



### **Founder Profile**

(1979 ~ .....)

SAKM SHAHIDUZAAMAN WARASI SUJAN Was Born On 08 September 1979. After Hold an MBA from UGC Bangladesh, He Started Job With SQUARE GROUP And Worked At Different Places In Bangladesh. In 2004, He Started Job With NOVONORDISK A/S At Bangladesh. Then Mr. WARASI Moved With RAK BANGLADESH. After That He Turned To Move For Business with a tremendous & dedicated team, Specially In Power Plant & Heavy Construction Sector, Marketing of Power Generation Products, Power Plant Machinery, Spare Parts, Electrical & Electronics Equipments, Sophisticated Medical Equipments & Devices As Well As Trading, Import & Export, Shipping, Cargo Service To Bangladesh, Malaysia, Korea, India, UAE, Sre Lanka, Nepal, Bhutan. For The Demand Of The Market He Also Moved with his team To Sorcing & Supply The Power Plant Machinery And Goods Along With Construction Equipments From The Original Manufacturer From CHINA, USA, SINGAPORE, HONGKONG, MALAYSIA, GERMANY, UK, UAE, JAPAN & RUSSIA Or As Per Requirement Of The EPC's. So That He Setup A New Company In China, Hong Kong, USA & Malaysia.

BRIDGE ASIA IMPEX (HK) LTD. & PHOENIX ELECTRICAL & ELECTRONICS (GZ) LIMITED, Today Is A Name Not Only Known In The Import Export World, It Is Today A Synonym Of Quality-Be It Power Plant Machinery & Equipment's, Construction Equipment's, Electrical & Electronics Equipment's, Spare Parts, Consumer Product, Toiletries, Health Products, Textiles & RMG, Agro Vet Products, Information Technology And Few More. All These Were Possible Due To His Innovative Ideas, Tireless Efforts, Perseverance And Dedication With Self Confidence Which Contributed To His Successful Achievements. Now The Name "BRIDGE ASIA IMPEX INTERNATIONAL" Inspires Trust. Under His Dynamic Leadership, BRIDGE ASIA IMPEX INTERNATIONAL & PHOENIX ELECTRICAL & ELECTRONICS (GZ) LIMITED, are Set To Continue Its Progress Globally.





Co-Founder Profile (1978 ~ ......)

MD. ABDUS SALAM, Born On September 07, 1978, Is A Distinguished Professional In The Field Of Information Technology And Banking. He Holds An Honors And Master's Degree In Computer Science And Engineering From Islamic University, Kushtia. With A Career Spanning 17 Years, He Has Been A Vital Part Of Dhaka Bank's Information Technology Division Since Completing His Studies. Abdus Salam Has Acquired Extensive Expertise In Information Technology And Card Systems Within The Banking Industry. His Commitment To Professional Development Is Evident Through Numerous Local And International Training Sessions. As A Leader, He Has Made A Significant Impact, Contributing Valuable Insights To The Success Of The Bank.

He Also Involved As Distinguished Founder Director of **BRIDGE ASIA IMPEX (HK)** LTD. & PHOENIX ELECTRICAL & ELECTRONICS (CN) LIMITED & BRIDGE ASIA IMPEX INTERNATIONAL. With Over Couple Of Decades Combined Experience In The Area Of Banking & Interactive Technology Mr. Salam Keeping His Footstep In The Project & Service - Sales, Marketing & Distribution Of Product, Equipments Service, System & Technology, Facilities Management And Intelligence & Defense Project, Equipments And System Providers For The Various Industries. He Is Leading & Coordinating Sales, Marketing, Service, Proejct Consultancy, Project Management, Mechanical Installation, Training, Customer Service And Support To Our Client. Mr. Salam Working To Build The Company As One-Stop Solution Provider In All Respect. Under His Dynamic Leadership, BRIDGE ASIA IMPEX & PHOENIX ELECTRICAL & ELECTRONICS (GZ) LTD. Is A Single Source For All Our Scope For Your Industries. When You Go With Us, You Get The Power, Support, And Expertise In All Respects. So, If You Are Looking For A Partner Who Can Provide State-Of-The-Art & One Stop Business Solutions For You, Trust The Leader & Stay With Leader.



#### MISSION

Our Mission is to provide quality & innovative It Power Plant Machinery & Equipments, Construction Equipments, Consumer Product, Toiletries, Health Products, Textiles & RMG, Agro Vet Products, Information Technology for people, maintain stringently ethical standard in business operation also ensuring benefit to the society at large.

#### VISION

We view business as a means to the material and social wellbeing of the society at large, leading to accretion of wealth through financial, service and moral gains as a part of the process of the human civilization.

#### **OBJECTIVE**

Our objectives are to conduct transparent business operation based on market mechanism within the legal & social framework with aims to attain the mission reflected by our vision. We hope our company will give you a complete clarity about our service, procurement and cooperative business support to the local & foreign construction companies, how we served them and how we shared local knowledge to the best to our clients. We work with a biggest range of organizations – midwoker to largest sizes of private companies as well as Govt. state-owned companies, and the world leading, recognized, established multinationals companies. We create contineual, sustainable, impact by our supply and tremendous service to gaine successful construction of the different projects and by facilitating & provided logistic the success of multinational companies as well as local contractors & the subcontractors nationwide. We always rely on the well-recognized, worldwide famous vendors and manufacturer for procurement of the required materials within very shortest possible time.

We always hire the best, honest & talent personnel and invest significant resources to building their knowledge and in developing them individuals. We always work hard but always in an professional environment of mutual respect, whole herted professionalism, and supports. BRIDGE ASIA IMPEX INTERNATIONAL is a Importer, Exporter & supplier where utmost Power Plant & construction materials can be provide. We always offering reasonable, possibly lowest and negotiable price and moderate service to all of our clients. Since we started, **BRIDGE ASIA IMPEX INTERNATIONAL**. has reached a certain well-known position among the other Import Export Company & construction material suppliers. We are always pleased to see **BRIDGE ASIA IMPEX INTERNATIONAL** continue growth and I looks forward with the new opportunities for Local People and for our clients in the entire erina. We always invite you to experience our supplies and services for your project works. Wish you a successful in your every project,

With best regards,



Chief Executive Officer

BRIDGE ASIA IMPEX INTERNATIONAL. PHOENIX ELECTRICAL & ELECTRINICS (GZ) LIMITED.

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Email: ceo@bridgeasiaplc.com, https://www.bridgeasiaplc.com





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ROOM 1407, 14/G, TAIXING PAVILION, GUOLONG BUILDING, YUEXIU DIST. GUANGZHOU 51000, GUANGDONG PROVINCE, CHINA.

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#### WAREHOUSE FACILITY

THAILAND, USA, JAPAN, INDONESHIA, UK.

# PHOENIX-BRIDGE ASIA TEAM

MANAGEMENT TEAM							
NAME		DESIGNATIO	N		AREA OF EXPERTS		
Engr. Mokshedul Alam	1	Executive Director, MSC in Pov	Executive Director, MSC in Power & Electric Project Director				
ILman Khan		Executive Director, Admin & Operation Director Administration					
Engr. Mohammad Mahfuzer Ra	hman	Executive Director, BSc Engine	er, CSE		Project Director		
Md. Abdus Salam		Director - Operation			Sales, Commercial & Finance		
Engr. Sujit Mali		BSc in Civil Engineering			Architecture & Design Engineer		
Engr. Mizanur Rahman		BSc in Mechanical Engineerin	g		Machanical Engineer		
Engr. Anowarul Islam		BSc in Civil Engineering		Structural Engineer			
Engr. Saiduzzaman Liton		BSc in Electrical & Electronics		Electrical Engineer			
Engr. Mohammad Ali		General Manager, Diploma Engineer		Head of Power, Electric/Electronics Division			
Engr. A. Newaj Khokon		Manager, Diploma Engineer		Power, HVAC & Central Cooling Unit & Electric/Electronics Division			
MANPOWER							
Assistant Engineer (Electrical)	02	Architect Engineer	01	Accounts 0:		01	
Assistant Engineer (Mechanical)	02	Software Engineer	01	Sales & Marketing 02		02	
Assistant Engineer (Civil)	02	Forman	01	Over	Overseas Employee 03		
Engineer (Electromechanical)	01	HR	01	Offic	Office Secretary 01		

## FOREFINGER

SL. NO	SECTION DESCRIPTION	PAGE NO	REMARKS
01	Heavy Equipment		
02	Mechanical Construction Materials		
03	Piping Construction Material		
04	Electrical Construction Materials		
05	Civil & Arch. Construction Materials		
06	Instrumental Construction Materials		
07	Safety, Security And Environmental Materials		
08	HVAC (Duct And Insulation Works) Materials		
09	Exercise (Gym) Materials		
10	General & Miscellaneous Materials		
11	Painting Materials		
12	Welfare Materials And Service		
13	Soil Filling, Compaction & Land Scrapping Materials		
14	Accommodation And Land Leasing Service		
15	Vehicles And Equipment Spare Parts		
16	Pumps And Motors		
17	Previous Experience		
18	Present Experience		
19	Chemical Item		
20	Others (FRP, Reinforced Pipe, Filter, Geo Textile Etc.)		
21	Medical Equipment's & Health Care Materials		
22	Security & Monitoring Materials		
23	Internet and Communication Equipment's		
24	Logistics Activities		
25	Insect Killer Chemicals		
26	Power Generation Station & Generators		
27			
29			
	<b>X AVOBE ALL ITEMS &amp; INSTRUMENT WE CAN PROVIDE AS</b>	REQUIRED *	

