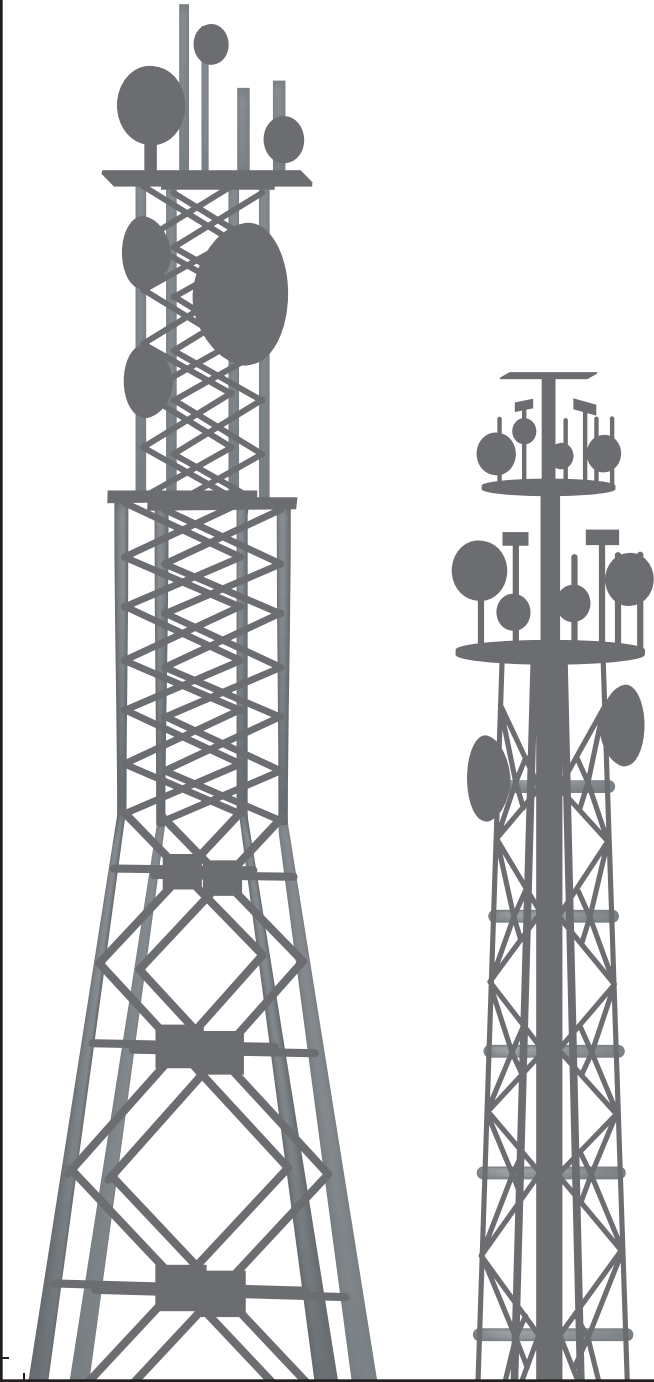


Telecom Structure Solutions
Connecting a powerful tomorrow



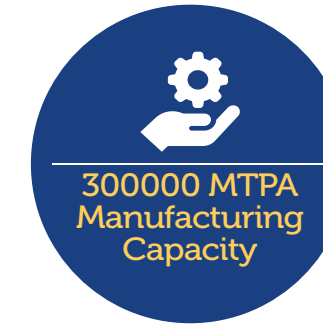
Registered Office:
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Ph: +91 33 2289 5731 / 32 | Fax: +91 33 2289 5733
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We Are

Skipper Limited, established in 1981. One of the leading companies in Engineering Product Segment. With over 40 years of domain knowledge in the Engineering Product business, it is the largest in India and stands among the top ten companies, globally. We differentiate our offerings with high quality but cost effective solutions for the Telecommunication and Power Transmission Sector.

