

We Connect the Future

The Way to a Global Leading Company

Company Profile 2020



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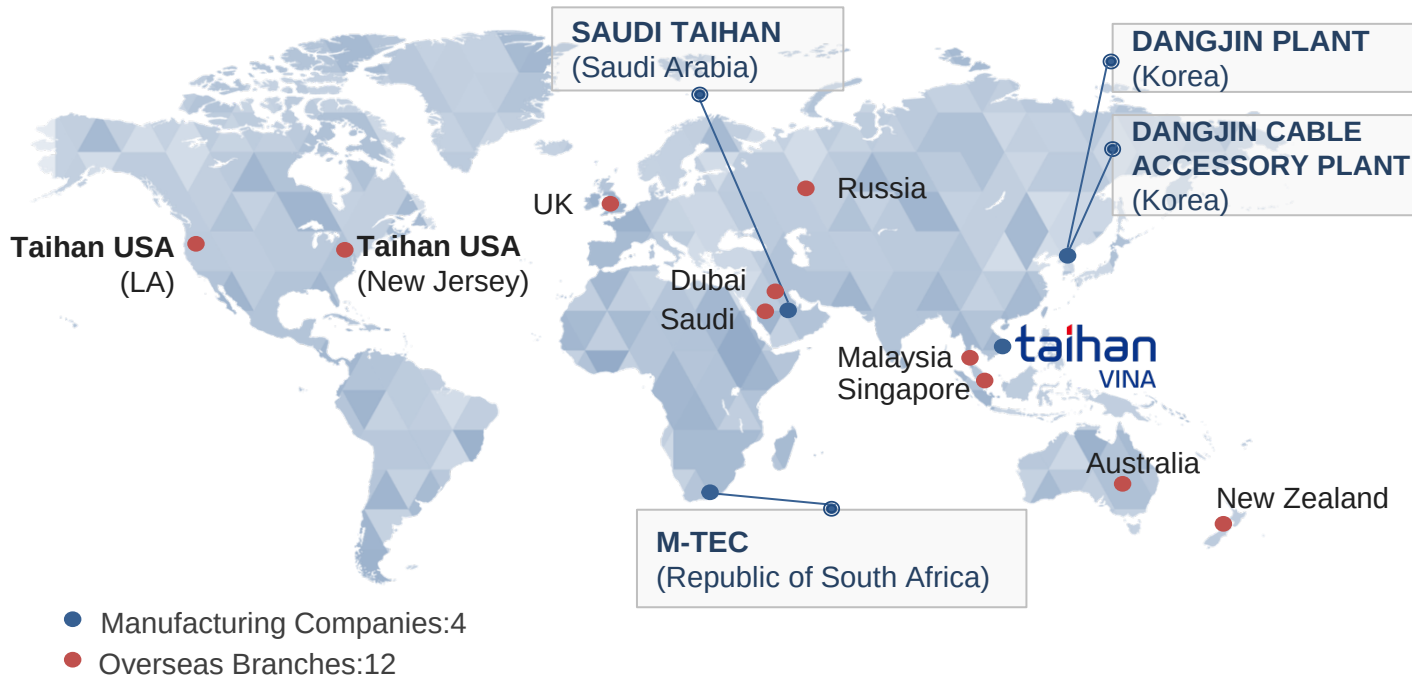
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- 1. Overview**
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1-1. Overview – Taihan Vina



Company Name	TAIHAN CABLE VINA CO.LTD (TCV)
CEO (General Director)	Joo Hyung Kun
Establishment	Dec. 2005
Product & Service	• Power Cable • Copper Rod, etc.
Business Site	Head Office Ho Chi Minh City, Vietnam Factory Dong Nai Province, Vietnam Ha Noi Branch Office Ha Noi City, Vietnam
No. of Employee	314 people
Location	Ho Chi Minh, Vietnam
Area	151,062 m ²
Web Site	www.taihancable.com.vn
Parent company	Taihan Electric Wire Co.,Ltd.

1-2. Overview – Taihan Global Networks



TAIHAN ELECTRIC WIRE

- TAIHAN, the first cable company in Korea, set up 1955.
- Factories: Korea, Vietnam, South Africa, Saudi Arabia.
- Overseas subsidiaries & branch offices: 12
- Supply: Products, Services, Investment.



DANGJIN PLANT

- Dangjin plant was established in 2012.
- Factory: 360,000m²
- Products: global wire & cable industry.



TAIHAN CABLE VINA

- Established in 2005 -joint venture with local company in Vietnam.
- Factory: 151,000m²
- Became 100 % Korean capital investment in 2016.
- Products : Copper/Aluminum/power cable.



M-TEC

- M-TEC, established in 2000 in the Republic of South Africa, joint venture company.
- Factory : 90,000m²
- Products: Copper/Aluminum/Optical Fiber/Telecommunication/Power Cables.



SAUDI TAIHAN

- SAUDI TAIHAN, set up in 2015 in Saudi Arabia, a joint venture company.
- Factory: 8000 m²
- Products: High Voltage high-class cable accessories.



TAIHAN USA

- TAIHAN USA was established in 2000 to expand the sales in North America. After 2003, the company has established foundations for expanding the local market by supplying extra-high voltage and middle and low voltage products to the electricity boards of the eastern and western part of USA.

1-3. Overview - Beginning of a New Journey



2005



Founded as Taihan
Sacom Cable co.,Ltd.



