm – Grey color)

Clause No.	Title / Description	Results	Permissible Limits
6	<u>Marking</u> The body and cover of each length of trunking shall be clearly and durably marked with : 1) Trademark or manufacturer 2) Singapore standard SS 249 3) The classification of coating (Class 1 or class 2) Marking may be achieved by embossing, printed adhesive labels or waterslide transfers	Complied LIPKO SS249 : 1981 Class 1 Complied Embossing marking	
7	<u>Details of construction</u> Trunking, connectors and accessories shall be made from steel to the dimensions given in Clause 8 and shall be protected corrosion in accordance with the requirements of Clause 9 Screws used shall have ISO metric threads, be adequately protected against corrosion and shall comply with the requirements specified in Clause 9	Complied (Refer to Clause 8 & 9 of this report) Complied (Refer to Clause 9 of this report)	
8	A) Average thickness of materials (mm) i) Body ii) Cover iii) Connector	1.24 1.21 1.22	)) Minimum 1.11mm; Maximum 1.29mm) -

Test Report No. 7191346814-EEC24/CKH
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Results (Continued for steel trunking size 100X50mm – Grey color)

Clause No.	Title / Description	Results		Permissible Limits
		Width (mm)	Height (mm)	
8 (Cont'd)	B) Average width and height of Trunking (mm)			
	i) Body	101.0	50.9	Maximun : 105.0mm (width), 52.5mm (Height)
	ii) Connector	95.8	40.3	-
	C) Length of each trunking (m)	2.44		Minimun : 2 m; Maximun : 3 m Preferred Length : 3 m

Test Report No. 7191346814-EEC24/CKH
dated 23 Jan 2025



Results (Continued for steel trunking size 100X50mm – Grey color)

Clause No.	Title / Description	Results	Permissible Limits
9	<u>Resistance to Corrosion</u> Salt spray test Test duration : 48 hours Type of steel of the trunking : Electroplated Galvanise Steel	Complied (See Remark 1)	
10	<u>Electrical Continuity Test</u> Ambient temperature = 23.5°C Total length of the trunking = 24.4m Continuity between the ends from: a.) Body to body with covers removed (Ω/m) b.) Body to body without covers removed (Ω/m)	0.000573 Ω/m 0.000497 Ω/m	))) Maximun 0.005 Ω/m
11	<u>Resistance to Scratches</u> Load : 800g	Complied (See Remark 1)	

Test Report No. 7191346814-EEC24/CKH
dated 23 Jan 2025



Results (Continued for steel trunking size 100X50mm – Grey color)

Clause No.	Title / Description	Results (μm)			Permissible Limits
		Body	Cover	Connector	
12	<u>Paint Thickness</u> (μm)	48.3	58.3	50.1	Minimun : 45 μm
13	<u>Coating Weight</u>	Not Applicable			-

Test Report No. 7191346814-EEC24/CKH
dated 23 Jan 2025



Results (For steel trunking size 100X50mm – White color)

Clause No.	Title / Description	Results	Permissible Limits
6	<u>Marking</u> The body and cover of each length of trunking shall be clearly and durably marked with : 4) Trademark or manufacturer 5) Singapore standard SS 249 6) The classification of coating (Class 1 or class 2) Marking may be achieved by embossing, printed adhesive labels or waterslide transfers	Complied LIPKO SS249: 1981 Class 1 Complied Embossing marking	
7	<u>Details of construction</u> Trunking, connectors and accessories shall be made from steel to the dimensions given in Clause 8 and shall be protected corrosion in accordance with the requirements of Clause 9 Screws used shall have ISO metric threads, be adequately protected against corrosion and shall comply with the requirements specified in Clause 9	Complied (Refer to Clause 8 & 9 of this report) Complied (Refer to Clause 9 of this report)	
8	A) Average thickness of materials (mm) i) Body ii) Cover iii) Connector	1.23 1.22 1.21	)) Minimum 1.11mm; Maximun 1.29mm) -

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Results (Continued for steel trunking size 100X50mm – White color)

Clause No.	Title / Description	Results		Permissible Limits
		Width (mm)	Height (mm)	
8 (Cont'd)	B) Average width and height of Trunking (mm)			
	i) Body	100.9	50.8	Maximun : 105.0mm (width), 52.5mm (Height)
	ii) Connector	95.9	40.4	-
	C) Length of each trunking (m)	2.44		Minimun : 2 m; Maximun : 3 m Preferred Length : 3 m

Test Report No. 7191346814-EEC24/CKH
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Results (Continued for steel trunking size 100X50mm – White color)

Clause No.	Title / Description	Results	Permissible Limits
9	<u>Resistance to Corrosion</u> Salt spray test Test duration : 48 hours Type of steel of the trunking : Electroplated Galvanise Steel	Complied (See Remark 1)	
10	<u>Electrical Continuity Test</u> Ambient temperature = 23.5°C Total length of the trunking = 24.4m Continuity between the ends from: a.) Body to body with covers removed (Ω/m) b.) Body to body without covers removed (Ω/m)	0.000571 Ω/m 0.000470 Ω/m	))) Maximun 0.005 Ω/m
11	<u>Resistance to Scratches</u> Load : 800g	Complied (See Remark 1)	