In recent years, Skipper Limited has gained a great deal of expertise by working for various clients in the telecom industry. The company has a solid foundation in structural engineering. Along with manufacturing and supply of telecom structures we do cater to associated engineering services like civil & electrical works, geotechnical analysis and design engineering, as a single window solution.





Towering Possibilities Empowering Growth Our Products & Services

4 Legged Angular Towers

4 Legged Angular Tower is a self supporting tower designed on a square base pattern. The tower is optimized for medium to heavy loads and is generally suitable for primary cellular sites, MW backbone sites, or central communication hubs. The tower is designed for heights from 20m up to 140m. Its modular design allows for last minute modification and modules can easily be interchanged according to the specific site design. Square Angular Tower can be supplied with a variety of accessories, such as platforms, antenna mounts, safety devices, obstruction lights, lightning protection kit and more. Depending upon the customer's requirements, these accessories can be installed at any height and orientation.

3 Legged Tubular Tower

3 Legged Tubular Towers are mainly fabricated with circular hollow sections which are specially designed to reduce the number of individual members. We strongly believe that less number of tower members means less handling and storing problem, less erection time, less chances of misplacing, more efficient in terms of man hour per tower and higher productivity with cost effective solution. However in comparison to Angular towers, the expenditure in fabrication is a bit more for Tubular Towers since it requires welding. The recommended height of this structure is 30m, 40m, 60m and 70m. This tower is suitable for 1 to 3 operator usage.



3 Legged Angular Tower

3 Legged Angular Tower is a self supporting tower which is specifically designed, tailored and formulated in accordance to the requirement of TELCOs. The towers are fabricated strictly in line with British Standard, American Standard or other Standard References. The recommended height of this structure is 45m, 60m and 76m. These are suitable for single/multiple operator usage.

3 Legged Narrow Base Tubular Tower

3 Legged Narrow Tubular Towers are mainly fabricated with circular hollow sections which are specially designed to reduce the number of individual members and are suitable for limited space or congested land site. The recommended height of this structure is 30m, 45m and 60m. They are suitable for single operator usage.



Monopoles

Skipper is amongst the largest manufacturers of Telecom Monopoles in India, with one of the largest galvanising facilities in the country. It is also one of the first companies to introduce the technologically superior Monopoles in India. Monopoles are one of the least intrusive and easy to install towers. They are fast becoming popular structures in the wireless communication and power transmission industries. Since, adding towers in urban areas is now difficult due to strict zoning laws and lack of available land; monopoles easily become the better options.

In its pursuit, Skipper offers 2 types of monopoles - Flange Joint Monopoles and Slip Joint Monopoles.

Slip Joint / Flange Joint Monopoles can be typically used as GSM/CDMA Equipment, Video Surveillance Equipment, Wind Turbines, FM Radio, TV Meteorological Equipment, Flood Light, Flag Poles Traffic Control Cameras, Crime Prevention Video Surveillance, etc.



Slip Joint Monopole

Skipper's Slip Joint Monopole is an 18-sided Slip Joint Monopole that reaches the heights of up to 40m. These Monopoles are made of 7.5m tapered hollow steel sections which are connected with the Slip Joint Method. This type of monopoles are designed for light to medium loads and are generally suitable for standard single operator cellular sites. They are suitable for the heights of 15m to 40m or as per recommended sizes by the customers. A Slip Joint Monopole is equipped with a variety of accessories such as platforms, antenna mounts, safety devices, obstruction lights, lightning protection kit and more. All of these accessories can be installed at any height and orientation according to the customers' requirements.

Flange Joint Monopoles

Especially created to suit the clients' request, our Monopole Towers are made of tapered hollow steel sections which are bolted together with circular flanges.

Due to the modular design and flexibility, it allows for changes in specification, modification and can easily be changed according to different site designs. Our monopoles are for medium to heavy loads and are generally suitable for standard operator cellular sites.