2006

Produced Telecom
cables



2007

Produced Power
distribution cables



2011

Started to Supply
66kV XLPE cables



2016



Birth of Taihan VINA
Acquired 100% of
equity shares

2005

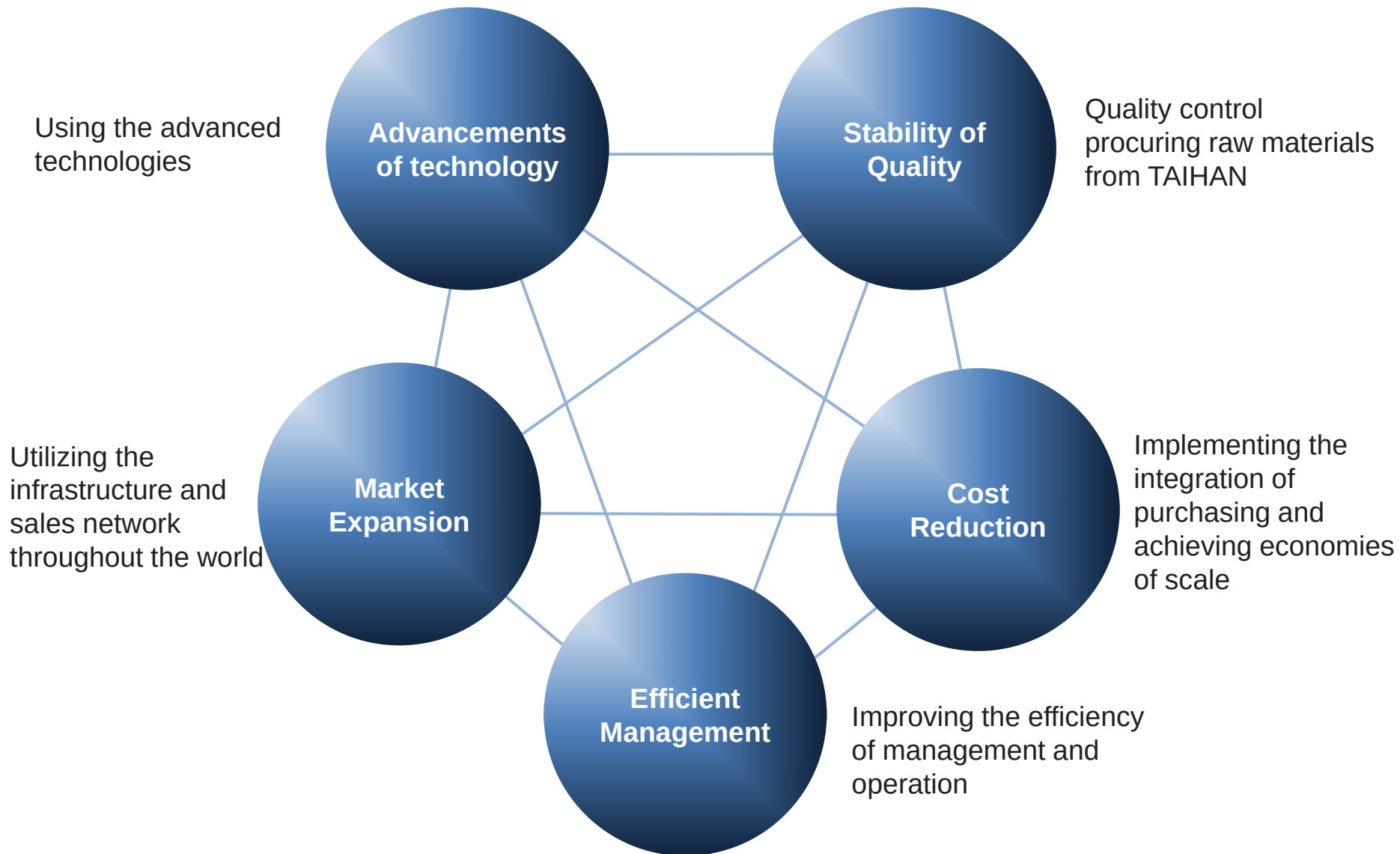
2006

2007

2011

2016

1-4. Overview - Synergy Effects in TAIHAN Group



1-5. Overview - Business Composition

TAIHAN VINA's proven technology, state-of-the art facilities and high-quality workforce of Local employees will provide reliable and competitive products with customers

The logo for taihan, with 'taihan' in blue and a small red dot above the 'i'.

Integrated QSHE Management

- Applying TAIHAN's Quality Control standards (plan/process/test/etc.)
- Transferring QSHE specialists to TAIHAN Vina
- Managing Design, Procurement, Production and Testing

Strengthening Quality Assurance

- Guarantee the quality on behalf of TAIHAN Vina
- Providing Termination and Joint to make a complete cable system

The logo for taihan VINA, with 'taihan' in blue and 'VINA' in a smaller, lighter blue font below it.

Providing Cost-Benefit

- Skilled worker with lower labor cost
- Strategical offer for valuable customer

Providing reliable products

- State of the art facility and test lab will be used to supply cables

A large blue arrow pointing from the two boxes on the left towards the final text on the right.

Providing higher quality and the most competitive proposal with maximized synergy

1-6. Overview - Organizational Chart



1-7. Overview - Sales Performance

Annual Sales & Profits

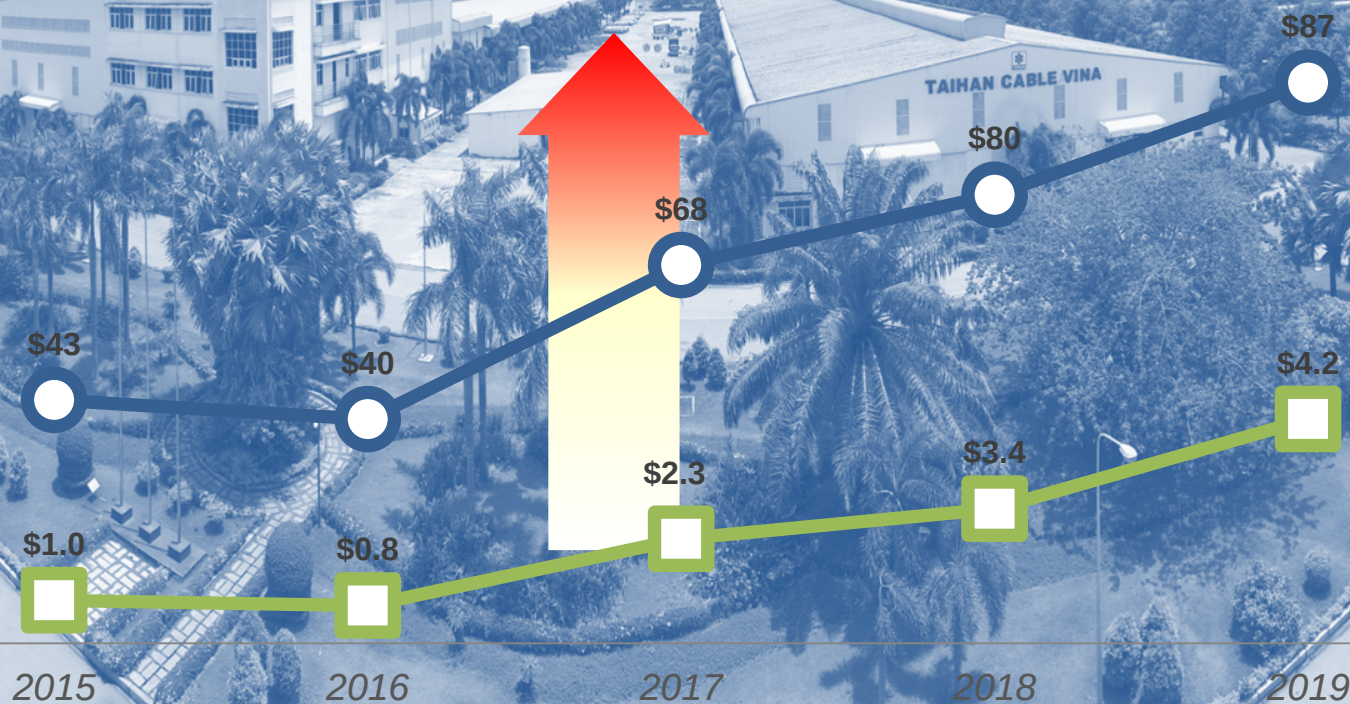
In millions of US dollars



Sales Performance

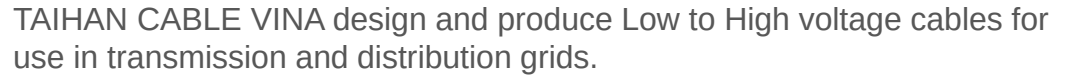


Operation Profit



2-1. Products

BUSINESS	MAJOR OFFERINGS
 Power Transmission & Distribution	• High / Medium / Low Voltage - XLPE Insulated Cable - PVC Insulated Cable • Overhead Conductor - ACSR, ABC Cable, ACCC
 Instrument, Control and etc.	• Instrument / Signal Cable • Flame Retardant / Heat Resistant Control Cable • Pilot Cable (Lead Sheathed)
 Base Metal	Copper Rod



We produce and supply reinforced cables which are resistant to fire, watertight and with enhanced fireproof capacity depending on its function.

Item	Voltage Grade	Conductor Size	Conductor	Insulation	Screen	Inner Sheath	Armoring	Metallic Sheath	Outer Sheath	Feature	Standard
HV	~ 66kV	Up to 1000 SQ	CU/AL	XLPE	Cu-wire	PVC PE LSHF FR-PVC	Al-wire Al-Tape Steel-Wire Steel-Tape	Pure Lead 1/2 C Alloy Cu-Te Alloy Others	PVC PE LSHF FR-PVC	Flame-retardant Fire-resistance Halogen Free Low Smoke Anti-termite Anti-Rodent	IEC JIS BS ICEA AEIC AS/NZ CSA UL
MV	~ 33kV				Cu-Tape Others						
LV	600V ~			PVC PE							

2-3. Products - Instrument & Control Cables



TAIHAN CABLE VINA produce **Instrument and Signal Cables** to be used for electric signal transmission of control or monitoring circuits for 300/500V.

Our **Fire Resistant & LSHF Fire Resistant Control cables** can maintain essential circuits as light, fire alarm equipment when fire occur and critical areas of an installation, tunnels, mass rapid transit system, oil-rigs, oil refineries.

Flame resistant & LSHF Flame Retardant Control cables of TAIHAN CABLE VINA can prevent spread of fire when fire occur, specially it is areas of installation, tunnels, crowded areas for safety purpose to escape in the event of emergency.