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Results (Continued for steel trunking size 100X50mm – White color)

Clause No.	Title / Description	Results (μm)			Permissible Limits
		Body	Cover	Connector	
12	<u>Paint Thickness</u> (μm)	83.0	52.5	81.0	Minimun : 45 μm
13	<u>Coating Weight</u>	Not Applicable			-

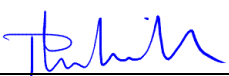


Remarks:

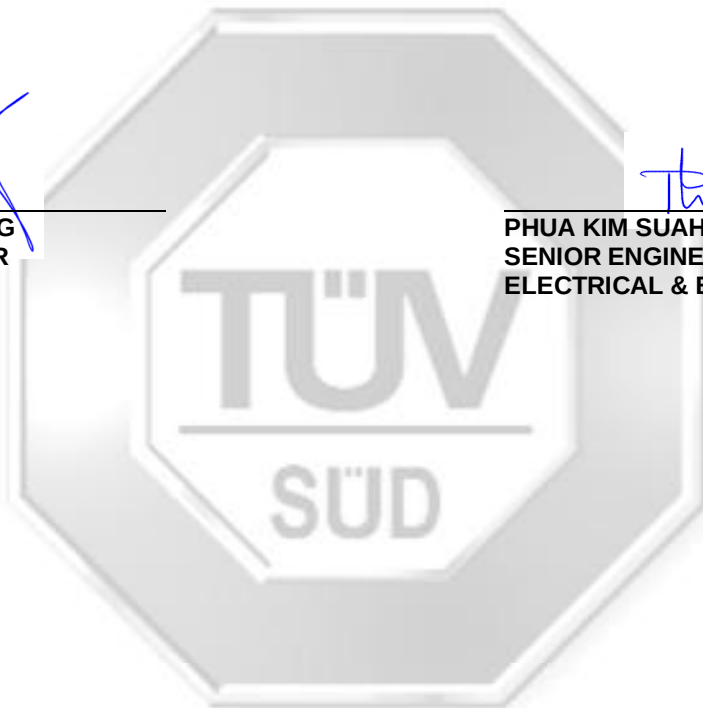
1. The resistance to corrosion and resistance to scratches tests were conducted by Chemical & Materials Group (See TÜV SÜD PSB's Test Report Reference No. : 7191346814-CHM24-01-TTY dated 16 Jan 2025 & 7191346814-CHM24-02-TTY dated 16 Jan 2025).
2. The steel surface cable trunkings and accessories submitted are deemed to comply with Singapore Standard 249 : 1981 (2012).



CHONG KING HING
TESTING OFFICER



PHUA KIM SUAH
SENIOR ENGINEER
ELECTRICAL & ELECTRONICS



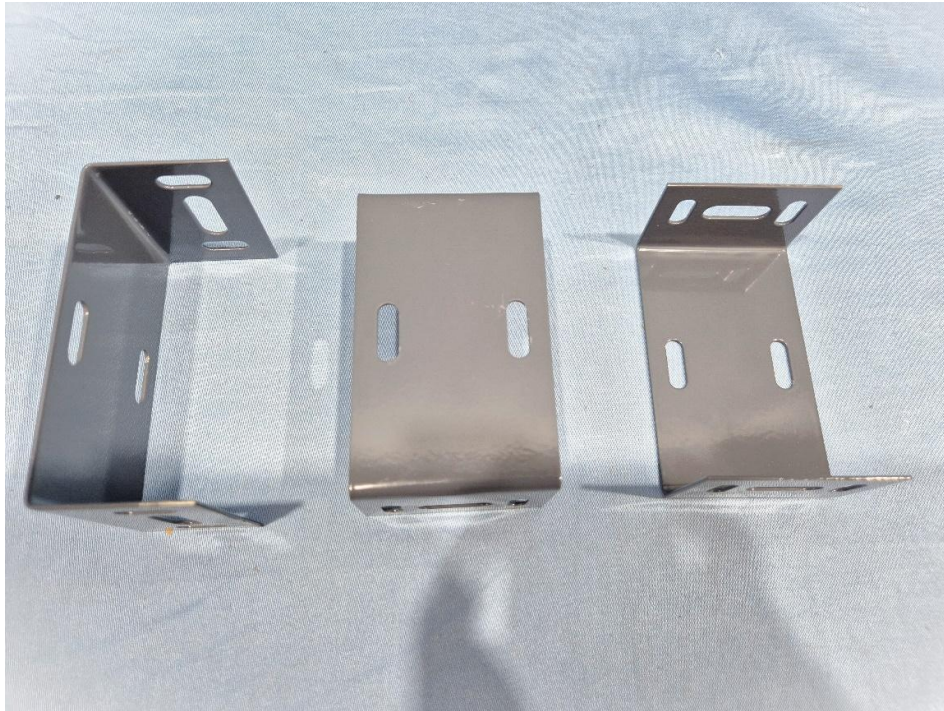
Appendix I

"LIPKO" Steel Surface Cable Trunking
Size : 100mm (W) X 50mm (H) – Grey color



Appendix I (Cont'd)

