A Subsidiary of BJC

Thai-Scandic Steel Co., Ltd.

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ISO 9001
ISO 14001
OHSAS 18001
BUREAU VERITAS
Certification

Thai-Scandic Steel Co., Ltd.

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 almost 300,000 tons of various steel structures to more than 40 countries worldwide.

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 2,000 tons/month or 24,000 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)

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 2,000 tons/month or 24,000 tons/year.**

Specialised Markets:

- Sub-station and Power Plant: for all structure types with voltage level up to 500 kV
- Petrochemical Industry
- Oil & Gas Industry: both on- and off-shore

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

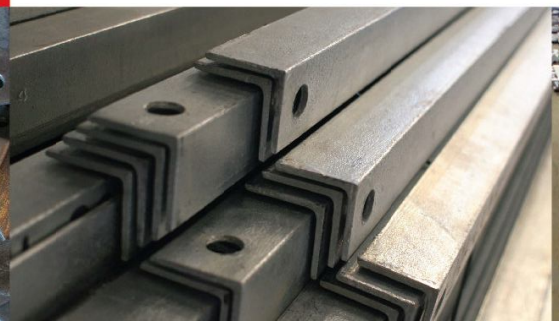
Bath Type:	Ceramic Bath (The largest one in Southeast Asia)
Bath size:	9.3 m long x 3.5 m wide x 2.2 m deep
Material Size:	Up to 3.5 m wide and 15.5 m long
Capacity:	2,500 tons per month or 30,000 ton per year

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 3.5 m wide and 15.5 m long and is capable of handling 2,500 tons per month or 30,000 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 10.02
	Detailing Softwares	BOCAD 3 D Version 21
2.	**Materials**	
2.1	Steel Structures	
	Mild Steel	JIS G3101 SS400, ASTM A36 or equivalent
	High Strength Steel	JIS G3101 SS540, ASTM A572 Gr.50 or equivalent
3.	**Bolt, Nut and Washer**	
3.1	Inspection Routine	ASTM A6
3.2	Bolts	ASTM A394 Type 0, A325,JIS B1180 B18.2.1 or equivalent
3.3	Nuts	ASTM A394 Type 0, A325, ASTM A563M Gr. A JIS B1181 or equivalent
3.4	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 D1.1:2002
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 Managing Director to control and improve our products and service standard to meet international level.

Today, our **quality management system** complies with International Standard **ISO 9001: 2008** (Design, fabrication 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 **ISO 14001** certified by Bureau Vertitas Certification with accreditation from UKAS of England.

Moreover, we apply **an occupational health and safety (OH&S) management system** which complies with International Standards OHSAS 18001 to eliminate or minimise risk in workplace and to improve work performance. **OHSAS 18001** is certified by Bureau Vertitas Certification with accreditation from UKAS of England.

REFERENCE LIST OF RECENT YEARS

Major Project List of HD-Galvanized Steel Products

Reference List for General Steel Structure

Project	Customer	Country	Volume (Ton)	Value (MB)
PTT HMC Polymers Project	CTCI (Thailand)	Thailand	2,784	270.0
Solomon Iron Ore Project,	Best Tech	Australia	270	10.2
LampsUp-MY Project	Toyo-Thai	Malaysia	350	7.6
Reclaim Canopy Building Structure Project	IBS	Australia	36	4.5
Bulk Loadout Building Structure for M1255-CSBP AN3 Project	IBS	Australia	210	21.5
NFC Rayong	Hyundai	Thailand	3,400	129
Mae-Moh 4-7 FGD Retrofit	ABB	Thailand	1,050	60

Reference List for Transmission Line

Project	Customer	Country	Volume (Ton)	Value (MB)
500kV: Namphong2-Udonthani3	EGAT/JPS	Thailand	6,827	336.3
500kV: Nan-Mae Moh3 T/L (HSA-L2)	JPS	Thailand	8,500	385.5
500kV: Mae-Moh3-Tha Tako (HSA-L3-01)	JPS	Thailand	6,000	269.4
230kV: Krabi-Phang Nga 2	EGAT/TSEC	Thailand	4,944	240.0
230&115kV: Thuen Hinboun Expansion Project	Societe Commercial	Laos	5,686	417.0
230&115kV: Mae Moh2-Mae Moh4-Lamphun2	Loxley-RCR	Thailand	1,480	65.2
230kV:OHTL Takeo-Kampot, Cambodia	LTB Leitungsbau	Cambodia	1,835	80.3
230kV:Sikhiu2-Nakhonratchasima	EGAT/SUT	Thailand	2,322	106.7
132kV: AFAM-ELEME-ONNE and ELENWO-RUKPOKWU Double Circuit T/L	Energo	Nigeria	731	38.3
115kV: Rayong-Kanchanaburi	EGAT/PES	Thailand	1,103	68.2
115kV: Udonthani2-NongBualamphu	Panakitkamai	Thailand	1,214	60.8
500kV IPP-L1 Bangsaphan	Fujikura/EGAT	Thailand	12,800	321
330/132kV Nigeria Project	NigeriaPLC/Energo	Nigeria	9,700	217.8

Reference List for Telecommunication Tower

Project	Customer	Country	Volume (Ton)	Value (MB)
Alexandra Tower	Ramboll	Cambodia	470	27.5
Alexandra Tower	Ramboll	Cambodia	195	20.0
Alexandra Tower	Ramboll	Philippines	130	7.0
Light load guyed mast	Trinergy	Thailand	850	66.6
Telecom Tower AIS Project	Millenium Plus One	Thailand	426	11.2
Tubular-Alexandra Tower 60 m	Ramboll	Pakistan	2,192	209.8
Self-supporting tower	ADC	Nigeria	4,494	260.9

Reference List for Substation Structure

Project	Customer	Country	Volume (Ton)	Value (MB)
500/115kV: Switchyard	ABB	Sweden	900	73.4
500kV:Ratchaburi Power Plant Project	Mitsubishi Corp.	Thailand	780	27.9
400/200kV: Switchyard Package-A/C SUGENS(TPGL) Surat, Gujarat-India	Siemens	India	1,307	93.6
230kV: Songkhla2 and Khlong Ngae	Teda Co.,Ltd.	Thailand	225	10.6
220kV:AIS S/S, Loralai/RFQ	Siemens	Pakistan	240	13.9
UCH II S/S, Pakistan	ABB	Pakistan	230	12.4