Camouflaged Pole – Pine / Palm & Flag

Skipper has evolved a wide variety of design concepts around aesthetic structures catering to the needs of ground-based and rooftop installations. Our solution portfolio comprises of various options such as camouflaged monopoles with day and night views, street light cum telecom poles, palm trees etc. These solutions are designed to suit site deployment in public places. As the leading telecom infrastructure provider in the country, Skipper is all set to change the telecom towers landscape by adding more and more aesthetic towers across the network.

Camouflaged Monopole is an innovative solution for wooden settings. It is a step— tapered pole ranging up to 40m in height, with artificial branches and needles covering the upper part of the pole. The Monopole is designed to blend into a forest and is virtually indistinguishable from the surrounding trees. Our popular minimum visual impact designs include Flag pole, Pine Tree, Palm Tree and Slimline towers, each of which combines an aesthetically pleasing design with the latest technological advancements. **Skipper has experience in providing custom telecom structural solutions in structures.**



Roof Top Towers and Poles

Skipper Limited supplies triangular & square penetrating and non-penetrating type rooftop lattice towers with various heights. Skipper also provides rooftop poles of heights ranging from 2m to 12m, as per customer's requirements.

Rooftop Lattice Towers

both triangular & square with different heights, can be supplied. Climbing and cable ladders are normally integrated units. A safety system can be used upon demand.

Rooftop Poles

with various heights and diameters can be supplied. Galvanised steel tubular poles can be fixed directly to the roof by means of chemical anchoring system, or anchors embedded in a rooftop foundation.

Services

Skipper specialists help customers by providing consultancy services to design, develop and implement the

solutions. We provide technical consultancy services for designing of towers, their foundation and installation activities. Our trained specialists offer supervision services on site

during the implementation of various projects and contracts in India and overseas. We provide turnkey solutions to our customers for a seamless execution of the project.

Our Other Products:



Power Transmission towers:

Skipper offers the full range of diverse products – from 66 Kv to 800 Kv towers. The towers comply with Indian and international material grades (BSEN to ASTM to GOST).



Transmission Monopoles:

Skipper Limited is armed with global expertise and intellectual capital. It is capable of manufacturing up to 400 Kv in Transmission Towers and for heights up to 40m for Telecom Towers.



Distribution Poles:

Skipper manufactures poles of 5m to 16m, usually utilized for street lighting, distribution lines and signboards. The

Company manufactures poles as per the highest quality standards of IS: 2713/BS 4360.



Poles:

Skipper manufactures commercial poles like Swaged poles, High Mast poles, Octagonal poles, Conical poles and Monopoles. The Company has products for commercial, residential, municipal and industrial applications.



Angles:

Skipper entered into Hot Rolled Angle production in 2010 as a backward integration for its tower units. The Company has flexibility to roll angles of any grade and length.



Fasteners:

Skipper manufactures Mild Steel & High Tensile Fasteners and has the capability of manufacturing a wide range of bolts, nuts and washers with in-house Galvanizing.

