



A Subsidiary of  BJC



**Thai-Scandic Steel Co., Ltd.**

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THAI - SCANDIC STEEL COMPANY LIMITED

## THAI - SCANDIC STEEL BACKGROUND

Thai - Scandic Steel or TSS is Thailand's leading manufacturer of galvanized steel structures, supplying transmission line tower, telecommunication towers, substation structures and a host of general industrial steel structures for both local and global market. Established in 1990, it was originally a joint venture between Berli Jucker Public Company Limited (or BJC) and 2 Norwegian companies which are Jarlso Fabrikker and A.S. Betomast. Jarlso Fabrikker and A.S. Betomast are specialist of manufacturing steel structure in Europe. Their extensive experience in this field was transferred to TSS for cutting-edge process and technology. Today, TSS operates as BJC subsidiary with registered shared capital of 586,000,000 THB.

Based in the Maptaput Industrial Estate in Rayong, Thai Scandic Steel operates a fully integrated manufacturing plant offering a comprehensive range of complete engineering design, and fabrication facilities including hot-dip galvanizing and modular packing service. Since starting commercial operation on 26 June 1992, TSS has supplied over 400,000 tons of various steel structures to more than 40 countries worldwide.



# GALVANIZED STEEL STRUCTURE

With our extensive experience and sophisticated operation process, it can be assured that Thai-Scandic Steel's galvanized steel structure is designed and fabricated at the highest quality. Because of that, TSS are highly recognized and a preferred supplier in industries like **petrochemical and oil & gas industry** where product quality is an uncompromised issue. Moreover, TSS is specialized in galvanized steel structure for **substation and power plant**. We design and fabricate both gantry and equipment steel support for all sizes of substation and power plant.

Thai-Scandic Steel also offers steel structure for general usages such as industrial building, warehouse, pipe rack, flare stack, etc. for general industries. Our service covers from engineering design, shop detailing, fabrication, till erection and installation. Nowadays, we extend our work to be a turnkey contractor for all building types. Our structures are served to both domestic and international market with **maximum capacity of 2,500 tons/month or 30,000 tons/year**.

## GALVANIZED STEEL TOWER

Thai-Scandic Steel Co., Ltd. is a reputable manufacturer for galvanized steel tower for transmission line tower and telecommunication tower. We have our own design team to provide you the design which does not only meet your requirements but also offer you **the most economical design**. The towers are fabricated with a specialized production system which incorporates advance robot welding technology as well as a state-of-the-art Computer Numerical Control (CNC) manufacturing process. TSS supplies the tower to both local and global market with **maximum capacity of 2,500 tons/month or 30,000 tons/year**.

### Transmission Line Tower

Configuration: Any type  
Voltage Level: Up to 500 kV

### Telecommunication Tower

Product Type: Self supporting Tower (4-Angle leg, 3 Tubular legs) and Guyed Mast  
Height: As required by clients (Highest supplied tower: 250 m. in Ho Chi Minh City)



### Specialised Markets:

- Substation and Power Plant: for all structure types with voltage level up to 500 kV
- Petrochemical Industry
- Oil & Gas Industry: both on- and off-shore
- Accessories structure for Solar farm and Solar Rooftop

**TSS also has an ability to do construction work particularly for industrial infrastructure sector**

### General Steel Structure

Usage: Industrial Building, Warehouse, Pipe Rack, Flare Stack, etc.  
Scope of Work: Design, Detailing, Fabrication, Erection, and Installation





## KEY INFORMATION

<b>Bath Type:</b>	<b>Ceramic Bath (The largest one in Southeast Asia)</b>
<b>Bath size:</b>	<b>9.3 m long x 3.5 m wide x 2.2 m deep</b>
<b>Material Size:</b>	<b>Up to 2.0 m wide and 15.5 m long</b>
<b>Capacity:</b>	<b>2,000 tons per month or 24,000 tons per year</b>

## HOT-DIP GALVANIZING SERVICE

Hot-dip galvanizing steel process is considered to be the most effective, practical and economical solution to safeguard steel structures from corrosion caused by exposure to harsh weather conditions, salt water, acid rain, etc. The process of dipping chemically-clean articles into a bath of molten zinc assures an extended service life, providing maximum protection through the metallurgical bonded coating, and substantially reduces long-term maintenance costs.