# POWER TOOLS, PIPES & FITTINGS & LETS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	SPEC/BRAND/CO
1	Adjustable Wrench 8", 10", 12"	Japan/Germany/China
2	Angle Bar (1.5:X1.5", 2"X2", 3"X3")	BGD/India/China
3	Argon Electrode	China/Korea/Japan
4	Ball Press Machine	Japan/Germany/China
5	Barbed Wire (Blade Wire, Fork Wire)	China/Japan/Bangladesh
6	Bearing (Various Type And Size)	Japan/Germany/China
7	Box Wrench (6mm To 32mm)	Japan/China
8	Caulking Gun / Silicon Gun	Japan/Korea
9	Chain Hoist / Chain Block	3,5,10,15, <mark>20,25 Ton</mark>
10	Channel Bar (U, V, O Shape)	Bangladesh
11	Chisels / (Batal)	Bangladesh/India/China
12	Clamps (Various Sizes)	Bangladesh
13	Claw Hammer	Japan/China
14	Combination Pliers (6", 8", 10",12"~)	Japan/China
15	Combination Wrench (24~50mm)	Japan/China
16	Combination Wrench (6~24mm)	Japan/China
17	Compressor (Tire Repair Set)	KC 652s (11010)
18	Concrete Nail	China/Indonesia
19	Coping Saw	China/India
20	Crowbar	India/China
21	Cutter	Japan/Germany/China
22	Cutter Machine	China/Japan/Korea
23	Cutting Disc	Japan/Germany/China
24	D Shackle (For Rigging Work)	China/ Vietnum
25	Tion Hammer (Drill Hammer)	China/Japan/USA

## FKG 1N GRID/GEN CERCUITE BREAKER







# SPARE PARTS FOR POWER PLANT











# FILTER ELEMENT FOR POWER PLANT









# POWER TOOLS, PIPIE & FITTINGS & LETS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	SPEC/BRAND/MY	QUANTITY
26	Diamond Cutter	Japan/China	
27	Diamond Disc	China/Japan	
28	Drain Spade / Shovel (Belcha)	China/India	
29	Drill Bit	China/Japan/India	
30	Drill Machine (Ac Power)	Germany/China/Japan	
31	Drill Machine (Dc Power)	Korea/Japan	
32	Elbow (Ms/Ss Various Size)	China/Vietnum	
33	Electric Bench Grinder	Japan/China	
34	Electric Metal Cutter	China/Japan	
35	Embedment Angle	BGD/India/China	
36	G.I Pipe	BGD/China/Malaysia	
37	G.I. Fittings	BGD/China/Malaysia	
38	G.I. Punching Wire (G.I.Wire)	BGD/India/China	
39	Gate Valve (Various Size)	China/Japan/Malaysia	7
40	Grating (Galvanized)	China/Jap <mark>an/India</mark>	
41	Grinder Machine	Japan/China/USA	
42	Grinding Disc	Japan/China	
43	Hammer (4lb,6lb,12lb)	China/Korea	
44	Hand Saw	China/Vietnum	
45	Hessians / Jute Cloth	Bangladesh/India	
46	Hose Clamp (Various Sizes)	China/Malaysia	
47	Hp Hose (Various Size)	China/Korea	
48	Hydraulic Jack	China/Japan/USA	
49	Impact Driver Sets	Korea/Japan/China	
50	Jack 30ton, 50ton, 100 Ton	Germany/China/Japan	

## FKG 1N GRID CERCUITE BREAKER





## SPARE PARTS FOR POWER PLANT







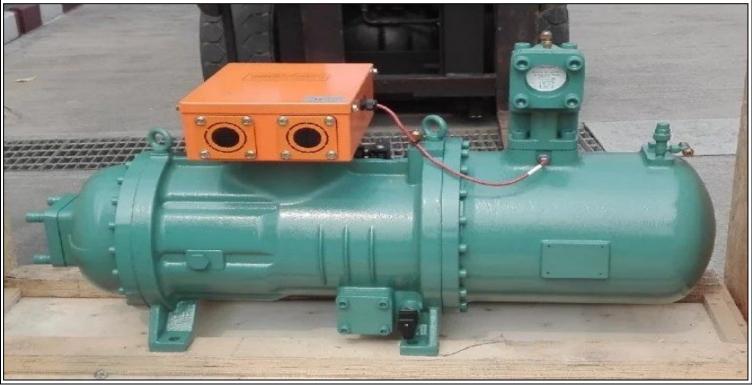






# SCREW COMPRESSOR FOR CHILLER PLANT





# POWER TOOLS, PIPIES & FITTINGS & LETS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	SPEC/BRAND/MY	QUANTITY
51	Jig Saw	Germany/China/Japan	
52	Jig Saw Blade	China/Japan	
53	Jobber Drill Sets	Germany/China/Japan	
54	Lathe Machine	Japan/Germany/China	
55	Mechanical Carbon	China/Japan	
56	Mechanical Diaphragm Pump	Japan/Germany/China	
57	Miscellaneous Items (Any If Required)	Japan/Korea/China	
58	MS Bar (Various Size)	China/Vietnum	
59	MS Channel (Various Shape & Size)	China/Vietnum	
60	MS Fittings (Various Size)	China/Vietnum	
61	MS Pipe (Various Size)	China/Vietnum	
62	Non-Return Valve (Various Size)	Japan/China	
63	Pilling Wings Machine	USA/Germany/Japan/China	3/4
64	Power Press Machine	Japan/Germany/China	7
65	Shaper Machine	Japan/Germany/China	
66	Side Cut Diagonal Pliers	Japan/China	
67	Slide Calipers, And Micrometer	Japan/Germany/Usa	
68	SS Bar (Various Size)	Bangladesh/China/Japan	
69	SS Fittings (Various Size)	China/Vietnum	
70	SS Pipe (Various Size)	China/Vietnum	
71	Steel Plate	China/Vietnum/Korea	
72	Steel Wire Rope	China/Korea/Indonesia	
73	Teflon Bar (Various Size)	China/Vietnum/Indonesia	
74	Titanium Rod	China/Japan/Korea	
75	Welding Holder	Japan/Korea/China	

# TRANSFORMAR SWITCH GEAR & CERCUITE BREAKER









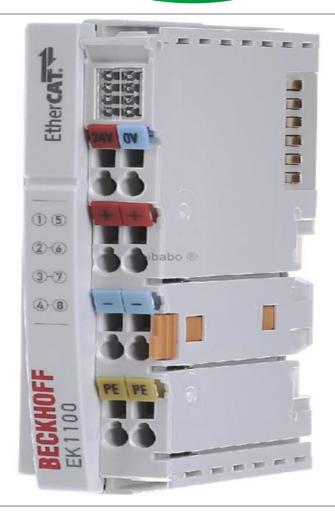


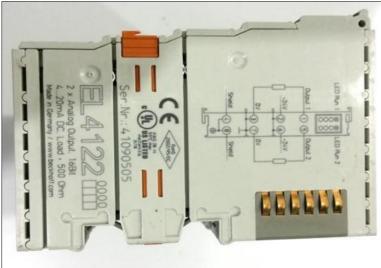


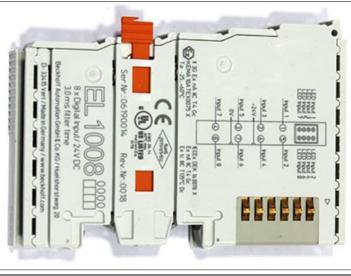














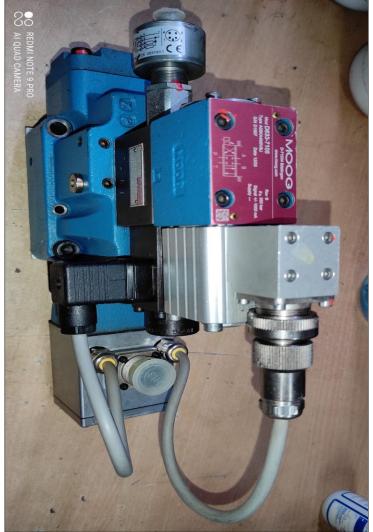




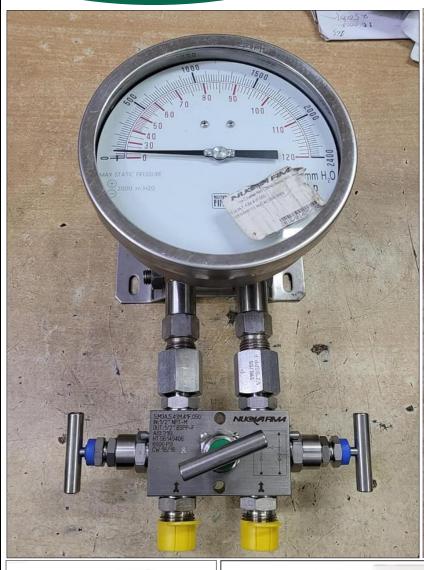






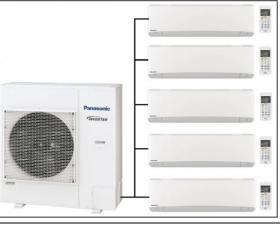


















































## **SCREW WATER CHILLERS**

AIR COOLED TYPE/WATER COOLED TYPE

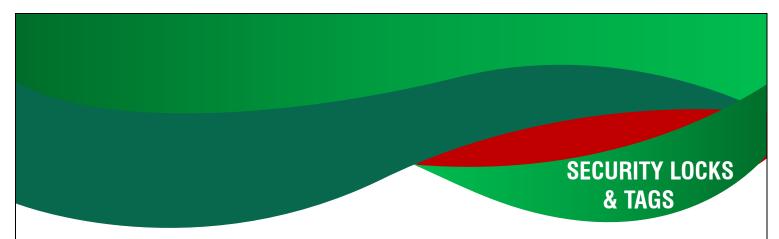


Finetec Century

















# DEMOLATION & COMPACTION TOOLS

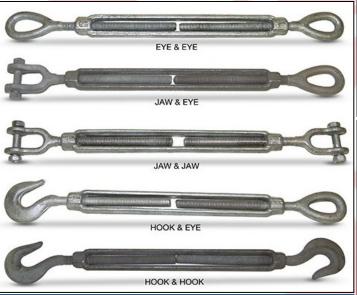




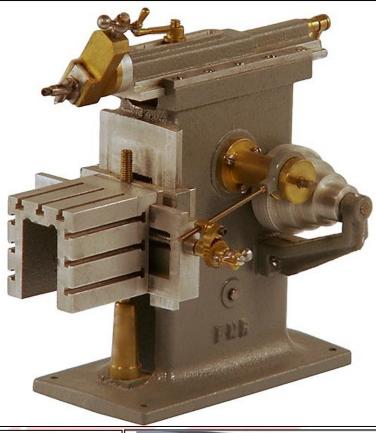


## LIFTING TOOLS





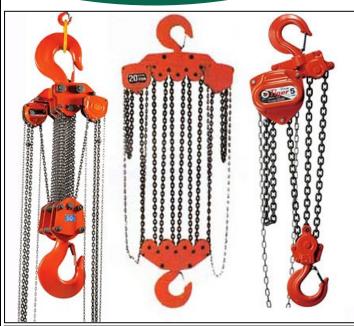








## HOEST, D SHAKEL, DISK JOBBER DRILL, JACK





JOBBER DRILL SETS







## ADJUSTABLE WRANCH









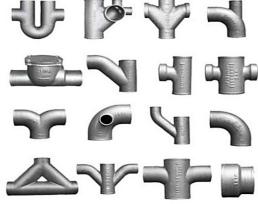




### PIPES & FITTINGS









### HAMMER UNION

Working Pressure: 7MPa~140MPa ( 1000PSI~20000PSI )