connector



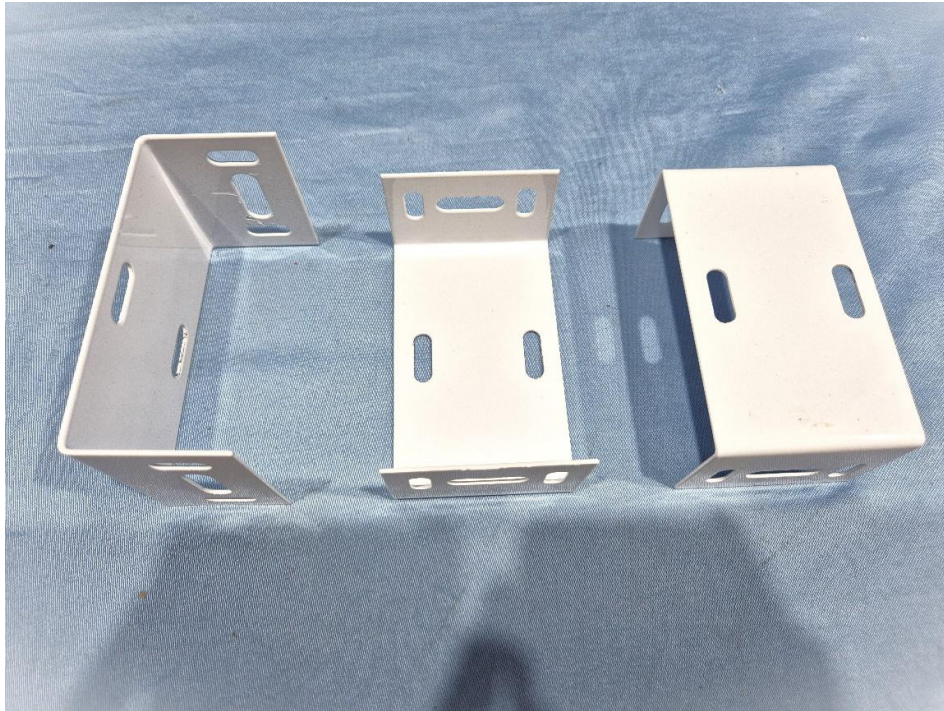
Appendix I (Cont'd)

"LIPKO" Steel Surface Cable Trunking
Size : 100mm (W) X 50mm (H) – White color



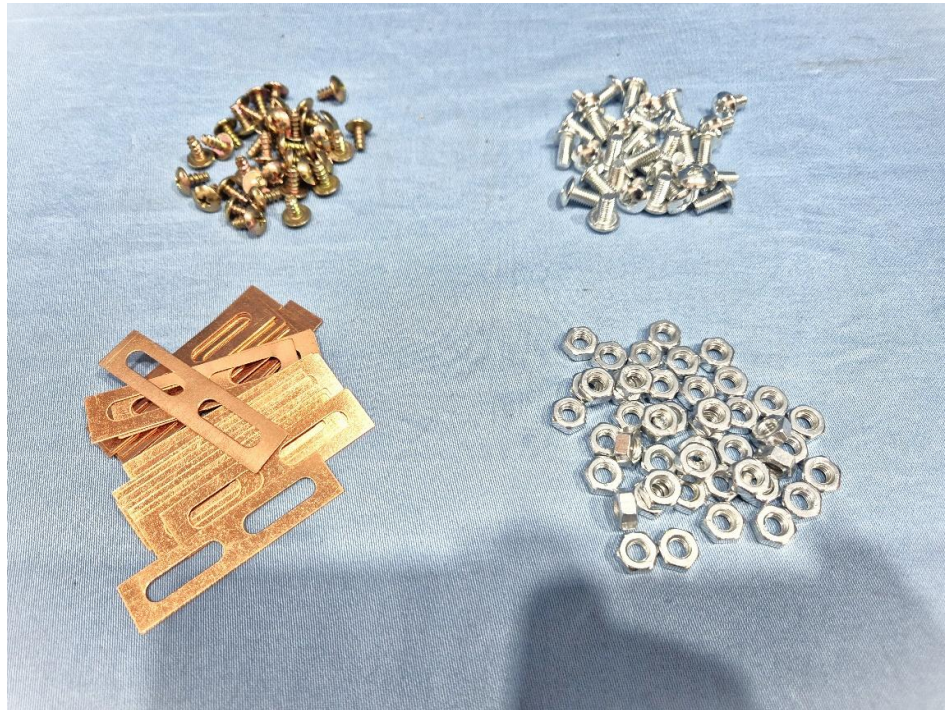
Appendix I (Cont'd)

Connector



Appendix I (Cont'd)

Steel Surface Cable Trunking Fixing Accessories



Test Report No. 7191346814-EEC24/CKH
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Effective 27 March 2024