Thai-Scandic Steel Co.,Ltd.'s hot-dip galvanizing facility incorporates a highly rationalized system based on the

environmentally clean technology pioneered and developed by Jarlso Fabrikker, Norway's leading company in this industry. Using the largest ceramic galvanizing bath in Southeast Asia, TSS can galvanize steel material up to 2.0 m wide and 15.5 m long and is capable of handling 2,000 tons per month or 24,000 tons per year.

**Hot-dip galvanizing is recognized as the best alternative process for preventing steel corrosion and Thai-Scandic Steel continues to provide the best choice for hot-dip galvanizing services in Thailand.**





# INTERNATIONAL MATERIAL AND DESIGN STANDARD

## 1. Calculations & production drawing of steel structures

Standards	ASCE 10-97, AISC (ASD & LRFD), EIA/TIA-222-F, EIA/TIA-222-G
Design Softwares	Tower version 13.20
Detailing Softwares	BOCAD 3 D Version 21

## 2. Materials

2.1 Steel Structures	
Mild Steel	JIS G3101 SS400, TIS 1227 SS400 or equivalent
High Strength Steel	JIS G3101 SS540, TIS 1227 SS540, ASTM A572 Gr.50 or equivalent

## 3. Bolt, Nut and Washer

3.1 Bolts	ASTM A394 Type 0, JIS B1180 ANSI B18.2.1 or equivalent
3.2 Nuts	ASTM A394 Type 0, ASTM A563M Gr. A JIS B1181 or equivalent
3.3 Washers	ANSI B 18.21.1, JIS B1251 FOR LOCK WASHER or equivalent ANSI B 18.22.1, JIS B1256 FOR LOCK WASHER or equivalent

## 4. Fabrication & Dimension Inspection

AISC

## 5. Welding

AWS D1.1:2015

## 6. Hot Dip Galvanizing

ASTM A123, ISO 1461 FOR STEEL MEMBERS  
ASTM A153 ClassC, D FOR BOLTS, NUTS, WASHERS

# QUALITY ASSURANCE

It is TSS responsibility to ensure that our products and service meet the customers' requirements. Hence, we establish quality assurance (QA) division which works independently and reports directly to General Manager to control and improve our products and service standard to meet international level.

Today, our **Quality Management System** complies with international standard **ISO 9001: 2015** (Design, Fabricate and Galvanize Steel Structures for Transmission Line and Telecommunication Towers, Substation and General Steel Structures) certified by Bureau Veritas Certification with accreditation from UKAS of England and NAC of Thailand.

We also concern environmental impact to neighborhood hence we apply the **Environmental Management System** which complies with international Standards **ISO14001:2015** certified by Bureau Veritas Certification with accreditation from UKAS of England.

Moreover, we apply an **Occupational Health and Safety (OH&S) Management System** which complies with International Standards **ISO 45001:2018** to eliminate or minimise risk in workplace and to improve work performance, which is certified by Bureau Veritas Certification with accreditation from UKAS of England.

ISO 9001  
ISO 14001  
ISO 45001

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# REFERENCE LIST OF RECENT YEARS

## Major Project List of HD-Galvanized Steel Products

### Reference List for Transmission Line

Project	Customer	Country	Volume (Ton)	Value (MB)
500 kV Nan-Mae Moh3 T/L (HSA-L2)	EGAT/JPS	Thailand	8,500	385.5
500 kV Mae-Moh3-Tha Tako (HSA-L3-01)	EGAT/JPS	Thailand	6,000	269.4
500 kV Thai/Laos-Tha Li and,Tha Li-KhonKaen4	EGAT/ Sri U Thong-L&T	Thailand	10,857	375.2
500 kV Bang Saphan 2 - Surat Thani 2 (From KM. 157 to Surat Thani 2)	EGAT/ Loxley- Sri U Thong-L&T	Thailand	18,380	754.4
230 kV Krabi-Phang Nga 2	EGAT/TSEC	Thailand	4,944	240.0
230 kV Thuen Hinboun Expansion Project	SocieteCommercial	Laos	5,686	417.0
230 kV OHTL Takeo-Kampot	LTB Leitungsbau	Cambodia	1,835	80.3
230 kV Phangnga 2-Phuket 2/ Surat Thani 2-Phuket 3	EGAT/Kalpataru	Thailand	3,777	159.4
230kV Tha Wung-Doembang Nangbuat	EGAT/Uahwatanasakul	Thailand	1,730	76.1
115 kV Kalasin-Maha Sarakham and Khon Kaen1- Maha Sarakham	EGAT/Loxley	Thailand	2,244	94.2
115 kV Nakhon Phanom-Sakon Nakhon2/ Amnat Charoen-Mukdahan	EGAT/Sri UThong	Thailand	2,549	103.2