Normal Size: 1"~5"



















## PIPES & FITTINGS

### **SOCKET-WELDING FITTINGS**

FORGED HIGH PRESSURE PIPE FITTINGS



ELBOW 90°



UNION



HALF COUPLING



ELBOW 45°



INSERT



COUPLING



TEE



CAP



BOSS



CROSS



OUTLET



WELDING OUTLET

## PIPES & FITTINGS

## THREADED 2000-3000-6000 LBS

FORGED HIGH PRESSURE PIPE FITTINGS







ELBOW 45°



TEE



CORSS



NOINU



HEX HEAD BUSHING



COUPLING



HALF COUPLING



REDUCING COUPLING



CAP



BOSS



**BULL PLUG** 



ROUND HEAD PLUG



SQUARE HEAD PLUG



HEX HEAD PLUG



STREET ELBOW



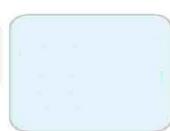
OUTLET



**HEX NIPPLE** 



**SWAGE NIPPLE** 



SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Acetylene Cylinder Gas	Japan/China	
2	Acetylene Hose	China/Malaysia	
3	Acetylene Gauge	China/Japan/USA	
4	Air Compressor	USA/Japan/EU/China	
5	Aluminum Bar	Japan/Korea/China	
6	Aluminum Sheet	Korea/China/Japan	
7	Argon Cilynder Gas	China/Japan/Korea	
8	Argon Gauge	China/Japan	
9	Argon Hose	China/Japan/Korea	
10	Argon Welding Ceramic Cap	China/Japan/Korea	
11	Asbestos Sheet	China/Japan/Malaysia	
12	Bench Grinder	Japan/Korea/China	
13	Berrow Meter	China/Japan	7
14	Butterfly Valve (Various Size)	China/Japan/Korea	
15	Caulking Gun / Silicon Gun	China/Malaysia	
16	Central Chiller Unit (Blitzer)	Germany/China	
17	Central Chiller Unit (Century)	Singapore/Korea	
18	Central Chiller Unit (Denfoss)	Denmark/China	
19	Chain Hoist / Chain Block	Japan/Germany/China	
20	Chain Pully (Various Capacity)	Japan/Germany/China	
21	Channel Bar (U, V, O Shape)	China/Japan/Korea	
22	Checked Plate (4'x8' 4.5mm, 6mm, 8mm)	China/Japan/Korea	
23	Chiseled	BGD/China/India	
24	Chisels / (Batal)	USA/Japan/EU/China	
25	Circular Saw Blade	Japan/China/Malaysia	

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
26	Circular Saw Machine	Japan/China/Thailand	
27	Clamps (Various Sizes)	China/Japan/Korea	
28	Claw Hammer	Japan/Germany/China	
29	Concrete Nail	Indonesia/China	
30	Container Office/House	China/Bangladesh	
31	Coping Saw	China/Japan	
32	Copper Bar	Japan/China/Malaysia	
33	Copper Sheet	Malaysia/China	
34	Cotton Hose (Various Size)	Japan/China/Malaysia	
35	Cotton Tape	Japan/Germany/China	Ü
36	Crowbar	Japan/Korea/China	1
37	Cup Brush	China/Japan/Malaysia	
38	Cutter	China/Japan/Korea	
39	Cutting Disc (Metal)	Malaysia/China/India	1
40	Cutting Disc 4",7"10"12"14",16",20"~	China/Japan/Korea	100
41	Cutting Machine	Japan/Thailand/China	
42	D Shackle (For Rigging Work)	Japan/Germany/USA	
43	Dc Power Drill Machine	China/Vietnum/India	
44	Demolition Hammer (Drill Hammer)	China/Japan	
45	Diamond Cutter	Japan/Korea/China	
46	Diamond Disc	China/Japan	
47	Drain Spade / Shovel (Belcha)	Japan/China	
48	Drill Bit	Japan/China/Vietnum	
49	Drill Machine	China/Japan/USA	
50	Drill Machine (Ac Power)	Japan/Thailand/China	

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
51	Drill Machine (Rechargeable)	China/Japan/USA/Germany	
52	Electric Bench Grinder	Japan/China	
53	Electric Metal Cutter	China/Vietnum	
54	Embedment Angle	China/Vietnum	
55	Expansion Joint (PE, PVC, SS, MS, CS)	China/Japan/Korea	
56	Eye To Eye Sling Wire	Japan/China/Vietnum	
57	Fire Blanket	Japan/Korea/China	1
58	Flange	Japan/China/Vietnum	
59	Folding Office/House	China/Vietnum	
60	G.I Pipe (Various Sizes)	Japan/Korea/China	The state of the s
61	G.I. Fittings (Various Sizes)	China/Japan/Korea	
62	G.I. Punching Wire (G.I.Wire)	Japan/Vietnum/China	7
63	Goggles	Japan/Germany/USA	7
64	Grinder Machine	Japan/China	1
65	Grinding Disc	Japan/China	14
66	Grinding Disc (As Required)	Japan/Korea/China	
67	Grinding Machine	China/Japan	
68	Grating (Galvanized)	Japan/Vietnum/China	
69	H Beam I Beam	China/Vietnum	
70	Hacksaw Frame & Blade	Japan/Germany/USA	
71	Hammer (2lb,4lb,6lb,12lb)	Japan/Korea/China	
72	Hand Saw	China/Japan	
73	Hassin / Jute Cloth	Thailand/Japan/China	
74	HCL Gas	Japan/China	
75	Nitrogen Cylinder Gas	Japan/China	

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
76	Nitrogen Gauge	Japan/Korea/China	
77	Non-Trainer Valve (Various)	Malaysia/China/India	
78	Nut & Bolt	China/Vietnum	
79	Nuts And Bolts (Various Size)	China/Vietnum	
80	Oxygen Cylinder Gas	Japan/China	
81	Oxygen Gauge	Japan/Germany/China	
82	Oxygen Hose	Japan/China	
83	P.V.C. Pipe (Various Size)	Japan/Thailand/China	
84	Pipe Bending Machine	China/Japan/USA	
85	Pipe Thread Machine	Japan/Korea/China	1
86	Pipe Wrench	China/Japan/Singapore	
87	PVC Fittings (Various Size)	Japan/China/Vietnum	
88	Rachet Strap 1,2,3,5,7,10,12 Ton~~	China/Korea/Vietnum	
89	Rigging Hardware's	Japan/Korea/China	7
90	Rigging Wire Rope	China/Vietnum/India	//
91	Royel Bolt	China/Japan/Korea	
92	Rubber Chamber	Thailand/Japan/China	
93	Rubber Sheet	Japan/Germany/China	
94	Shackles (Various Capacity)	China/Japan/Indonesia	
95	Side Cut Diagonal Pliers	Japan/Thailand/China	
96	Sling Wire Various Size And Capacity	Japan/Germany/USA	
97	Socket Wrench	China/Japan/Malaysia	
98	Solar Pump With Solar Panel	China/Japan	
99	Spiral Wound Gasket	China/Italy/USA	
100	SS Pipe	Japan/Vietnum/China	

SI. No	Description Of The Equipment's	Country of Origin	Unit Quantity
101	Ss Plate (Size/Thickness As Required)	China/Vietnum	
102	Steel Plate	China/Vietnum/India	
103	Steel Wire Brush	China/Vietnum	
104	Steel Wire Clamps (Various Size)	Japan/China/Vietnum	
105	STEEL WIRE ROPE (3~32mm) HAME CORE	China/Japan/Indonesia	
106	STEEL WIRE ROPE (8~28mm) STEEL CORE	Japan/China/Vietnum	
107	Stud Nut And Bolts (Various Size)	Japan/China/Thailand	
108	Teflon Bar	China/Japan/India	
109	Teflon Sheet	China/Japan/Korea	
110	Threadolate (MS, SS, CS)	China/Japan/Korea	
111	Tig Welding Set	Korea/Japan/China	
112	Turn Buckle (14"16"18"20" And As Required)	China/Vietnum	
113	U Bolt	Japan/Vietnum/China	
114	"V" Block (Metal/Ceramic)	China/Japan/Korea	7
115	Water Hose (Various Size)	Japan/Germany/USA	
116	Water Pump (Various Size)	Japan/Thailand/China	
117	Water Section Hose (Various Size)	China/Japan/Korea	
118	Welding Electrode	Japan/BGD/China	
119	Welding Helmet	Japan/Korea/China	
120	Welding Holder (300amp~1000amp)	Japan/Korea/China	
121	Welding Oven	China/Japan/Korea	
122	Welding Torch	BGD/China/India	
123	Weldolets (MS, SS, CS)	China/Japan/Korea	
124	Wire Rope Accessories	China/Japan	
125			

# MS/CS/SS PIPE FITTINGS

























## **GERMAN STANDARD FALNGE**

#### FLANGE-DIN





Standard: DIN

Pressure: PN 6, PN10, PN 16, PN25, PN40,

PN64, PN100

Size: DN15-DN2000

Type: WELDING NECK DIN2631, 2632, 2633

2634, 2635, 2637

PLATE DIN2573, 2576, 2502, 2503, 2543

2544, 2545

BLIND DIN2527

SCREWED DIN2565, 2566,

LAPPED DIN2641, 2642, 2655, 2656

Material: CS RST37.2; S235JR

SS 304/304L, 316/316L

#### AMERCIAN STANDARD FLANGE

#### FLANGE-ANSI B16.5



Standard: ANSI B16.5

Pressure: CLASS 150, 300,600, 900,1500,2500

Size: 1/2"--48"