Voltage Grade	Conductor Size	Conductor	Insulation	Screen	Inner Sheath	Armoring	Metallic Sheath	Outer Sheath	Feature	Standard
300V~	Up to 50 PAIRS, Min 0.5SQ	CU	XLPE PVC PE	AMS Cu-tape Cu-braid	PVC PE LSHF FR-PVC	Al-wire Al-Tape Steel-Wire Steel-Tape	Pure Lead 1/2 C Alloy Cu-Te Alloy Others	PVC PE LSHF FR-PVC	Flame-retardant Fire-resistance Halogen Free Low Smoke Anti-termite Anti-Rodent	IEC JIS BS ICEA AEIC AS/NZ CSA UL

2-4. Products - Overhead Conductors

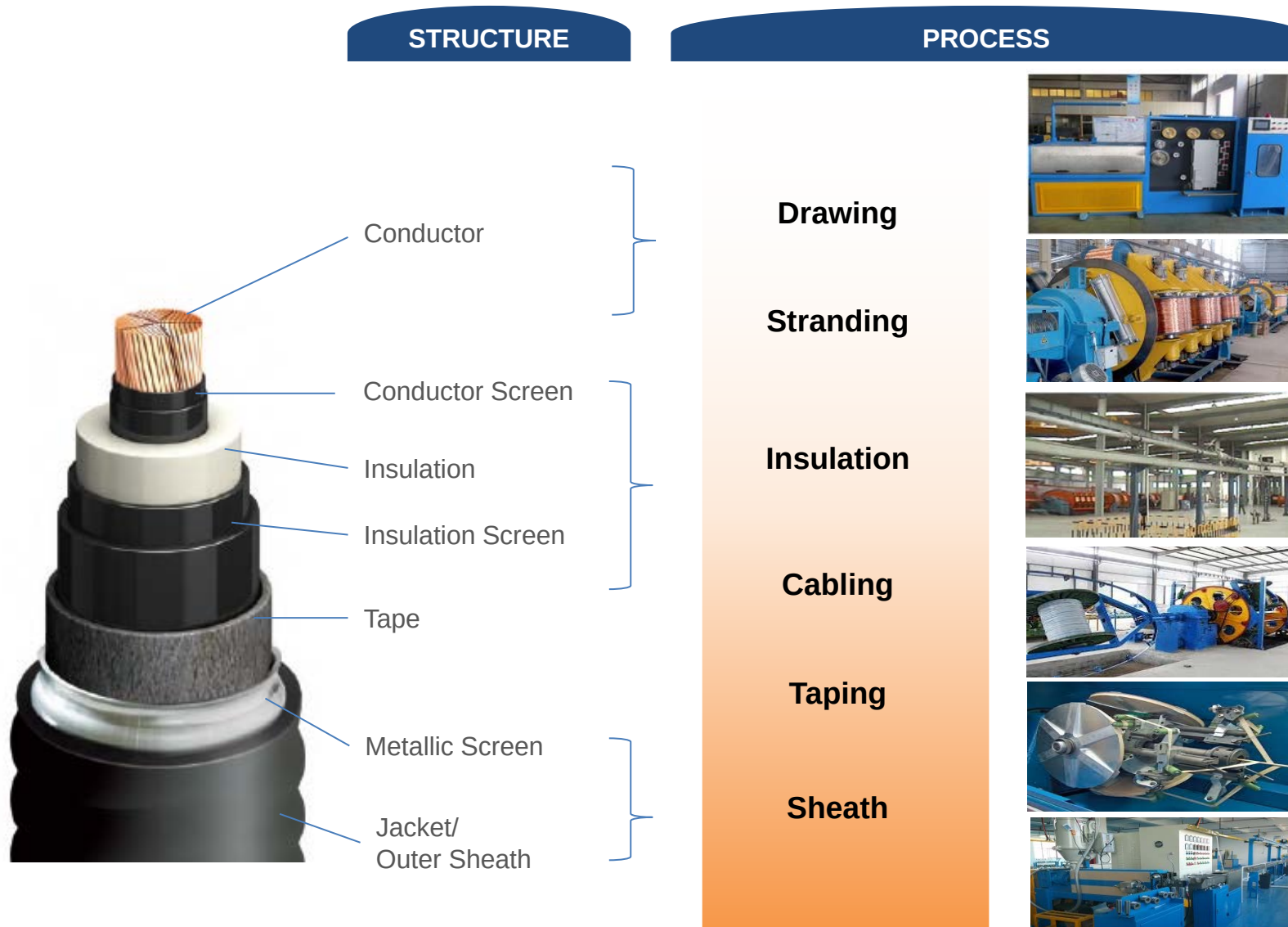


Our **Overhead Conductors** are designed and produced for aerial power transmission lines. Our Overhead conductors manufactured in accordance with specifications help you ensure line efficiency and long-lasting reliability for current and future power transmission systems.

For optimizing your energy infrastructures, TAIHAN CABLE VINA has been planning to provide HTLS Conductors: **ACCC** (Aluminum Conductor Composite Core) to support the most economical and effective overhead conductor design for your application.

Voltage Grade	Conductor Size	Items	Standard
600V~	Up to 610SQ	ACSR ACSR/AW ABC cable ACCC Others	IEC/JIS/BS/ICEA/AEIC AS/NZ CSA UL