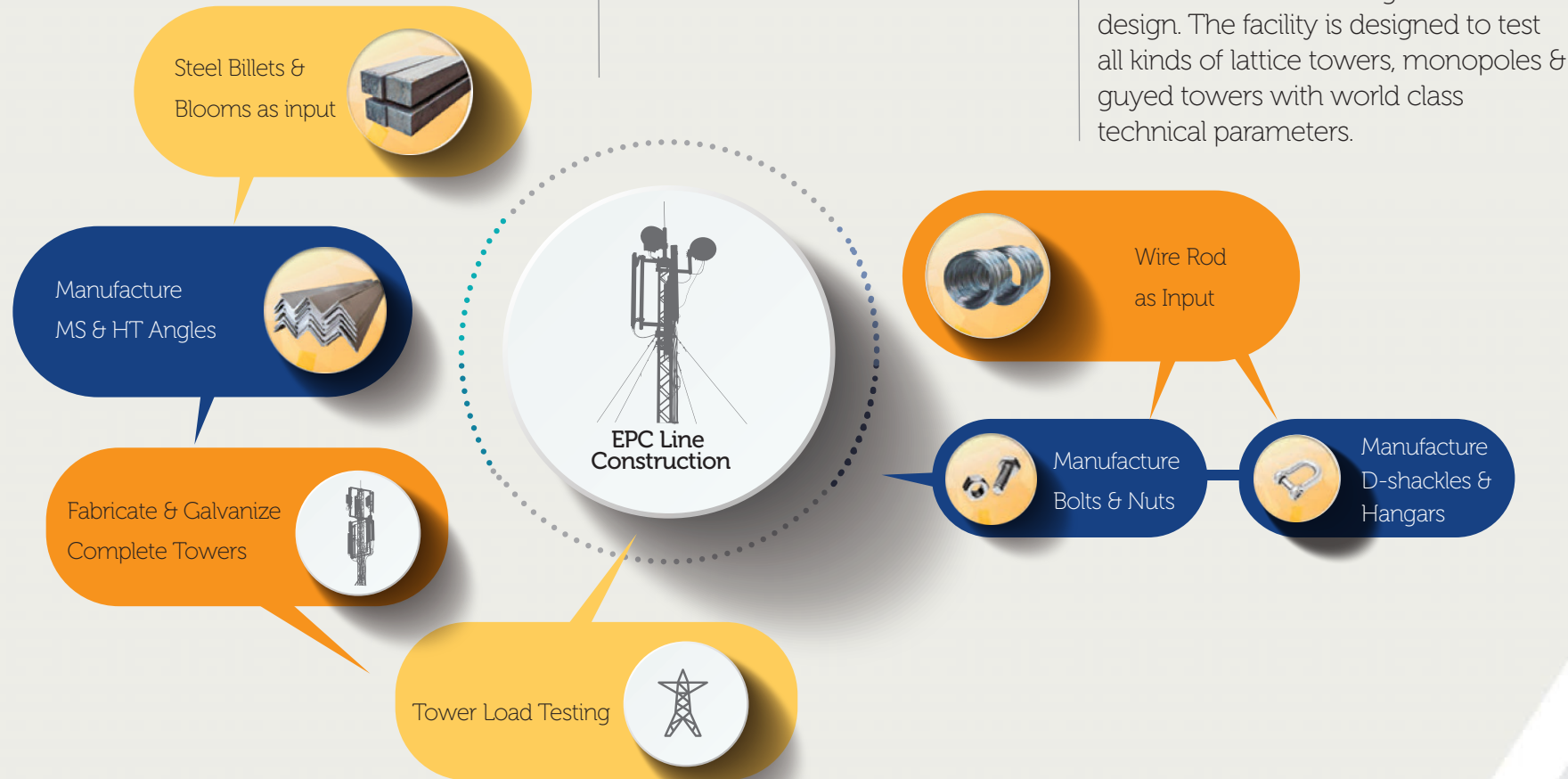


Railway Structures:

The Company is a leading manufacturer of galvanised steel structures and SPS for railways OHE & TSS and also provides various services for railway electrification.

Our Value Chain

Skipper has developed a deep design capability and product understanding. We are capable of responding to the customized design needs of every project. Sometimes projects require 50 different structures and 10000 unique parts, our proprietary manufacturing and supply chain successfully addresses these demands.



Skipper R & D Center

Skipper's In House Research & Development Center located in Howrah, West Bengal is approved and recognized by Dept. of Scientific and Industrial Research (DSIR), Govt. Of India.

Transmission Tower Load Testing

The Company's tower testing facility is one of the largest in India and first of its kind in Eastern India. The centre is capable of full-scale load testing, a reliable tool for validating the structural design. The facility is designed to test all kinds of lattice towers, monopoles & guyed towers with world class technical parameters.