Type: WELDING NECK, SLIP ON, BLIND

LAP JOINT, THREADED

Material: CS SA105/SA105N, RST37.2

SS 304/304L, 316/316L

Coating: Black, yellow paint; rust-proof oil

#### FLANGE-ASME B16.47 SERIES B (API605)



Standard: ASME B16.47 SER. B (API605)

Pressure: CLASS 75,150, 300,600, 900

Size: 26"--60"

Type: WELDING NECK, BLIND

Material: CS SA105/SA105N,

SS 304/304L, 316/316L

Coating: Black, yellow paint; rust-proof oil

### FLANGE-ASME B16.47 SERIES A (MSS SP44)



Standard: ASME B16.47 SER. A (MSS SP44)

Pressure: CLASS 150, 300,600, 900

Size: 12"--60"

Type: WELDING NECK, BLIND

Material: CS SA105/SA105N,

SS 304/304L, 316/316L

Coating: Black, yellow paint; rust-proof oil

### **EUROPEAN STANDARD FLANGE**

FLANGE-EN1092-1: 2002



Standard: EN1092-1: 2002

Pressure: PN 6, PN10, PN 16, PN25, PN40,

PN64, PN100

Size: DN15-DN2000

Type: TYPE 01, 02, 05, 11, 12, 13

WELDING NECK TYPE01

SLIP ON TYPE 12

THREADED TYPE 13

PLATE TYPE 01 LAPPED TYPE 02 BLIND TYPE 05

Material: CS RST37.2; S235JR; C22.8

SS 304/304L, 316/316L





### **BRITISH STANDARD FLANGE**

#### FLANGE-BS4504



Standard: BS4504

Pressure: PN 6, PN10, PN 16, PN25, PN40,

PN64, PN100

Size: DN15-DN2000

Type: PLATE 101

BLIND 105

WELDING NECK 111

SLIP ON 112

THREADED 113

Material: CS RST37.2; S235JR; C22.8

SS 304/304L, 316/316L

Coating: Rust-proof oil; yellow paint; galvanized;

#### BS10 TABLE D/E



Standard: BS10 TABLE D/E

Size: DN15-DN600

Type: PLATE

SLIP ON

THREADED

Material: CS RST37.2; S235JR;

SS 304/304L, 316/316L

#### JAPANNESE STANDARD FLANGE

#### FLANGE-JIS SOP



Standard: JIS B2220-1984, KS D3576, KS B 6216,

KS B 1511-1982

Pressure: 1K, 2K, 5K, 10K, 16K, 20K, 30K,

Type: 15A - 1500A

Material: CS SS400

SS 304/304L, 316/316L

Coating: Rust-proof oil; yellow paint; galvanized;

#### FLANGE-JIS SOH



Standard: JIS B2220-1984, JIS B2261, JIS B8210

Pressure: 5K, 10K, 16K, 20K, 30K, 40K

Size: 15A - 1500A

Material: CS SS400

SS 304/304L, 316/316L

Coating: Rust-proof oil; yellow paint; galvanized;

#### FLANGE-JIS BLIND



Standard: JIS B2220-1984, KS D3576, KS B 6216,

KS B 1511-1982

Pressure: 1K, 2K, 5K, 10K, 16K, 20K, 30K,

Size: 15A - 1500A

Material: CS SS400

SS 304/304L, 316/316L

## **RUSSIAN STANDARD FLANGE**

#### FLNAGE- GOST 12820



Standard: GOST 12820-80

Pressure: PN6, PN10, PN16, PN25

Size: DN10 - DN1600

Type: PLATE RF

Material: CS CT20, 16MN

SS 304/304L, 316/316L

Coating: Rust-proof oil

#### FLNAGE- GOST 12821



Standard: GOST 12821-80

Pressure: PN6, PN10, PN16, PN25, PN40, PN63

Size: DN10 - DN1600

Type: WELDING NECK

Material: CS CT20, 16MN

SS 304/304L, 316/316L

Coating: Rust-proof oil

#### FLNAGE- GOST BLIND



Pressure: PN6, PN10, PN16, PN25, PN40, PN63

Size: DN15 - DN500

Type: BLIND

Material: CS CT20, 16MN

SS 304/304L, 316/316L

Coating: Rust-proof oil

#### ITALIAN STANDARD FLANGE

#### FLANGE- UNI



Standard: UNI FLANGE

Pressure: PN 6, PN10, PN 16, PN25, PN40,

PN64, PN100

Size: DN10-DN2000

Type: THREADED UNI 2253-67, 2254-67,2255-67

BLIND UNI 6091-67, 6092-67,6093-67 PLATE UNI 2276-67, 2277-67, 2278-67 WELDING NECK UNI 2280-67, 2281-67

2282-67,2283-67, 2284-67

LAPPED UNI6089-67, 6090-67

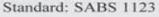
Material: CS RST37.2; S235JR; C22.8

SS 304/304L, 316/316L

Coating: Rust-proof oil; yellow paint; galvanized;

#### AFRICAN STANDARD FLANGE

#### FLANGE-SABS 1123



Pressure: 600kPA, 1000, 1600, 2500, 4000

Size: DN10 - DN600

Type: WELDING NECK TYPE2

PLATE TYPE3 SLIP ON TYPE 4

BLIND TYPE 8

Material: ST37.2, S235JR,

SS 304/304L, 316/316L

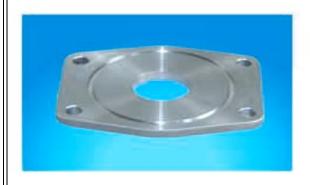


## NON-STANDARD FLANGE

## FLANGE- NONSTANDARD









Standard: Non-standard

Size: According to request
Type: According to request
Material: According to request
Coating: According to request



### AMERICAN STANDARD PIPE FITTING

### BUTT-WELDING PIPE FITTING ANSI B16.9/16.28



Standard: ANSI/ASME B16.9/ B16.28

Wall thickness SCH5, SCH10S, SHC10, SCH20, SCH30,

STD, SCH40, XS, SCH60, SCH80, SCH100

SCH120, SCH140, SCH160, XXS

Size: 1/2" --24" Seamless

4"--48" Seam-welded

Material: CS ASTM A234 WBP, A420, A106

Product range: Elbow LR/SR, 45/90/180DEG,

Tee Stright/ Reducing

Reducer Concentric/Eccenric

Cap

Cross

Coating: Shining black paint







## **GERMAN STANDARD PIPE FITTING**

#### BUTT-WEDLING PIPE FITTING DIN2605-2617



Standard: DIN2605, 2615, 2616, 2617

Wall thickness 2mm---25mm

Size: 1/2" --24" Seamless

4"--48" Seam-welded

Material: CS ST37.0, S235JR

Product range: DIN2605 Elbow 2D/3D/5D, 45/90/180DEG,

DIN2615 Tee Stright/ Reducing

DIN2616 Reducer Concentric/Eccenric

DIN2617 Cap

Coating: Rust-proof oil, galvanized







#### RUSSIAN STANDARD PIPE FITTING

### BUTT-WEDLING PIPE FITTING GOST



Standard: GOST17375-2001, GOST17378-2001

Wall thickness

Size: 1/2" --24" Seamless

4"-48" Seam-welded

Material: CS ct20, 16Mn

Product range: Elbow LR/SR, 45/90/180DEG,

Tee Stright/ Reducing

Reducer Concentric/Eccenric

Cap, Cross

Coating: Rust-proof oil,

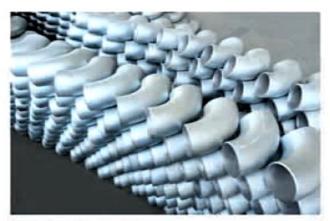






### JAPANESE STANDARD PIPE FITTING

### BUTT-WEDLING PIPE FITTING JIS B2311







Standard: JIS2311

Wall thickness FSGP, LG, STD, XS

Size: 1/2" --24" Seamless

4"--48" Seam-welded

Material: CS JIS G3452, SS400

Product range: Elbow LR/SR, 45/90/180DEG,

Tee Stright/ Reducing

Reducer Concentric/Eccenric

Cap, Cross

Coating: Rust-proof oil, galvanized



DEGREE RETURN,180E 180



(Seamless) 1/2"-12"(DN15-DN300) (Welded) 1/2"-24"(DN15-DN600)

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

- (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53





(Seamless) 1/2'-24'(DN15-DN600) (Welded) 1/2"-48"(DN15-DN1200)

· (Standard):

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

· (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S,

Duplex2205/S31803/F51.2507/S32750/F53

STAINLESS TEE STEEL



(Seamless) 1/2"-24"(DN15-DN600)

(Welded) 1/2"-48"(DN15-DN1200)

· (Standard)

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

(Thickness): SCH5S-XXS

- (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53





(Seamless) 1/2"-24"(DN15-DN600) (Welded) 1/2"-48"(DN15-DN1200)

\* (Standard); GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

- (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S Duplex2205/S31803/F51,2507/S32750/F53

STAINLESS STEEL STRAIGHT TEE



(Seamless) 1/2"-24"(DN15-DN600 (Welded) 1/2"-48"(DN15-DN1200)

· (Standard):

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

· (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53





(Seamless) 1/2"-24"(DN15-DN600) (Welded) 1/2"-48"(DN15-DN1200)

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

· (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53

STAINLESS STEEL



(Seamless) 1/2"-24"(DN15-DN600)

(Welded) 1/2"-48"(DN15-DN1200)

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S,

Duplex2205/S31803/F51.2507/S32750/F53





·尺寸(Size):

1/8" -4"(DN6-DN100)

· 标准(Standard):

GB/T14626, HGJ529, ANSI B16.11, BS3799, MSS SP-97

· 壁厚(Thickness)

3000# 6000# 9000#

· 対馬(Grade)

304/L,316/L,321/L, 317/L,347/H,904L,310S,

Duplex2205/S31803/F51,2507/S32750/F53,A105





(Seamless) 1/2"-24"(DN15-DN600)

(Welded) 1/2"-48"(DN15-DN1200)

· (Standard):

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

· (Thickness): SCH5S-XXS

· (Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S,

Duplex2205/S31803/F51,2507/S32750/F53





·尺寸(Size):

1/8" -4"(DN6-DN100)

·标准(Standard):

GB/T14626, HGJ529, ANSI B16.11, BS3799, MSS SP-97

· 壁厚(Thickness):

3000#.6000#.9000#

· 材质(Grade):

304/L.316/L.321/L. 317/L.347/H.904L310S.