### Reference List for General Steel Structure

Project	Customer	Country	Volume (Ton)	Value (MB)
Mae Moh 4-7 FGD Retrofit	ABB	Thailand	1,050	60.0
Solomon Iron Ore Project	Best Tech	Australia	1,350	38.6
SB4 Project, TMG	Channakorn	Thailand	2,014	130.0
ABS/SAN Plant (Phase I)	CTCI (Thailand)	Thailand	2,100	65.0
PTT HMC Polymers	CTCI (Thailand)	Thailand	2,784	187.0
NFC Rayong	Hyundai	Thailand	3,400	129.0
Linear Alkyl Benzene Project (TLAB)	Hyundai	Thailand	3,074	272.0
Bulk Loadout Building Structure	IBS	Australia	210	21.5
Bayer Polymer Expansion	Toyo- Thai	Thailand	2,175	98.0
LampsUp-MY Project	Toyo-Thai	Malaysia	400	11.3
Star Petroleum Refining	Yomakodo Iron	Thailand	2,600	75.0

### Reference List for Telecommunication Tower

Project	Customer	Country	Volume (Ton)	Value (MB)
Tubular-Alexandra Tower 60 m	Ramboll	Pakistan	2,192	209.8
Self-supporting tower	ADC	Nigeria	4,494	260.9
Alexandra Tower (several height)	Ramboll	Cambodia	1,231	74.6
Self-supporting tower	Reime NIS AS	Philippines	1,580	72.0
Light load guyed mast	Trinergy	Thailand	850	66.6
42X45M(Wind 167km/h) RDU & Rooftop Structure & Gin Pole	Nokia Solutions and Networks	Myanmar	669	57.0
45m Temporary Tower Structures	Digicel Asian Holdings	Myanmar	220	24.3
Narrow Based Towers	Digicel Asian Holdings	Myanmar	1,437	92.6
TelecomTower AIS Project	Milenium Plus One	Thailand	4,954	231.0

### Reference List for Substation Structure

Project	Customer	Country	Volume (Ton)	Value (MB)
220kV/20kV Arghandi	Siemens	Pakistan	229	12.0
500 kV Balloki	Siemens	Pakistan	680	31.2
220 kV AIS Gardez	Siemens	Pakistan	245	12.5
115/230 kV Mae Moh Power Plant Unit 4-7 Replacement Project	EGAT	Thailand	463	20.3
500/230 kV Surat Thani 2	EGAT/Sri U Thong	Thailand	607	30.0
220/110 kV DABS 010 (Andkhoy, Sheberghan and Mazar Substation)	Siemens	Afghanistan	500	28.8
500/230/115 kV Bang Pakong	EGAT/Precise	Thailand	537	23.0
230/115 kV Kabin Buri Substation and Prachin Buri 2	EGAT/Sinohydro	Thailand	282	14.1
230 kV Chatuchak and North Bangkok and Lat Phrao and Chaeng Wattana	EGAT/Sinohydro	Thailand	206	9.8
230/115 kV Yasothon Substation and Surin 1 Substation and Surin 2	EGAT/Sinohydro	Thailand	164	7.5
500/230/115 kV Tha Li Substation	EGAT/Sinohydro	Thailand	100	4.66
GSRC New CCPP IPP 500 kV Switchyard Sriracha Power Plant	EGAT/Mitsubishi	Thailand	137	8.21