Our Global Presence

Skipper is a respected global citizen. The Company markets the Transmission Towers, Telecom Towers and Monopoles etc, across 30 countries in South America, Europe, Africa, Middle East, South & South East Asia and Australia. This wide footprint makes Skipper truly global and broad, basing its presence for sustainable long-term growth.

South America: Peru, Colombia, Chile, Paraguay, Panama Uruguay

Europe: UK, Spain

Africa: Kenya, Egypt, Ghana Nigeria, Zambia, Sierra Leone, Guinea, South Africa, Botswana Burundi, Angola

Middle East: Jordan, Saudi Arabia UAE, Qatar

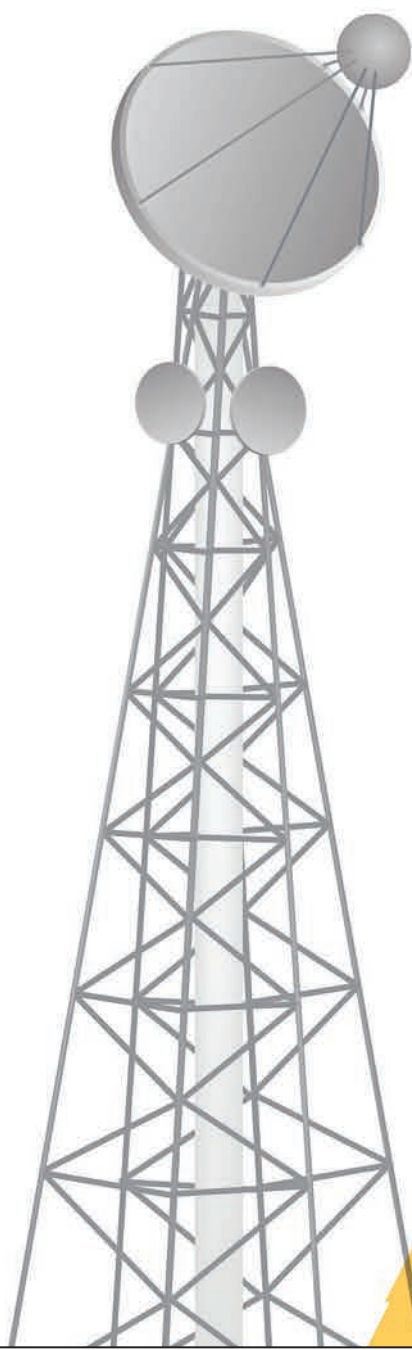
South and South East Asia: India, Nepal, Bangladesh, Sri Lanka, Indonesia, Philippines, Malaysia, Australia



Leveraging The Resources

Design and Engineering

Skipper has a state of art in-house design facility with a strong team of Design Engineers and Draughtsman who continuously develop innovative, construction friendly and cost effective designs. The company is equipped with the latest software like PLS Tower, PLS Pole, Tower- Cad & Auto - Cad and is equipped to provide computerized engineering solutions, 3D analysis and design. The company has designed various types of telecom towers and monopoles.



Packing and Containerization

At Skipper, containerization is the manifestation of the company's ethos to care till the last mile for its valuable customers. Utmost care is taken to ensure that all tower parts reach the end customer in sturdy sea - worthy packing for ease of handling during transportation from factory to installation site. All our plants are geared up to do single-tower bundling and factory-stuffing of containers for ensuring safe delivery to site. Proper lashing, choking and fumigation are done to ensure international norms of packaging. Our professional logistic standard enables best of shipping lines and fast delivery to our international clients. A dedicated fleet of transporters are engaged for transportation of towers to our domestic customers.





Boxes barcode



Boxes barcode



Bundles barcode

Barcode System

Skipper has introduced barcode facility for towers' supply for the first time in India. Our ultimate goal is to minimize the pain points of customers' pertaining to material management and planning at all locations, which ensure 100% receipt of materials as delivered.