Duplex2205/S31803/F51,2507/S32750/F53,A105





(Seamless) 1/2"-24"(DN15-DN600) (Welded) 1/2"-48"(DN15-DN1200)

GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313

(Thickness); SCH5S-XXS

(Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53





·尺寸(Size):

1/8" -4"(DN6-DN100)

·标准(Standard):

GB/T14626, HGJ529, ANSI B16.11, BS3799, MSS SP-97

· 壁厚(Thickness):

3000#,6000#,9000#

· 材质(Grade):

304/L,316/L,321/L, 317/L,347/H,904L,310S, Duplex2205/S31803/F51.2507/S32750/F53.A105

STAINLESS STEEL ECC RED



- 尺寸(Size): 无缝(Seamless) 1/2\*-24\*(DN15-DN600) 有缝(Welded) 1/2\*-48\*(DN15-DN1200)
- 标准(Standard): GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313
- · 壁厚(Thickness): SCH5S-XXS
- 材质(Grade): 304/L,316/L,321/L?317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53

不锈钢管帽 STAINLESS STEEL



- 尺寸(Size): 无鏈(Seamless) 1/2\*-24\*(DN15-DN600)
- 标准(Standard): GB/T12459, GB/T13401, SH3408, SH3409, HG/T21635, HG/T21631, ASME B16.9, MSS SP-43, DIN 2605, JIS B2313
- · 壁厚(Thickness): SCH5S-XXS
- 材质(Grade): 304/L,316/L,321/L,317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53

不锈钢翻边短接 STUB END STAINLESS STEE



- ・尺寸(Size): 无缝(Seamless) 1/2\*-24\*(DN15-DN600)
- 有錢(Welded) 1/2"-48"(DN15-DN1200) • 标准(Standard); ASME B16.9, MSS SP-43, Hg205099, Hg20621
- · 壁厚(Thickness): SCH5S-XXS
- 材质(Grade): 304/L,316/L,321/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53

卫生级管件 SANITARY FITTING



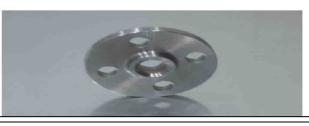
- · 尺寸(Size): DN15-DN400
- ·标准(Standard): ISO, SMS, DIN, 3A
- ・壁厚(Thickness): 1.5MM-5MM
- · 材质(Grade): 304, 304L, 316, 316L, 321

带颈对焊法兰 FLANGE



- · 尺寸(Size): DN15-DN1200(1/2\*-48\*)
- 压力(Pressure): 150#,300#,400#,600#,900#,1500#;PN10, PN16,PN25,PN40;JIS 5K,JIS 10K;
   - 标准(Standard):
- ANSI B16.5, ANSI B16.47 A/B,BS 3293,BS 4504,JIS, HG20592-2005, EN1092, DIN,GB9112
- 材质(Grade):
   304/L,316/L,321/L,317/L,347/H,904L,310S,
   Duplex2205/S31803/F51,2507/S32750/F53

带颈平焊法兰



- · 尺寸(Size): DN15-DN1200(1/2\*-48\*)
- 压力(Pressure): 150#,300#,400#,600#,900#,1500#;PN10, PN16,PN25,PN40;JIS 5K,JIS 10K;
- · 标准(Standard):
  ANSI B16.5, ANSI B16.47 A/B,BS 3293,BS 4504,JIS,HG,EN1092, DIN,GB9112, AWWA C207
- ・材质(Grade): 304/L,316/L,321/L,317/L,347/H,904L,310S, Duplex2205/S31803/F51,2507/S32750/F53



FITTING 🚭





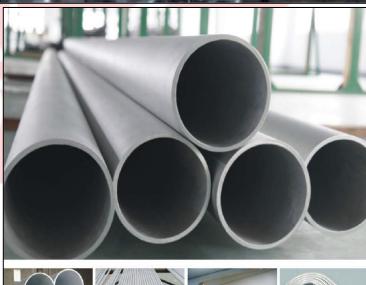


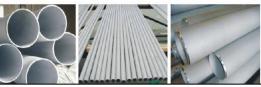


















Ball valve, for on/off control witl complete shut-off angle, compare



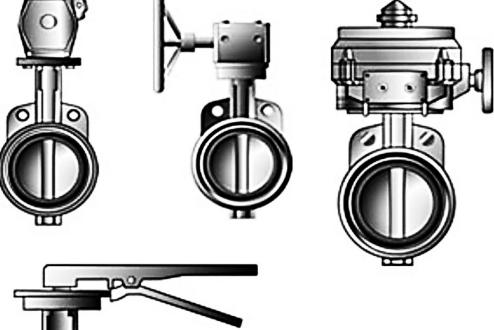
butterfly valve Called as flap valswitch control media

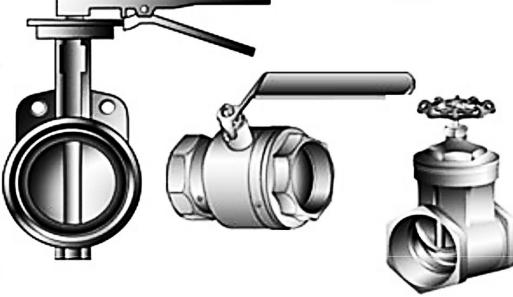


Globe valve opening and closing the centerline of the fluid in a str









Gate valve opening and closing pieces are gate, gate movement direction and fluid direction perpendicular to the gate valve can be fully open and fully closed, can not be adjusted and the throttle.

## LIFTING & FINISHING **EQUIPMENT's**





#### **Product Description**

A high quality tile-cutting Diamond Blade for cutting ceramic tiles, wet or dry. 115mm x 22.2mm x 2.0mm

#### CUSTOMERS WHO BOUGHT THIS PRODUCT ALSO PURCHASED







PMM\_600 Digital Multimeter PBG-131 Bench Grinder

BPS-650 Jigsaw





#### CUSTOMERS WHO BOUGHT THIS PRODUCT ALSO PURCHASED







PMM\_600 Digital Multimeter PBG-131 Bench Grinder











# LIFTING & FINISHING EQUIPMENT'S







































































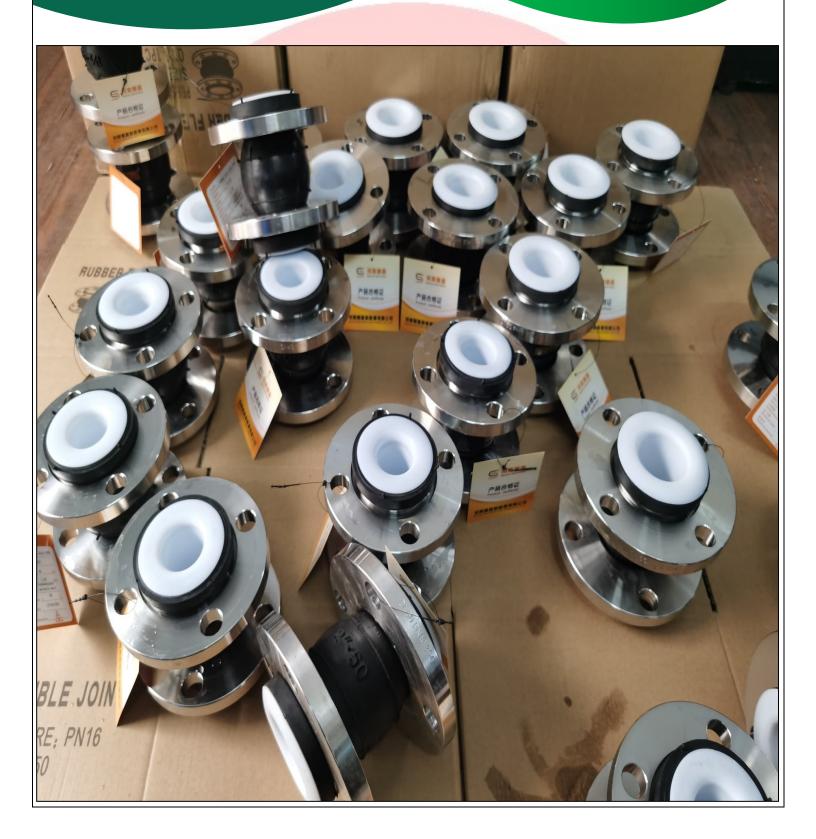












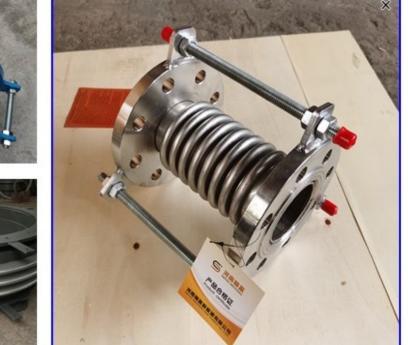
























# ELECTRICAL & ELECTRONICS ITEMS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Aluminum Tube		
2	Aluminum Wire		
3	Avo Meter		
4	Cable Cutter		
5	Cable Punch Machine		
6	Cable Rill		
7	Cable Tie (Various Size)		
8	Change Over Switch (Various)		
9	Circuit Breaker (Various Amp. And Vendor)		
10	Copper Tube		
11	Copper Wire		
12	Cut-Out (Various Size)		1
13	Earthing Cable		
14	Earthing Rod		7
15	Electric Bulb		
16	Electric Cable (Various Size, And)		
17	Electric Fan		
18	Electric Fuse (Various)		
19	Electric Holder (Various Type)		
20	Electric Multi Meter		
21	Electric Pannel Board		
22	Electric Socket (Various Type)		
23	Electric Turmel Tube		
24	Electric Turmel Tube		
25	Electrical Multi Meter	Japan/China/Taiwan	