3-1. Manufacturing Capability - Process



Facilities

3-2. Manufacturing Capability - Facilities



Drawing

- Drawing/ Multi Drawing
- Al Breakdown MC



Stranding

- Buncher 630/ 800 #1&2/ 1250
- Rigid Cu. 36Bo, 54Bo, 61Bo+1
- Rigid Al. 54Bo



Insulation

- 90ext (2 lines) for Low voltage
- CCV Line for Medium to High voltage



Sheath

- Al Welding Machine
- 80/50ext, 90ext, 120ext, 150ext



Taping

- Steel taping line +1set
- Cu taping line + 1set
- Mica taping + 5set

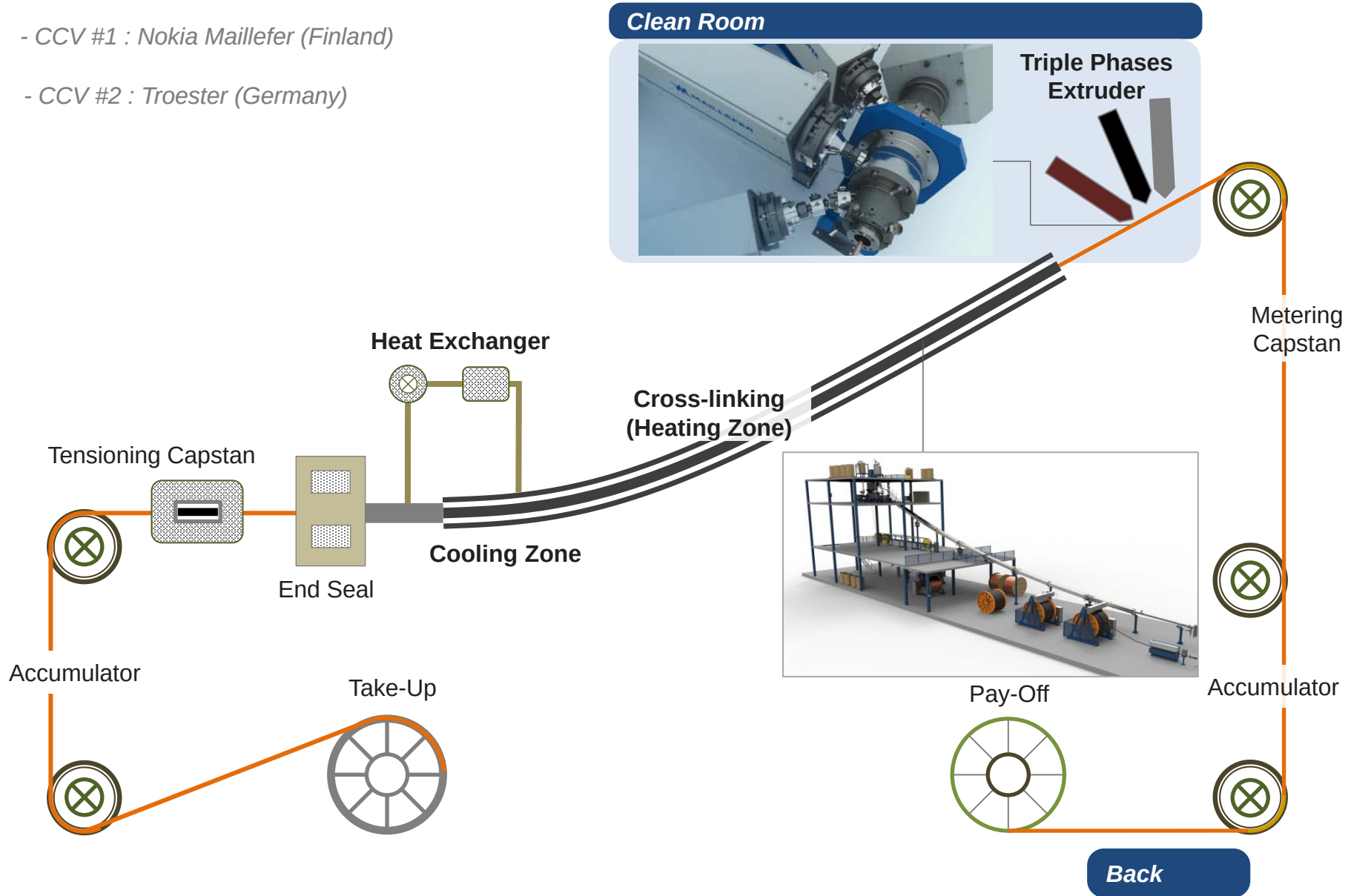


Cabling

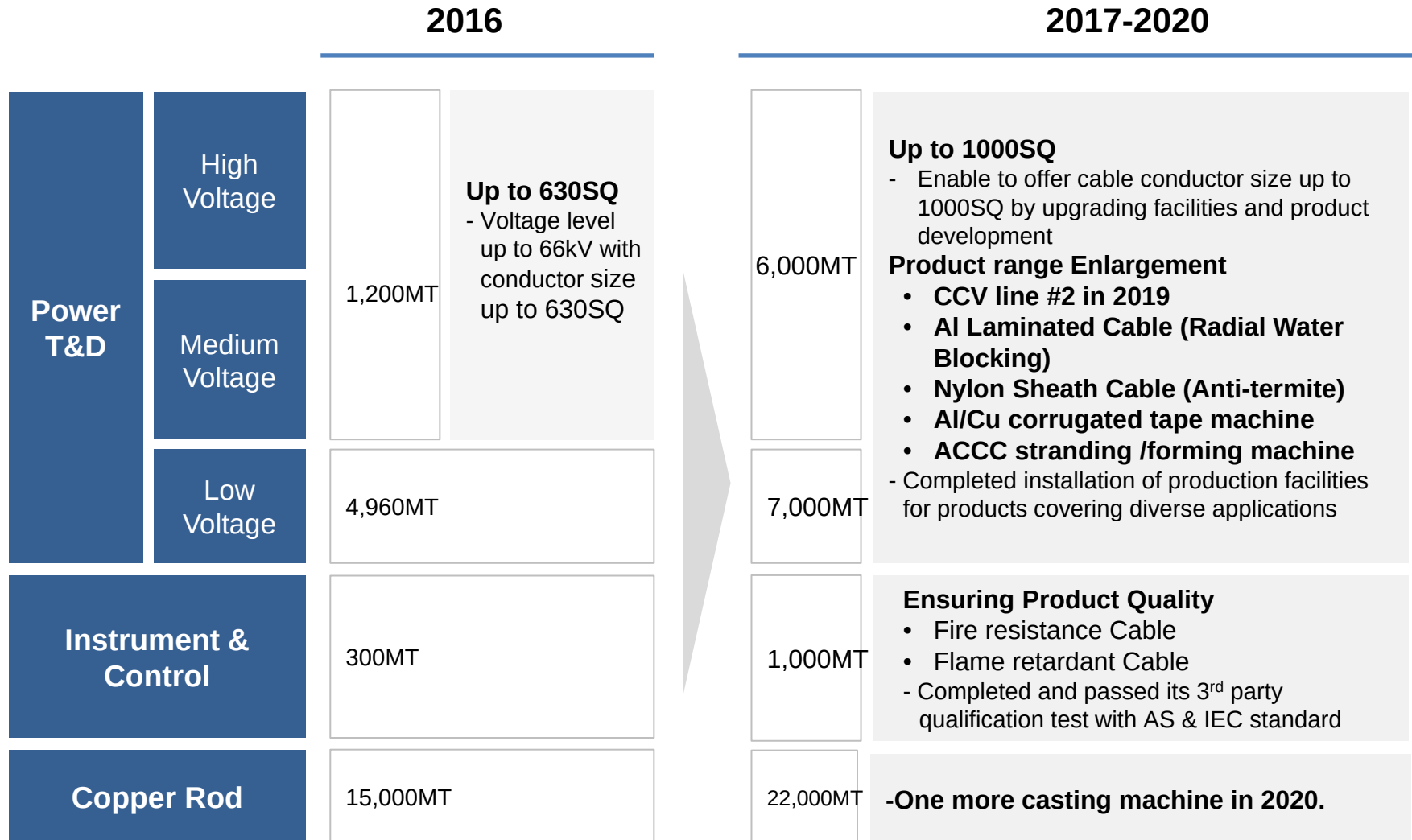
- Drum Twister
- Planetary 3Bo
- Buncher 1250

3-3. Manufacturing Capability - Catenary Continuous Vulcanization

- CCV #1 : Nokia Maillefer (Finland)
- CCV #2 : Troester (Germany)



3-4. Manufacturing Capability - Investments of Technology and Equipment

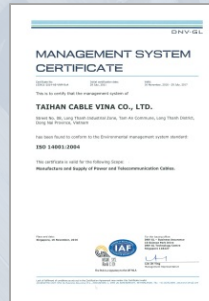
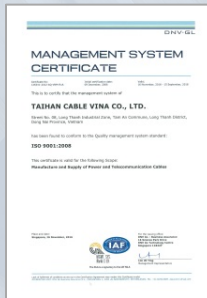


* Productive Capacity

4-1. Quality Assurance - Certificates

Quality / Environment

- **Acquisition of ISO 9001/ 14001**
 - Approval from DNV GL Business Assurance
 - Year of Acquisition : ISO 9001 (2006), ISO 14001 (2011)
- **ISO 9001 certification for design and manufacturing various products including Power and Telecommunication Cables**
- **ISO 14001 certification for environment management system**
- **ISO 45001 certification for occupational health and safety management system**



Product

- **Acquisition of PSE certificate**



4-2. Quality Assurance - Type Test

No.	Type	Description	Issued by	Standard	Issued date	Remark
1	35KV AV	15KV AL/CU TR-XLPE INSULATION		AEIC, ICEA-USA	02.08.2018	Currugated cu tape
2	66kv	66KV CU/XLPE/AL-P/FR-PVC & MDPE 1CX1000SQMM		IEC 60840	21.02.2018	
3		ACCC COPENHAGEN CONDUCTOR		BS EN-50182	25.10.2018	
4	600V CV	CU/XLPE/PVC 1C X 38SQMM		PSE-Japan	25.04.2014	
5	600V CV	CU/XLPE/PVC 3C X 38SQMM		PSE-Japan	25.04.2014	
6	600V CV	Cu/XLPE/PVC 1C X 5.5SQMM		PSE-Japan	11.06.2014	
7	600V CV	Cu/XLPE/PVC 1C X 22SQMM		PSE-Japan	11.06.2014	
8	600V CV	Cu/XLPE/PVC 3C X 5.5SQMM		PSE-Japan	11.06.2014	
9	600V CV	Cu/XLPE/PVC 3C X 22SQMM		PSE-Japan	11.06.2014	
10	600V VV	Cu/PVC/PVC 3C X 2.0SQMM		PSE-Japan	11.06.2014	
11	600V IV	Cu/PVC 1C X 2.0SQMM		PSE-Japan	11.06.2014	
12	600V IV	Cu/PVC 1C X 14SQMM		PSE-Japan	11.06.2014	

4-2. Quality Assurance - Type Test

No.	Type	Description	Issued by	Standard	Issued date	Remark
12	600V IV	Cu/PVC 1C X 14SQMM		PSE-Japan	11.06.2014	
13	600V IV	Cu/PVC 1C X 38SQMM		PSE-Japan	11.06.2014	
14	8.7/15KV	CU/XLPE/PE/LS/PE/DATA/PE 3C X 300SQ		IEC 60502-2	03.09.2013	Lead sheath
15	0.6/1kV	CU/Mica Tape/XLPE/LSHF 3C X 10SQ		BS6387 Category CWZ	14.01.2010	Fire resistant
16	0.6/1kV	CU/Mica Tape/XLPE/FR-PVC 3C X 10SQ		BS6387 Category CWZ	14.01.2010	Fire resistant
17	0.6/1kV	CU/Mica Tape/XLPE/FR-PVC 1C X 2.5SQ		IEC60331-21	15.08,2010	Fire resistant
18	0.6/1kV	CU/Mica Tape/XLPE/FR-PVC 1C X 35SQ		IEC60331-21	15.08,2010	Fire resistant
19	0.6/1kV	CU/Mica Tape/XLPE/FR-PVC 1C X 400SQ		IEC60331-21	15.08,2010	Fire resistant

DNV-GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
126341-2012-AU-VNM-UKAS

Initial certification date:
09 December, 2006

Valid:
22 October, 2017 - 22 October, 2020

This is to certify that the management system of

TAIHAN CABLE VINA CO., LTD.