Key Features:

- Real time information sharing on materials supplied
- Consolidated information sharing on materials supplied
- Easy access to information pertaining to materials supplied
- On line information sharing
- No hardware or software requirement at site
- Hassle free joint verification can be carried out

Benefits to customers:

- Ensuring 'zero shortage' of materials supplied and received at site
- Hassel free joint verification can be carried out
- Efficient materials management (sorting, bundling and storage) at site
- Minimal time required as compared to physical joint verification
- Ensuring efficient material handling and tracking from delivery to erection of towers

Our Manufacturing Plants for Engineering Products and Services

Sr. No.	Location	Engineering Products *(MTPA)
1	Uluberia – Kolkata(WB)	1, 65, 000
2	Jangalpur – Kolkata(WB)	69, 000
3	BCTL – Kolkata(WB)	36, 000
4	Guwahati – Assam	30, 000
Total		3, 00, 000



	Indian Standard	International Standard
Rolling & Cutting tolerances (Hot Rolled Steel Products)	IS 1852	
Fabrication	IS 802	IEC 60826
Mild Steel (Tower Material)	IS 2062:2011 (E2SOA)	BSEN 10025-1&1 (SZ75JR/JO) BSEN 10056 -1&2 ASTM A36/A36M
High Tensile Steel (Tower Material)	IS2062:2011 (EBSOA)	BSEN 10025-1&2 (S355JR/JO), BSEN 10056-1&2 ASTM A572 Gr 50
Galvanizing	IS 2629, IS 2633, IS 4759	BS 729, BSEN ISOS 1461, ASTM A123, ASTM A153
Fasteners (Grades 56/5 84 8.8/8)	IS 1367 (Part-3&6), IS 12427, IS 14394, IS 10238	BS 4190, ASTM A394, ASTM 563, DIN 555, DIN 7990, DIN 931, DIN 933, DIN 7990

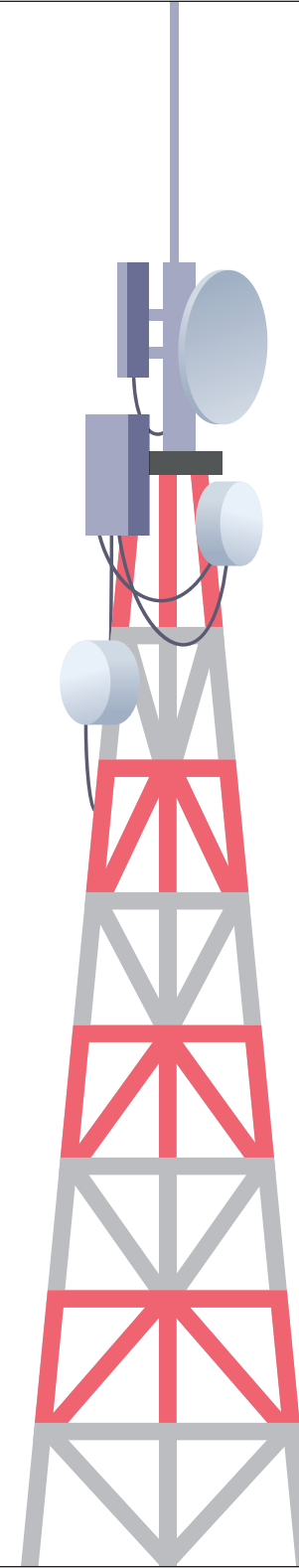


Facility Highlights at Skipper

- 4 power grid approved transmission towers & poles manufacturing plants with a combined capacity of 300000 MTPA
- In – house Designing and Pre-Engineering Department
- MS & HT angle rolling (upto 200x200x25) ensuring round the clock availability of raw materials
- More than 57 angle and plate CNC lines operated production lines, imported from Germany, Italy & China
- Health and safety are the priority areas at Skipper. We are ISO 14001 and OHSAS 18001 certified
- 7 in-house galvanizing plants with up to 12m length, 2.5m width and 3m depth
- Abides to international norms of packaging like proper lashing, choking and fumigation