# SPIRAL WOUND GASKETS







# SOLAR POWER PLANT MACHINERIES













## PSI MEASUREMENT MACHINE



SI. No	Description Of The Equipment's	Country of Origin	Unit Quantity
26	Electrical Multi Meter	Japan/China/Taiwan	
27	Electrical Tape	Japan/China/Taiwan	
28	Electrician's Hand Gloves	Japan/China/Taiwan	
29	Flood Light (Sodium/Led)	Japan/China/Taiwan	
30	Halogen Lamp (Bulb) 500 & 1000 Watt	Japan/China/Taiwan	
31	Halogen Lamp Complete Set 1000watt	Japan/China/Taiwan	1
32	Halogen Lamp Complete Set 500watt	Japan/China/Taiwan	
33	Heatsink Tube	Japan/China/Taiwan	
34	MK Socket (Various Amps)	Germany/England/China	
35	MK Switch (Various)	Japan/Germany/China	10
36	Power Extension Cable Long & Short	USA/Japan/China	
37	Smoke Detector	Thailand/EU/China	
38	Sodium Lamp (400watt)	Japan/China/Taiwan	1
39	Sodium Lamp Complete Sets 400watt	Japan/China/Taiwan	1
40	Soldering Gum	Japan/China/Taiwan	
41	Soldering Iron	Japan/China/Taiwan	
42	Soldering Wire	Japan/China/Taiwan	
43	Starter As Required Size And Vendor	Japan/China/Taiwan	
44	Terminal Board	Japan/China/Taiwan	
45	Terminal Head/Terminal Lugs Various	Japan/China/Taiwan	
46	Terminal Nut And Bolt	Japan/China/Taiwan	
47	Terminal Switch	Japan/China/Taiwan	
48	Tester, Plyers, Nose Players, Screwdriver	Japan/China/Taiwan	
49	Tube Light Set (Led)	Japan/China/Taiwan	
50			













































# FIRE FIGHTING & HIGH PRESSURE PUMP



### HIGH PRESSURE PUMP





#### PNEUMATIC ACTUATOR



18H

185

**V9**+

83A

V9mini







#### **INDUSTRIAL PUMP**





# DIFFERENT TYPES OF PUMP

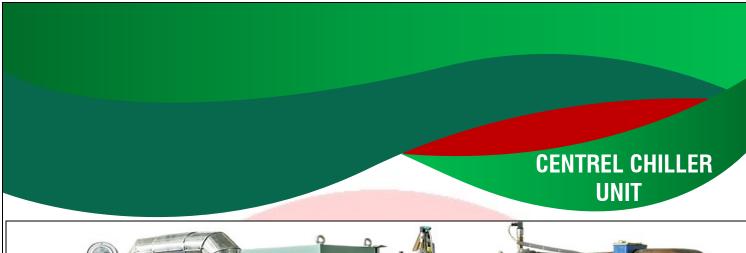








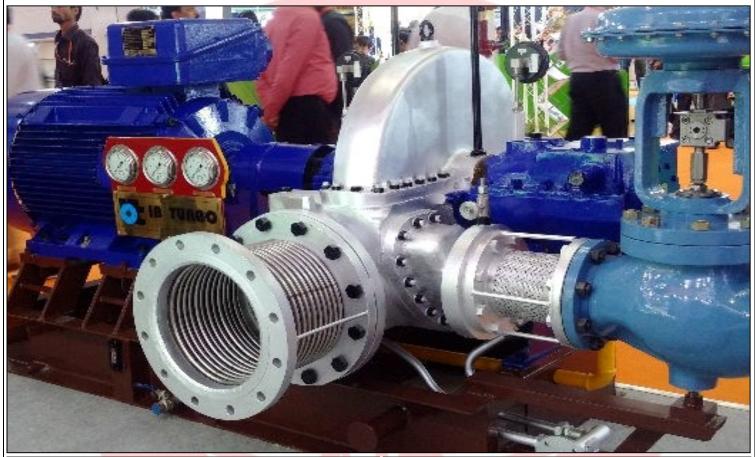








# CENTREL CHILLER UNIT







#### **BROYLAR SET**





### HIGH VOLTAGE HEAVY DUTY GENERATOR





### WATER FLOW METER & WIND GENERATOR

#### **FOCUS ON BULK SIZE WATER METER MANUFACTURERS**



LXLC-50~300(MM)



LXLC-350~600(MN



LXSG-15~50(MM



LXDG-15~20(MN



LXLC-50~300(MN



PREPAID



PAID LXLC-50~300(I



VI) ULTRASONI



WS-50~200(MM)



MECHANISM



LXSG-15~50(MM



LXLC-50~300(MM)



LXHY-15~40/MM

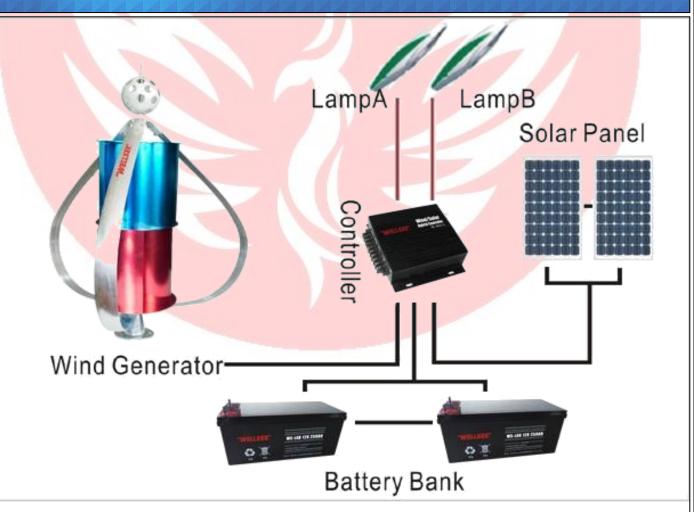


BULK ULTRASONIC



GPRS





### ELECTRIC CAR/GALF CAR







### ELECTRIC CAR/GALF CAR

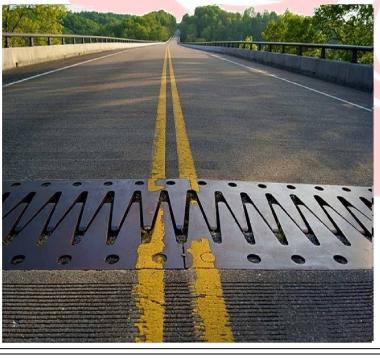


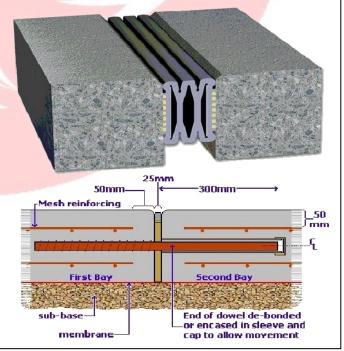




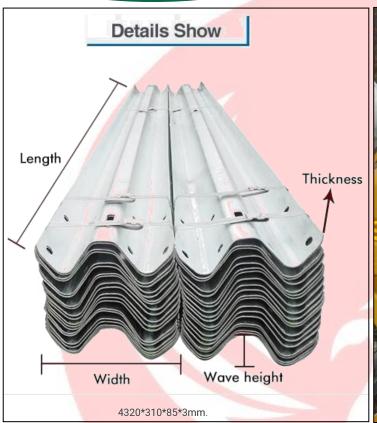
### EXPANSION JOINT FOR BRIDGE/FLYOVER







#### W-BEAM/TRI – BEAM GUARD RAIL









#### W-BEAM/TRI – BEAM GUARD RAIL











### HIGHWAY/ROAD WAY FLOOD LIGHTS







#### HIGHWAY/ROAD WAY FLOOD LIGHTS







# HEAVY DUTY COMMERCIAL TRUCK













# HEAVY DUTY COMMERCIAL TRUCK













**FUEL DISPENSER** 



### CS42-Classic

### Serise Fuel Dispenser

- International Solenoid Valve
- International Brand Nozzle
- Breakaway And Swivel
- Ic Card Payment Terminal
- English Receipt Printer
- Stainless Steel Arm Side And Canopy



# LP GAS RE-FILLING PLANT & MACHINERIES







### CONSTRUCTION WORKS TOOLS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Aggregate (M3 Wise)	India/Oman/Indonesia	
2	Aluminum Claddings	China/Japan/Taiwan	
3	Aluminum T Channel	China/Thailand/Taiwan	\ (
4	Angle Case For Air Condition	Bangladesh	A
5	Barbed Wire	China/Vietnum	
6	Basin Plant	China/Japan/Taiwan	
7	Bench Marking Flag	China/Taiwan	
8	Bone Tiles	China/Bangladesh	
9	Bricks (Locally Made-Auto & Manual)	Bangladesh	
10	Caulking Gun / Silicon Gun	China/Japan/USA	
11	Cement (Bag & Bulk Type)	Bangladesh	
12	Ceramic Tiles	Bangladesh/UAE/China	7
13	Chisels / (Batal)	Bangladesh/India	3/-
14	Claw Hammer	China/Japan/USA	7
15	Clean And Dry Sand	Bangladesh	
16	Cock Sheet / Foam Sheet	Bangladesh	
17	Comodo	Bangladesh	
18	Concrete Mixture Machine	China/Japan/Taiwan	
19	Concrete Nails	China/Taiwan	
20	Coping Saw	Taiwan/Malaysia/China	
21	Dc Powered Drill Machine	China/Japan/USA	
22	Deformed Bar	Bangladesh	
23	Demolition Hammer (Drill Hammer)	China/Japan/Taiwan	
24	Diamond Cutter	China/Japan/Taiwan	
25	Diamond Disc	China/Japan/Taiwan	

# INDOOR COMMODITY & DECORATIVE ITEM

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
26	Disposable Mask (Paper Made)	China/Taiwan	
27	Door (Metal)	China/Malaysia	
28	Door (Plastic)	China/Malaysia/Korea	
29	Door (Wooden)	China/Malaysia	
30	Drain Spade / Shovel (Belcha)	China/Japan/USA	
31	Drill Bit	China/Japan/USA	
32	Drill Machine (AC Power)	China/Japan/USA	
33	Drill Machine (DC Power)	China/Japan/USA	
34	Emulsion Paint	Japan/BGD/India	
35	Fenching Accessories	China/Japan/Taiwan	
36	Foundation Bolt	China/Japan/Taiwan	
37	G.I.Wire	China/Japan/Taiwan	
38	Geo Textile / Geo Blanket	China/Japan/Taiwan	7
39	Greeze Packing	China/Japan/Taiwan	3
40	Gypsum Board And It's Accessories	China/Bangladesh	
41	Hammer	China/Japan/Taiwan	
42	Hand Saw	China/Japan/Taiwan	
43	Hard Board	Bangladesh	
44	Hassin / Jute Chlothy	China/Japan/Taiwan	
45	Hecksaw	China/Japan/Taiwan	
46	Hex Bolt	China/Japan/Taiwan	
47	Hinch (Various Size)	China/Japan	
48	Hollow Blocks	China/Japan/Taiwan	
49	Impact Driver Sets	China/Japan/USA	
50	Jig Saw	China/Japan/Taiwan	