Street No. 08, Long Thanh Industrial Zone, Tam An Commune, Long Thanh District,
Dong Nai Province, Vietnam

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:

Manufacture and Supply of Power and Telecommunication Cables

Place and date:
Singapore, 22 October, 2017



For the issuing office:
DNV GL - Business Assurance
16 Science Park Drive, DNV GL
Technology Centre, Singapore 118227

Lim Jit Ting

Lim Jit Ting
Management Representative

Lack of fulfilment of conditions set out in the Certification Agreement may render this Certificate invalid.
DNV GL Assurance Assurance Ltd (UK) Ltd, 1st Floor, Vistra Building, 30 Stamford Street, London, SE1 9LQ, United Kingdom.
TEL: +44 (0) 203 610 4000; assurance.dnvgl.com

DNV-GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
155421-2014-AE-VNM-BVA

Initial certification date:
29 July, 2011

Valid:
29 July, 2017 - 29 July, 2020

This is to certify that the management system of

TAIHAN CABLE VINA CO., LTD.

No 08 Street, Long Thanh Industrial Zone, Tam An Commune, Long Thanh District,
Dong Nai Province, Vietnam

has been found to conform to the Environmental management system standard:

ISO 14001:2015

This certificate is valid for the following Scope:

Manufacture and Supply of Power and Telecommunication Cables.

Place and date:
Singapore, 11 May, 2020



For the issuing office:
DNV GL - Business Assurance
16 Science Park Drive
DNV GL Technology Centre
Singapore 118227

Lim Jit Ting

Lim Jit Ting
Management Representative

Lack of fulfilment of conditions set out in the Certification Agreement may render this Certificate invalid.
DNV GL Assurance Assurance Ltd (UK) Ltd, 1st Floor, Vistra Building, 30 Stamford Street, London, SE1 9LQ, United Kingdom. TEL: +44 (0) 203 610 4000; assurance.dnvgl.com

Certificate

Within a certification audit the organisation

TAIHAN CABLE VINA CO., LTD
CÔNG TY TNHH CÁP TAIHAN VINA

at the location

Street No 8, Long Thanh Industrial Zone, Tam An Commune, Long Thanh District, DONG NAI PROVINCE, VIET NAM

has proved that an occupational health and safety management system was established and is successfully applied in accordance with the requirements of the standard

ISO 45001

Issue of March 2018

for the following activity

MANUFACTURE AND SUPPLY OF POWER & TELECOMMUNICATION CABLES

This certificate is valid from 23.8.2019 until 22.8.2022.

Berlin, 23 August 2019

Prof. Dr.-Ing. Jan Uwe Lieback
Director

Andreas Lemke
Head of Certification Office



No. S-19-36001-EN



CABLE TECHNOLOGY LABORATORIES

625 Jersey Avenue, New Brunswick, NJ 08901, U.S.A.

CERTIFICATE OF COMPLIANCE

This is to certify that a 15 kV cable manufactured by TAIHAN CABLE VINA CO., LTD. at their plant in Long Thanh Industrial Zone, Dong Nai Province, Vietnam, with the following compounds:

Conductor shield	HFDA-0800 by Dow Chemical Co.;
Insulation	HFDC-4202 EC by Dow Chemical Co.;
Insulation shield	KW-3007ES Kyungwon New Materials,

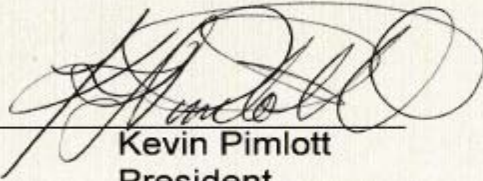
tested by Cable Technology Laboratories (CTL Report 18-084 of 08/02/2018), meets the requirements of the Core Material Qualification Tests outlined in the AEIC CS8-13 and ICEA S-94-649-2013 Specifications.

In accordance with the Specifications, **TAIHAN CABLE VINA CO., LTD.** is qualified to manufacture 5 through 35 kV cables using the named combination of materials.

Certificate Number: 18-07

Issue Date: August 02, 2018

Tested under supervision of:


Kevin Pimlott
President


Vitaliy Yaroslavskiy
VP Technology





Date: February 28, 2018
Certificate No. B-50/2017-0006-002
Page 1 of 1

Applicant	: Taihan Electric Wire Co., Ltd.
Date and Place of test	: December 18, 2017 & January 16 - 17, February 18 - 21, 2018 at the Applicant's Premises in Dangjin, Korea
Description / Item No	: 66kV CU/XLPE insulated Cable & Accessories, 1C x 1000mm ²
Scope of Inspection	: Type Test
Applicable Document	: IEC 60840 (Edition 4.0 2011.11) & Tender Spec.

This is to certify that 66kV CU/XLPE insulated Cable & Accessories, 1G x 1000mm² was inspected with the scope of inspection and the result was found to be satisfactory.

Note

Note
This certificate reflects only witness findings at the time and place of verification

This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/terms-and-conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its information only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Korea Co., Ltd



I.J. Jun
Manager, Industrial Division

MKCgeb



**Kinectrics Certificate of Type Testing on
ACCC Copenhagen Conductor
No. 121-2019**

Taihan Cable Vina Co., Ltd

Street 8, Long Thanh Industrial Zone,
Tam An Commune, Long Thanh District, Dong Nai Province,
Vietnam 76000

Type testing was successfully performed on 18.29 mm outer diameter, Aluminum Conductor Composite Core (ACCC) "Copenhagen" conductor manufactured by Taihan Cable Vina Co., Ltd. The conductor, as tested, successfully completed all the type tests as listed below.

The tests and reference clauses were as follows:

Stress-Strain Test at Ambient Temperature	BS EN-50182
Tensile Test & Ultimate Tensile Strength Test	BS EN-50162
Ambient Creep Test	IEC 61395
Torsional Ductility Test	CIGRE 428, Clause 4.11
Ampacity Test	IEEE 738
Tensile Test on Composite Core	ASTM B-987
Electrical Resistivity Test	ASTM B-193
Tensile Test on Aluminum Wires	BS EN-50182

The tests were performed from October 25, 2018 through December 11, 2018 under Kinectrics' ISO 9001 Quality Management Program. The results of testing are recorded in Kinectrics International Test Report K-313071-RC-0001.

Shahrokh Zangeneh
Chief Commercial Officer
Kinectrics International Inc.

Zsolt Peter, PhD
Business Area Director, Lines Asset Management
Kinectrics International Inc.



800 Kipling Avenue, Unit #2, Toronto, Canada M8Z 5G5

Appendix 1 - Certificates



Type test Certificate of complete type tests

TAIHAN-SACOM CABLE

Dong Nai, Vietnam

has successfully passed the type test sequence on a

three-core power cable

Type: 8,7/15 (17,5) kV, 3x300 mm², CXE-LS-DSTA-W
Rating: 8,7/15 (17,5) kV – 3x300 mm² – Cu – XLPE

The test object passed the required clauses of

IEC 60502-2

The test results are recorded in Certificate No.

TIC 1032-13

This Certificate is issued on 3 September 2013

KEMA Nederland B.V.

S.A.M. Verhoeven
Director Testing, Inspections & Certification The Netherlands

Copyright © KEMA Nederland B.V.
Please note that this document has been issued for information purposes only and that the original bound and sealed paper copy of the Certificate including the results of the tests of the apparatus will prevail. This document does not imply that KEMA has certified or approved any apparatus other than the specimen tested.

Experience
you can trust.



KEMA Test Certificate

No. 2130938.01

Issued to: Taihan Sacom Cable Company.
Long Thanh Industrial Zone, Dong Nai Province
Ho Chi Minh, Vietnam

For the product: Cables

Trade name: TAIHAN SACOM.