Registrations & Approvals

- Bureau of Indian Standards (ISI)
- ISO 9001, ISO 14001, ISO 18001
- Power Grid Corporation of India Limited (PGCIL)
- Egyptian Electricity Transmission Company (EETC)
- Bhutan Power Corporation
- Major State Electricity Board of India (SEBs)
- Budcentral-Certificate of Conformity
- Kenya Transmission Company (KETRACO)
- Transmission Company of Nigeria (TCN)
- National Grid Corporation of Philippines (NGCP)
- Ministry of Railways (RDSO)
- Damodar Valley Corporation
- Canadian Welding Bureau (CWB)
- Indian Institute of Welding (IIW)
- Transmission Corporation of Andhra Pradesh Limited (APTRANSCO)
- Odisha Power Transmission Corporation Limited (OPTCL)
- The Karnataka Power Transmission Corporation Limited (KPTCL)
- Saudi Electric Company
- The Jordanian Electric Power Company Ltd. Amman-Jordan
- RETIE, Colombia
- UKSEPRO
- LAPEM
- SIRIM QAS and CE
- CIDB



Awards & Recognitions



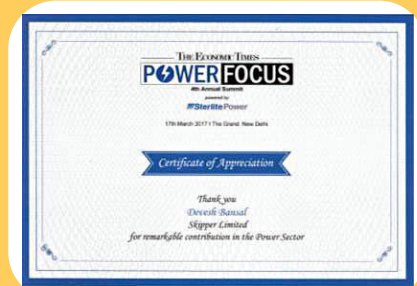
AWARD: STAR PERFORMER
AWARD FOR THE YEAR 2015-16
GIVEN BY: EEPG INDIA



AWARD: GLOBAL HR EXCELLENCE
GIVEN BY: WORLD HRD CONGRESS



AWARD: NO. 1 EMERGING BRAND IN
POLYMER PIPES & FITTINGS
GIVEN BY: WCRC



AWARD: THE ECONOMIC TIMES
POWER FOCUS 4th ANNUAL SUMMIT
GIVEN BY: STERLITE POWER



AWARD: THE LARGEST TOWER SUPPLIER
FOR 3rd CONSECUTIVE YEAR
GIVEN BY: POWER GRID CORPORATION
OF INDIA LTD. (PGCIL)



AWARD: MOST ETHICAL COMPANY
GIVEN BY: WORLD CSR DAY



AWARD: THE BEST POLYMER BAND
GIVEN BY: CONSTRUCTION TIMES



AWARD: EMERGING POWER
EPC PLAYER
GIVEN BY: EPC WORLD

Quintessential Deliverables Ensure Testimonials

At Skipper Limited, we believe that the customer's project is our project and we are always ready to go the extra-mile to ensure we become the partner of choice to every buyer. Our customers' and partners' endorsements speak for us.



This is to Certify that M/s. Skipper Limited, manufacturers of Fabricated Galvanized Microwave Towers and Tower Parts, have supplied & erected towers at different circles in Bharti Infratel Limited. We hereby confirm that Skipper Limited, have successfully supplied & erected towers & tower parts meeting per our project schedules. We wish them success in all their future endeavours.
-Bharti Infratel Limited



"Skipper has been a Ramboll manufacturing partner for more than 6 years and we have found them to be a fair and transparent organization. We wish them all the best in their future endeavours." -Trond M. Bredesen, COO - Ramboll Towers India & Global Production Director



This is to certify that M/s. Skipper Limited successfully completed fabrication, supply and installation of telecom tower against our orders. Their performance was satisfactory. - ATC Telecom Infrastructure Private Limited