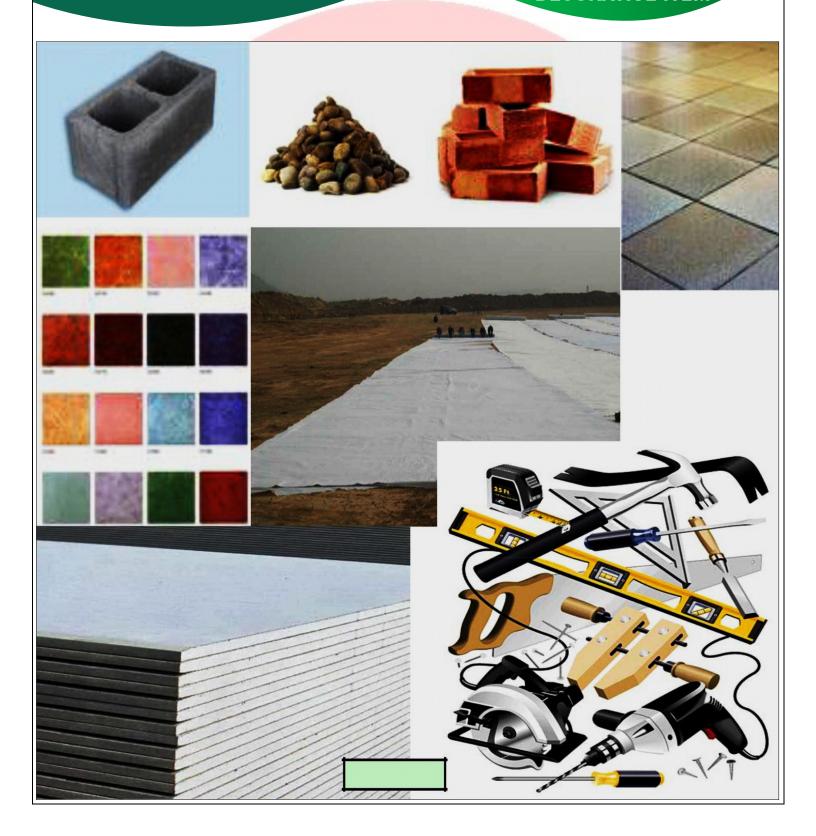
# INDOOR COMMODITY & DECORATIVE ITEM

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
51	Jig Saw Blade	China/Vietnum/Taiwan	
52	Jobber Drill Sets	Japan/China/Taiwan	
53	Jute Mat (To Be Used For Curing Cover)	Bangladesh	
54	Knife	USA/Japan/Taiwan/China	
55	Laboratory Equipment And Instrument	Japan/China/Taiwan	
56	Ladder (Multi)	USA/HK/China/Taiwan	
57	Load Level Ma	Japan/China/Taiwan	
58	Local Sand (M3 Wise)	Bangladesh	4
59	M.S. Wire	Japan/China/Taiwan	
60	Main Station	Bangladesh	4
61	Marking Chalk	Bangladesh	1
62	Measuring Tape	Japan/China/Taiwan	7
63	Mini Strap Wrench	Japan/China/Taiwan	
64	Mirror	Japan/China/Bangladesh	
65	Nails (Wood, Concret, Metal)	Japan/China/Taiwan	
66	Nails Remover	Japan/China/Taiwan	
67	P.P ROPE (6~50mm)	Japan/China/Taiwan	
68	Pad Lock	Japan/China/Taiwan	
69	Painting Brush And Accessories	Japan/China/Taiwan	
70	Plastic Masking Tape (Brown)	Japan/China/Taiwan	
71	PLYW00D (4'X8' 3MM To 18MM)	BGD/Malaysia	
72	Portable Trolly (1-Wheeler)	BGD/China	
73	Prison	BGD/China	
74	Punching Wire	Japan/China/Taiwan	
75	Rain Cover	Japan/China/Taiwan	

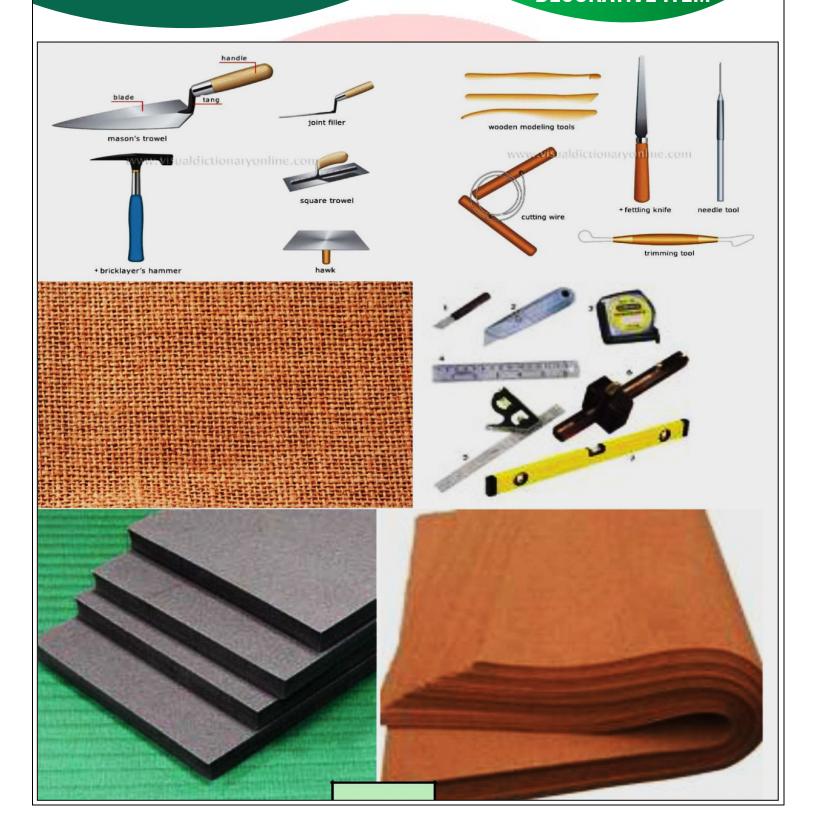
# INDOOR COMMODITY & DECORATIVE ITEM

\$L. NO  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92  93  94  95	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
76	Re-Bar, Reinforced Bar	Bangladesh	
77	Sandbags	Bangladesh	
78	Sanitary Items	Bangladesh	
79	Sanitation Fittings	Bangladesh	\
80	Scaffolding Clamps	China/Taiwan	N.
81	Scaffolding Pipe	China/Vietnum	
82	Scaffolding Plate	China/Vietnum	
83	Scaffolding Wrench	China/Vietnum	
84	Screw	China	
85	Sheet Pile	China/Vietnum	
86	Shower	China/Italy/MYL	
87	Shower Hose	China/Italy/MYL	
88	Sikaflex/Form Oil/Concrete/Addhesive	USA/China	1
89	Silicon	China/Taiwan/Japan	7
90	Speed Level & Laser Lavel	Japan/Taiwan/China	
91	Steel Trawl	China/Vietnum	
92	Stone Chalk	BGD/India	
93	Stone Dust	India/Oman/Indonesia	
94	Sub. Station	China/Vietnum	
95	Survey Instrument (Digital)	Japan/USA/Germany	
	Survey Logbook	China/Japan	
97	Survey Umbrella	China/Japan/Taiwan	
98	Tie Rod	China/Vietnum	
96 97 98 99	Timber (Tick, Chambole, Gorzon, Comercial)	BGD/China/Malaysia	
100	Total Station	China/Vietnum	

# OUTDOOR COMMODITY & DECORATIVE ITEM



## OUTDOOR COMMODITY & DECORATIVE ITEM



# SCIENTIFIC INSTRUMENTS









## INDOOR COMMODITY & DECORATIVE ITEM

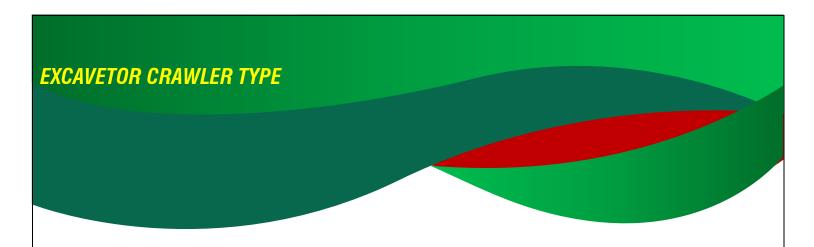
SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
101	Towel Rill	China/Taiwan/Malaysia	
102	Towel Ring	China/Taiwan/Malaysia	
103	Vibrator Machine	China/Taiwan/Japan	
104	Vibrator Nozzle	China/Taiwan/Japan	
105	Vinyl Roll (Sheet)	China/Taiwan/Japan	
106	Waste Cotton	Bangladesh	
107	Water Hose	Bangladesh/China	
108	Waterproof Membrane	China/Malaysia	
109	Well Graded Granular Soil	Local	
110	White Cement	Bangladesh	
111	Wire Mesh	China/Taiwan	
112	Wooden Bar	Bangladesh	
113	Yard Measuring Tape	Japan/China/USA	
114			
115			
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123			
124			
125			