Type/Model: HF-NFR8 3Cx10 mm²

Rating: 600/1000 V

Manufactured by: Taihan Sacom Cable Company.
Long Thanh Industrial Zone, Dong Nai Province
Ho Chi Minh, Vietnam

Subject: Cables required to maintain circuit integrity under fire conditions

Requirements: BS 6387, Category CWZ

Remarks: The product meet the requirements.

This Test Certificate is granted on account of an examination by KEMA, the results of which are laid down in a corresponding KEMA Test Report no. 213098.50, dated 2010-01-14.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by KEMA is not the responsibility of KEMA.

This Test Certificate is valid 68 January 14, 2013

KEMA Quality B.V.
Arnhem, January 14, 2010

H.R.M. Barends
Certification Manager

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KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 contact@kema.com www.kema.com Registered Arnhem 09065396

Experience you can trust.



KEMA Test Certificate

No. 2130938.02

Issued to: Taihan Sacom Cable Company.
Long Thanh Industrial Zone, Dong Nai Province
Ho Chi Minh, Vietnam

For the product: Cables

Trade name: TAIHAN SACOM.

Type/Model: TFR8 3Cx10 mm²

Ratings: 600/1000 V

Manufactured by: Taihan Sacom Cable Company.
Long Thanh Industrial Zone, Dong Nai Province
Ho Chi Minh, Vietnam

Subject: Cables required to maintain circuit integrity under fire conditions

Requirements: BS 6387, Category CWZ

Remarks: The product meet the requirements.

This Test Certificate is granted on account of an examination by KEMA, the results of which are laid down in a corresponding KEMA Test Report no. 213098.51, dated 2010-01-14.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by KEMA is not the responsibility of KEMA.

This Test Certificate is valid till January 14, 2013

KEMA Quality B.V.
Arnhem, January 14, 2010

H.R.M. Barends
Certification Manager

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KEMA Quality B.V. Utrechtseweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 26 3 56 20 00 F +31 26 3 52 58 00 contact@kema.com www.kema.com Registered Arnhem 09085396

Experience you can trust.



Confirmation of Conformity

Issue No.: KR723008-14004

We, Korea Testing Laboratory, confirm that the below mentioned product was tested and proven to be in compliance with the technical standards that is described in "Electrical Appliance and Material Safety Law" of Japan.

Applicant : TAIHAN SACOM CABLE

Address : 152/11B Dien Bien Phu, Ward 25, Binh Thanh Dist, HoChiMinh City, Vietnam

Manufacturer : TAIHAN SACOM CABLE

Address : 152/11B Dien Bien Phu, Ward 25, Binh Thanh Dist, HoChiMinh City, Vietnam

Factory : TAIHAN SACOM CABLE

Address : 152/11B Dien Bien Phu, Ward 25, Binh Thanh Dist, HoChiMinh City, Vietnam

Product : Cable

Models No. : CV 1C× 38mm², CV 3C× 38mm²

Rating : 600V

Test Report No. : 13-035291-02-1 & 13-035291-02-2

Test Standards : - Paragraph 1 of Appendix 1. (1),(5), (9) of Electrical Appliances and Material Safety Law, METI



Korea Testing Laboratory
Electrics&Electronics Division
87, Digital 26-gil, Guro-gu, Seoul, KOREA
(152-718)
TEL: 82-2-860-1370
FAX: 82-2-860-1339

Issued by Jin soo, Kim
Position: Director of Global Business Center

Date: Apr. 25, 2014

Appendix 1 - Certificates

ZERTIFIKAT ♦ CERTIFICATE ♦ 認證證書 ♦ CERTIFICADO ♦ CERTIFICAT

TEST CERTIFICATE


PSB Singapore

This Certificate is issued to

Taihan Sacom Cables Company
Long Thanh Industrial Zone,
Dong Nai Province

FOR

Product: Electric Cable

Brand/Model: Taihan Sacom

Detail: TFR-8 1C x 400mm²

Specification: IEC 60331-21 : 1999-04

Test Report: 719181539-MEC10/B-ST

Date of Test Report : 04 Aug 2010

Summary

A sample of the product has been tested and is found to meet with the requirements of the above specification.


Vice President (MEC)
TUV SUD PSB Pte Ltd

Certificate No: 02375 Date of Original Issue: 16 Aug 2012 Date of Last Revision: 03 June 2013 Date of Expiry: 15 Aug 2014

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of TUV SUD PSB Pte Ltd and shall be returned upon request. The use of this Certificate is subjected to the terms and conditions of the Test Certification Scheme.
Note: This Certificate is issued pursuant to the terms set out overleaf.

TUV SUD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221

TUV®

ZERTIFIKAT ♦ CERTIFICATE ♦ 認證證書 ♦ CERTIFICADO ♦ CERTIFICAT

TEST CERTIFICATE


PSB Singapore

This Certificate is issued to

Taihan Sacom Cables Company
Long Thanh Industrial Zone,
Dong Nai Province

FOR

Product: Electric Cable

Brand/Model: Taihan Sacom

Detail: TFR- 8 1C x 2.5mm²

Specification: IEC 60331-21:1999-04

Test Report: 719181539-MEC10/C-ST

Summary

A sample of the product submitted was tested and found to comply with test requirements as stated of the above standard(s).


Vice President (MEC)
TUV SUD PSB Pte Ltd

Certificate No: 02376 Date of Original Issue: 16 Aug 2010 Date of Last Revision: - Date of Expiry: 31 Aug 2012

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of TUV SUD PSB Corporation Pte Ltd and shall be returned upon request. The use of this Certificate is subjected to the terms and conditions of the Test Certification Scheme.
Note: This Certificate is not a Certificate of Conformity.

TUV SUD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221

TUV®



DIRECTORATE FOR STANDARDS AND QUALITY
QUALITY ASSURANCE AND TESTING CENTER 3



CERTIFICATE

N_c: 31-14

This is to certify that:

**POWER CABLES WITH EXTRUDED INSULATION FOR
RATED VOLTAGES FROM 3,6/6(7,2) kV UP TO 18/30(36) kV**

Brand: **TAIHAN - SACOM**

Types: Details of types in the attached annex at the page 2 of this certificate

Produced by:

TSC COMPANY LIMITED

Address: Long Thanh Industrial Zone, Long Thanh District, Dong Nai Province.

Conforms to the standard:

**IEC 60502-2:2005 : Power cables with extruded insulation and their accessories
for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)**

Part 2: Cables for rated voltages from 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)

Certification scheme:

Scheme 5

(Circular N₇ 26/2012/TT-BKHCN dated December 12th, 2012 Ministry of Science and Technology)

AND APPROVED TO BEAR QUATEST 3 PRODUCT CERTIFICATION MARK

Certificate and the product certification mark remains valid from 30th Dec, 2014 to 29th Dec, 2017



Date of issue: 30th Dec, 2014



DIRECTOR

Hoang Lam



TEST CERTIFICATE

This Certificate is issued to

Taihan Sacom Cables Company
Long Thanh Industrial Zone,
Dong Nai Province

FOR

Product: Electric Cable

Brand/Model: Taihan Sacom

Detail: TFR- 8 1C x 2.5mm²

Specification: IEC 60331-21:1999-04

Test Report: 719181539-MEC10/C-ST

Summary

A sample of the product submitted was tested and found to comply with test requirements as stated of the above standard(s).

Vice President (MEC)
TUV SUD PSB Pte Ltd

Certificate No:
02376

Date of Original Issue:
16 Aug 2010

Date of Last Revision:
-

Date of Expiry:
31 Aug 2012

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of TUV SUD PSB Corporation Pte Ltd and shall be returned upon request. The use of this Certificate is subjected to the terms and conditions of the Test Certification Scheme.
Note: This Certificate is not a Certificate of Conformity.

5-1. Experiences – Global Supply

We have a diverse range of customers in the world based on product customization and partnerships, and are continuing to expand.



Please refer to the appendix for more details.

5-2. Experiences – Domestic Supply



Please refer to the appendix for more details.

5-3. Experiences – Customers & Partners

We are proud to serve World's top-notch utilities and Global EPCs

Utilities



EPC & Contractors



Appendix 1 – Major Domestic Supply Records in Vietnam

CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
VINGROUP / EAGL	VINHOMES GRAND PARK DIST.9/ VINPERAL PHU QUOC/ VINFAST	2019	0.6/1kV CXV 1Cx300 12.7/22(24)kV CXV-DSTA-W 3Cx240	26,000
Power Engineering Consulting Joint Stock Company 2	SON MY 3.1 SOLAR FARM	2019	1.8/3(3.6)V CXV-SWA-W 3Cx120 1500VDC Cu/XLPO/XLPO 1Cx120	2,900
MAT TROI SOLUTION & ELECTRICAL MAINTENANCE JSC	DA BAC SOLAR PLANT	2019	0.6/1kV CXV-DSTA-W 1Cx150 12.7/24kV CXV-DSTA-W 1Cx300	3,900
ANHUI NO. 1 ELECTRIC POWER CONSTRUCTION CO., LTD	HOA HOI SOLAR PLANT	2019	1.8/3(3.6)kV FR-CXV 2Cx120	2,000
HOA PHAT GROUP	HOA PHAT DUNG QUAT STEEL PLANT	2019	20/35(40.5)kV CXV-DSTA-W 1Cx400	1,800
SOLAR POWER SOLUTION AND MAINTENANCE JSC	SOLAR PLANT	2019	12.7/24kV CXV-DSTA-W 1Cx300	1,700
THANH Y CO.,LTD	WATER POINT NAM LONG	2019	12.7/24kV CXV-DSTA 3Cx240	1,600
KINDEN CO.,LTD/PHUC THINH	AEON MALL HA DONG	2019	0.6/1kV CXV 1Cx185mm ²	1,700
CHUNG AM VINA Co.,Ltd	TEXTILE PLANT	2019	0.6/1kV FR-CXV 1Cx240 18/30(36)kV FR-CXV-DSTA 1Cx400	1,500
SAE MYUNG CONSTRUCTION SERVICE TRADING CO.LTD	SOLAR PLANT	2019	0.6/1kV FR-CXV 1Cx6 (Blue); 12.7/24kV CXV-DSTA 3Cx150 (Red)	1,400
TUE MINH STEEL JSC	BINH DUONG STEEL PLANT	2019	0.6/1.0kV Cu/XLPE/PVC cable (Single core) & Multi core 2.5-300	1,300
NGHI SON STEEL IRON JSC	STEEL PLANT	2019	0.6/1kV CXV 1Cx300 24kV CXV-DSTA-W 1Cx300	2,600

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CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
HOCHIMINH POWER (EVNHCMP)	UNDERGROUND CABLE PJT	2019	24kV - CXV/DSTA 3Cx240	2,100
NORTHERN POWER CORP. (EVNNPC) POWER DEVELOPMENT PJT.	CONSTRUCTION OF CIRCUIT 2 110kV Cho Roc - Cat Ba line	2019	ACCC - Copenhagen	500
	DZ 110kV ROAD 175 UONG BI THERMOELECTRICITY TO 110kV CHO ROC STATION	2019	ACCC - Lisbon	600
	DZ 110KV from QUYNH LUU – DIEN CHAU - CUA LO – HUNG DONG/NGHE AN	2018	ACCC - Copenhagen	1,800
DIEN VIET CONSTRUCTION INVESTMENT CO., LTD	DA BAC SOLAR	2019	12.7/24kV CXV-DSTA 3Cx240	2,000
ALSTOM / COLAS RAIL	HANOI METRO LINE#3	2019	12.7/22kV CXV-SE-DATA W 1Cx240	1,500
SUNG HWA TECHNIQUE & CONSTRUCTION CO.,LTD	SHOES PROCESSING PLANT	2019	0.6/1kV FR-CXV 1Cx300/400	800
TAE KWANG VINA INDUSTRIAL	MOC BAI VIETNAM(SHOES)	2019	0.6/1kV FR-CXV 1Cx400 0.6/1kV FR-CXV 1Cx240	400
SAMSUNG THAI NGUYEN / KSF	SAMSUNG PLANT (THAI NGUYEN)	2019	0.6/1kV FR-CXV 1Cx400	300
DAI HAN CO., LTD	BINH DUONG, DONG NAI etc.	2019	0.6/1kV FR-CXV 0.6/1kV Cu/FR-PVC	300
TAE KWANG CAN THO CO., LTD	CAN THO FACTORY(SHOES)	2019	0.6/1kV FR-CXV 1Cx400 0.6/1kV FR-CXV 1Cx185	200

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CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
COTECCON GROUP	CROWN PLAZA PHU QUOC	2019	0.6/1kV CXV 1CX 300 MM2	450
DAI VIET CO.,LTD	RUBY STEEL PLANT IN MYANMAR	2019	0.6/1kV CXV 1Cx240	500
NAM HANOI ELECTRICAL MATERIAL TRADING JSC	TERA SOLAR PLANT	2019	0.6/1kV Cu/XLPE/LSHF 3Cx240	300
TOJI JSC	110kV BINH THUANSTATION	2019	12.7/22(24)kV CXV-W 1Cx630	200
KIM DAI LOI	HOA HOI SOLAR	2019	0.6/1kV FR-CVV-Sc 20Cx2.5 12.7/24kV FR-CNCV-W 1Cx500	600
NAM THINH ELECTRICAL JSC	HABITAT BINH DUONG APT.	2019	0.6/1kV CXV 1Cx240	200
TAE KWANG MTC VIETNAM CO.,LTD	DONG NAI	2019	0.6/1kV FR-CXV 1Cx400	200
SAILUN VIET NAM	SAILUN FACTORY IN CU CHI	2019	0.6/1kV CXV 3Cx150 + 2Cx70 18/30(36)kV CXV 3Cx95	300
TOAN LOC CONSTRUCTION INVESTMENT JSC	DAI LOC PLANT	2019	0.6/1kV CXV 1Cx300	200
THANH DAT ELECTRICAL DESIGN & CONSULTING	NINH THUAN WIND FARM	2019	0.6/1kV FR-CVV-Sc 20Cx2.5 12.7/24kV FR-CNCV-W 1Cx500	300
VINGROUP/EAGL INVESTMENT & TRADING JSC	VINFAST/ VINSMART/ VINHOMES RESIDENT...	2018	0.6/1kV CXV 1Cx300 20/35(40.5)kV CXV-DSTA-W 3Cx240	12,000
HOA PHAT GROUP	HOA PHAT DUNG QUAT STEEL FACTORY	2018	20/35(40.5)kV CXV-DSTA-W 1C x 300 /400 (Orange)	5,500
HOA SEN GROUP	NHON HOI-BINH DINH STEEL FACTORY	2018	0.6/1kv CXV 3Cx240/300	700

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CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
SAMSUNG VIETNAM / KSF	SDV2, SDV3 SAMSUNG (BAC NINH/THAI NGUYEN)	2018	0.6/1kV CXV 1Cx240; 185; 150	3,800
KIM DAI LOI	SONG HAU POWER PLANT	2018	INSTRMENT & CONTROL CABLE	1,100
SUNG HWA TECHNIQUE & CONSTRUCTION CO.,	DONG NAI, BINH DUONG etc.	2018	0.6/1kV FR-CXV 1Cx400 0.6/1kV CXV 1Cx400	600
SUNNY ELECTRICAL APPLIANCE SUPPLIES	DAM NAI NO.2 WINDFARM	2018	24kV CXV /DATA1Cx300 0.6/1kV CXV 1CX150	470
HYOSUNG DONG NAI	TIRE CODE, SPANDEX etc.	2018	0.6/1kV FR-CXV 1Cx240/400 0.6/1kv FR-CXV 1Cx95	500
TECHGEL JSC	BINH HUNG WATER PLANT	2018	3.6(6)7.2 KV Cu/XLPE/Sc/PVC 1C x 1 000 sq mm	800
NAM HA NOI ELECTRICAL MATERIAL TRADING JSC/NSN JSC	TERA SOLAR PLANT	2018	0.6/1kV Cu/Mica/XLPE/LSHF4Cx150 24kV CXV-DSTA-W 3Cx95 (PC1)	400
PHU DAI SERVICE TRADING CO	DONGNAI CHANGSHIN FACTORY	2018	0.6/1kV CXV 1C x 400 0.6/1kV FR-CXV 1Cx400	400
DAEMUNG / KSF	SEVT RETROFIT DAEMUNG THAI NGUYEN	2018	0.6/1kV CXV 1Cx300	350
KURIHARA VIET NAM	FIRST SOLAR	2018	0.6/1kV Cu/PVC 1C x 50 12.7/22(24)kV CXO-SWA 3Cx95	500
CASUMINA JSC	CASUMINA TIRE PLANT	2018	0.6/1kV CXV 3Cx240+1Cx120 24kV CXV-DSTA-W 3Cx50 (PC1)	300
CANTHO ELECTRICAL CONSTRUCTION JSC	HUNG PHU RESIDENCE HOUSING	2018	0.6/1kV CXV-DSTA 3Cx150+1Cx95 0.6/1kV CXV-DSTA 3Cx95+1Cx50	300

Appendix 1 – Major Domestic Supply Records in Vietnam

CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
NAM KIM STEEL JSC	NAM KIM STEEL PLANT	2018	0.6/1kv CXV 3c x 240	200
SAE MYUNG	SOLAR PLANT (DONG NAI, BRVT)	2018	12.7/24kv CXV/DSTA 3Cx120	800
TTCL	MUI NE SOLAR	2018	12.7/24kv CXV-DATA-W 1Cx300	700
HOA PHAT GROUP	HOA PHAT PLANT	2018	0.6/1kv FR-CXV-Sc 3Cx70	200
	HAI DUONG STEEL FACTORY	2018	0.6/1kv CXV-DSTA-W 3x240 6/10(12)kv CXV-DATA-W 1Cx185	200
HANDONG TECHNIQUE & CONSTRUCTION JSC	APARTMENT in HCM etc..	2018	0.6/1kv CXV 1C x 25 (N.C) 0.6/1kv CXV 1C x 16 (N.C)	200
MECHANICAL ELECTRICAL REFREGERATION CO.,		2018	0.6/1kv CXV 1Cx300 0.6/1kv CXV 1C x 70	200
BROADPEAK SOC TRANG	BROADPEAK FACTORY	2018	0.6/1kv FR-CXV 1Cx300	200
GREEN ENVIRONMENT SERVICE CO.,	RESIDENCE HOUSING	2018	0.6/1kv CXV-DSTA 3Cx70+1Cx35 0.6/1kv CXV-DSTA 3Cx300	200
JGC VIETNAM	TAY NINH TTC SOLAR PLANT	2018	18/30(36)kv FR-CXV-DATA-W 1Cx500 /1Cx300/ 3Cx70~3Cx150	1,600
NAM KIM STEEL JSC	NAM KIM STEEL PLANT	2016	0.6/1kv CXV 1Cx185	300
NAM THINH ELECTRICAL JSC	MOVEMPICK HOTEL IN NHA TRNG	2018	0.6/1kv CXV 1Cx300	250
TAE KWANG MTC VIETNAM	DONG NAI	2018	0.6/1kv FR-CXV 1Cx400	100
SUNGROUP	PHU QUOC RESORT	2018	0.6/1kv CXV-DSTA 3Cx300/150	100

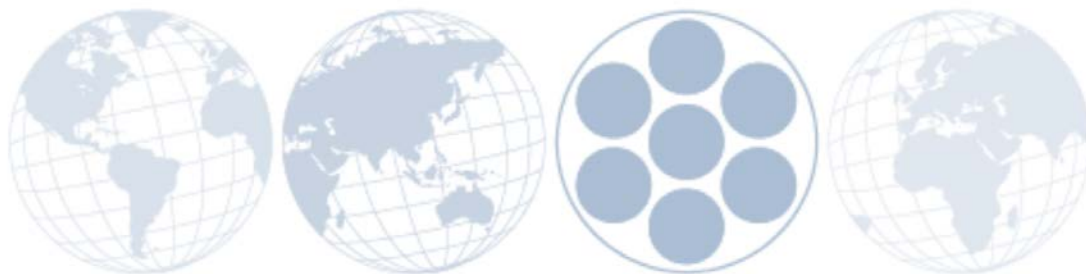
Appendix 1 – Major Domestic Supply Records in Vietnam

CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
SUNG HWA TECHNIQUE & CONSTRUCTION CO.,	DAE DEUK - Vinh Phuc	2018	0.6/1kV FR-CXV 1Cx400 0.6/1kV CXV 1Cx400	600
POMINA STEEL JSC	POMINA NO.2 STEEL IN BRVT	2018	0.6/1kV CXV 1Cx240 0.6/1kv CXV 1Cx95	500
POSCO ICT VIET NAM	POSCO COLD ROLLING MILL/DONGHWA VGR	2018	0.6/1kV FR-CXV 1Cx400	100
		2016	12.7/22(24)kV FR-CXV 1Cx35	400
NAM HANOI ELECTRICAL MATERIAL TRADING JSC/ NSN JSC	TERA SOLAR	2017	24kV CXV/DSTA 3Cx95/185/ 0.6/1kV Cu/Mica/XLPE/LSHF 5Cx BS6387	3,500
	SAILUN FACTORY IN CU CHI	2017	36kV CXV/DSTA 3Cx70/95/120/ CXV 5Cx120	400
	GOVERNMENT OFFICE	2016	0.6/1kV Cu/Mica/XLPE/LSHF 5Cxmm2 - (BS 6387 & CAT A)	250
HOA SEN GROUP	HOA SEN NGHE AN	2016	0.6/1kV CXV 1Cx300	1,000
SIGMA JSC	SHP HAI PHONG	2016	24kV CXV/DSTA-W 3Cx240 TFR8 4C	400
DOOSAN HEAVY INDUSTRY	VINH TAN 4 POWER PLANT	2016	0.6/1kV Cu/FRLS-PVC 1Cx15(G/Y)	600
VIDC/ PARK CITY MALAYSIA	PARK CITY & SAIGON UNDERGROUND CABLE	2015	38.5kV CXV/DSTA- 3Cx240	1,500
HOA PHAT DUNG QUAT STEEL JSC	HOA PHAT STEEL FACTORY	2015	6/10(12) kV CXV-DATA-W 1Cx400	2,100
HONG PHUC/F	FOREIGN MINISTRY PROJECT	2015	12.7/22(24)kV CXV-DSTA-W 3C x 240	1,200

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CUSTOMER	PROJECT	YEAR	MAIN ITEMS OF CABLE	VALUE (K US\$)
THUONG TIN EVN	110kV TIA STATION	2015	24kV CXV/DSTA –W 3Cx240	200
KIM DAI LOI TRADING CO.,	TRA VINH POWER PLANT	2014	38.5kV CXV/DSTA- 3Cx400	1,500
DOOSAN HEAVY INDUSTRY	VINH TAN 4 POWER PLANT	2014	Underground Cable	700
EVN HCM	EVN GOVERNMENTAL PJT	2014	12.7/22(24)kV CXV-DSTA-W 3Cx150	400
HYUNDAI E&C	MONG DUONG POWER PLANT	2013	38.5kV CXV/DSTA- 3Cx400	1,500
KANDENKO	NOI BAI AIRPORT TERMINAL 2 PJT	2013	12.7/22(24)kV Cu/XLPE/Sc/PVC 3x50/185/240mm ²	3,000
VINGROUP/EAGL TRADING	VINGROUP PJT	2013	12.7/22(24)kV CXV-DSTA-W 3Cx240	200
LILAMA CORPORATION	VUNG ANG 1 THERMAL POWER PLANT	2012	INSTRMENT & CONTROL CABLE	1,500
KC - COTRELL	NGHI SON POWER PLANT	2012	0.6/1kV CXV 1Cx300	500
HANOI EPO CO., LTD	VCCI- NO 9.DAO DUY ANH -HN	2011	24kV CXV/DSTA-W 3Cx240	300
CNA-HTE CO., LTD	MAPLE TREE INDUSTRIAL ZONE	2010	12kV CXV/DSTA- 3Cx300	500
PETROLIMEX INSTALLATION NO.3 JSC	PETROLIMEX - VAN PHONG TERMINAL	2009	24kV CX/DSTA, F-CXV/SWA,F-CVV	1.400

Thank you



Factory : No. 8, Long Thanh Industrial Zone, Dong Nai Province, Vietnam

Office : Dai Phuc Tower, 617-621 Dien Bien Phu St., W.24, Binh Thanh Dist., HCMC, Vietnam

<http://www.taihancable.com.vn>