## SAFETY & SECURITY ITEMS

\$L. NO  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Acid Proof Jacket	China/Japan/USA	
2	Bericating Tape (Safety Tagging Tape)	China/Japan/Korea	
3	Caution Sign	China/Japan/USA	
4	CC Camera	CHINA/JAPAN/TAIWAN	
5	CC Tv	CHINA/JAPAN/KOREA	
6	Dangerous Sign	CHINA/INDIA/THAI	
7	Dust Musk	CHINA/USA/JAPAN	
8	Ear Plug (Sound Blocker)	China/Japan/USA	
9	Ear Protector	China/Japan/USA	
10	Eliminated Safety Jacket	China/Japan/USA	
11	Emergency Exit Sign	China/India/Taiwan	
12	Exit Sign	China/India/Taiwan	
13	Fire Alarm	China/Japan/USA	7
14	Fire Blanket	China/Japan/Taiwan	7
15	Fire Extinguisher (Co <sub>2</sub> )	China/Japan/USA	
16	Fire Extinguisher Foam Type	China/Japan/USA	
17	Fire Extinguisher Powder Type	China/Japan/USA	
18	Fire Hose	China/India/Taiwan	
19	Fire Man Suit	China/India/Taiwan	
20	First Aid Box	China/India/Taiwan	
	Gum Boot (High Neck/Low Neck)	China/India/Taiwan	
21 22 23 24 25	Life Jacket	China/Japan/USA	
23	Logo Stress Reliever	China/Japan/USA	
24	Metal Detector	China/Japan/USA	
25	Pad Lock	China/India/Taiwan	

## SAFETY & SECURITY ITEMS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
26	Rechargeable Torch		
27	Rescue Blanket		
28	Road Blocker Icon		
29	Road Sign (Reflective)		
30	Safety Belt		
31	Safety Hand Gloves		
32	Safety Helmet (Hard Hat)		
33	Safety Shoe		
34	Safety Sign		
35	Safety Tagging Tape		
36	Safety Warning Lamp		
37	Safety Warning Tape		
38	Safety Glass		
39	Security Light		
40	Smoke Detector		
41	Traffic Sign		
42	Umbrella		
43	Walkie Talky Complete Set		
44	Weariless Radio (Motorola)		
45			
46			
47			
48			
49			
50			

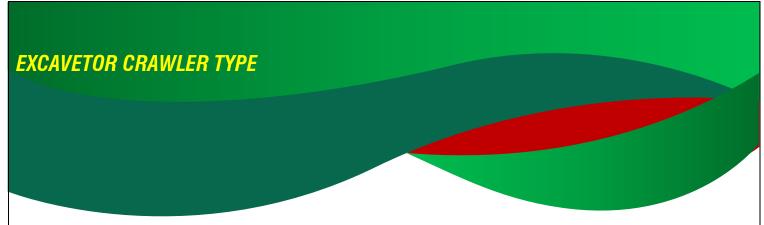




Brand	HYUNDAI
Manufacture Year	2008
Category	D5
Model	HX 160L
Quantity	01



Brand	CAT
Manufacture Year	2009
Category	D6
Model	3740L
Quantity	03





Brand	KOMATSU
Manufacture Year	2011
Category	Crawler
Model	PC200 0.7
Quantity	02



Brand	VOLVO
Manufacture Year	2015
Category	Crawler
Model	EC210D <sub>L</sub>
Quantity	01

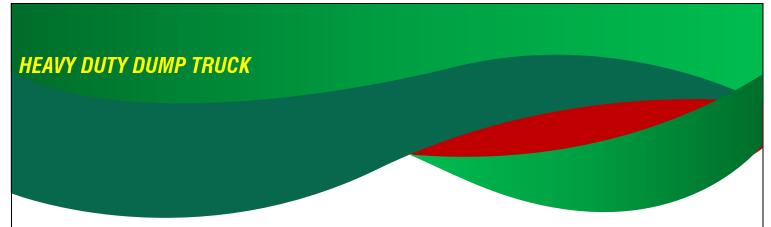
#### HEAVY DUTY DUMP TRUCK 4WD



Brand	HOWO
Manufacture Year	2013
Category	4WD
Model	2013
Quantity	05
Capacity	25 TON



Brand	SANNY
Manufacture Year	2014
Category	4WD
Model	2014
Quantity	05
Capacity	20 TON





Brand	TATA
Manufacture Year	2017
Category	4WD
Model	2017
Quantity	03
Capacity	15 TON



Brand	LAYLAND
Manufacture Year	2018
Category	4WD
Model	2018
Quantity	03
Capacity	15 TON

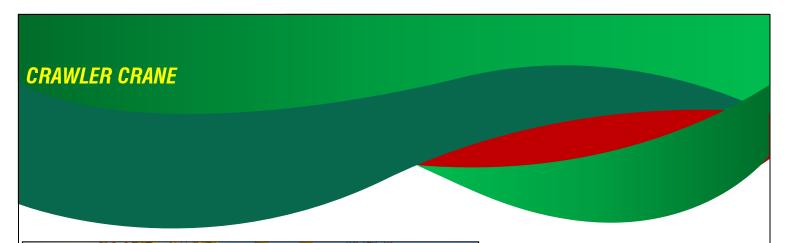




Brand	НАММ
Manufacture Year	2017
Category	<b>Double Drum</b>
Model	HD 140
Quantity	01
Vibration Capacity	15 TON



Brand	DYNA PACK
Manufacture Year	2014
Category	Single Drum
Model	CA231D
Quantity	02
Vibration Capacity	15 TON





Brand	KOBELCO
Manufacture Year	2012
Category	Crawler
Model	
Quantity	01
Vibration Capacity	250 TON



Brand	KOMATSU
Manufacture Year	2013
Category	Crawler
Model	
Quantity	01
Vibration Capacity	150 TON

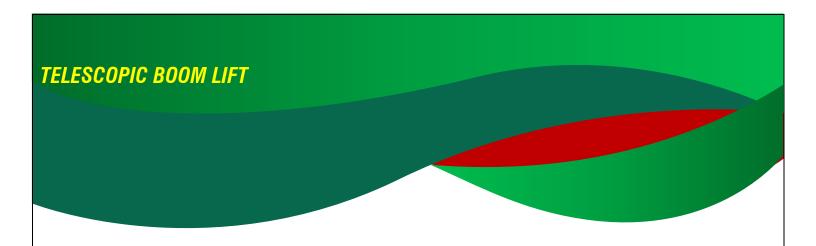




Brand	ZOOMLION
Manufacture Year	2016
Category	Crawler
Model	
Quantity	01
Vibration Capacity	100 TON



Brand	TADANO
Manufacture Year	2016
Category	Telescopic
Model	
Quantity	01
Vibration Capacity	90 TON

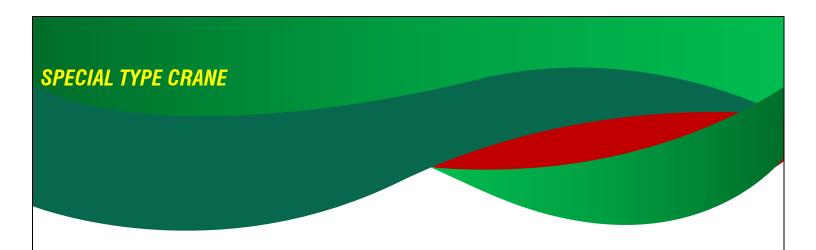




Brand	SANNY
Manufacture Year	2014
Category	Crawler
Model	
Quantity	01
Vibration Capacity	80 TON



Brand	TADANO
Manufacture Year	2015
Category	Telescopic
Model	
Quantity	01
Vibration Capacity	50 TON

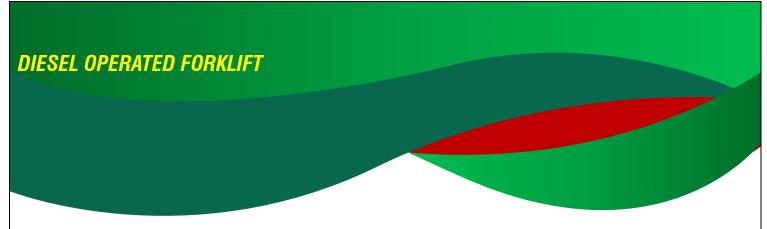




Brand	XCMG
Manufacture Year	2019
Category	Truck Type
Model	RT50
Quantity	01
Vibration Capacity	50 TON



Brand	GROVE
Manufacture Year	2018
Category	Hydraulic
Model	2009
Quantity	01
Vibration Capacity	35 TON





Brand	SOICEN
Manufacture Year	2020
Category	Hydraulic
Model	S100-A
Quantity	03
Vibration Capacity	10 TON



Brand	MITSUBISHI
Manufacture Year	2017
Category	Hydraulic
Model	FD 150
Quantity	02
Vibration Capacity	15 TON





Brand	MITSUBISHI
Manufacture Year	2014
Category	Hydraulic
Model	FD 300s
Quantity	01
Vibration Capacity	<b>30 TON</b>



Brand	KOMATSU
Manufacture Year	2012
Category	Crawler
Model	
Quantity	01
Vibration Capacity	20 TON



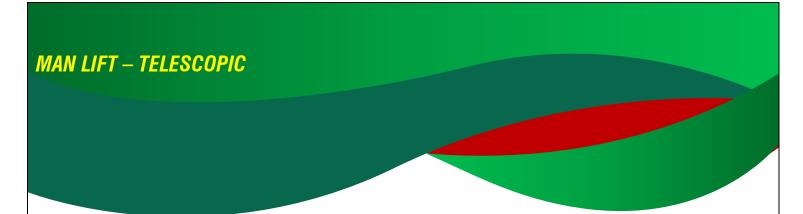


Brand	CATERPILLER
Manufacture Year	2016
Category	Crawler
Model	D7R 0800H
Quantity	01





Brand	CATERPILER
Manufacture Year	2012
Category	Crawler
Model	D6T 1042
Quantity	02

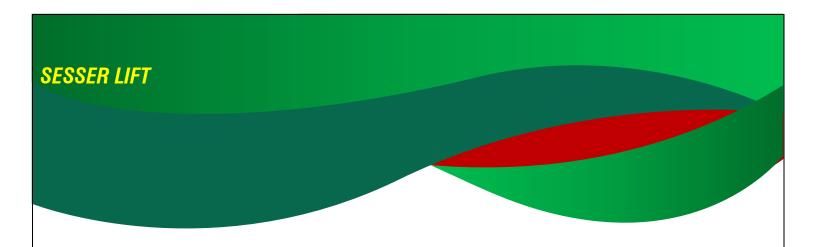




Brand	JIG LIFT
Manufacture Year	2017
Category	Telescopic
Model	660SJ
Quantity	02

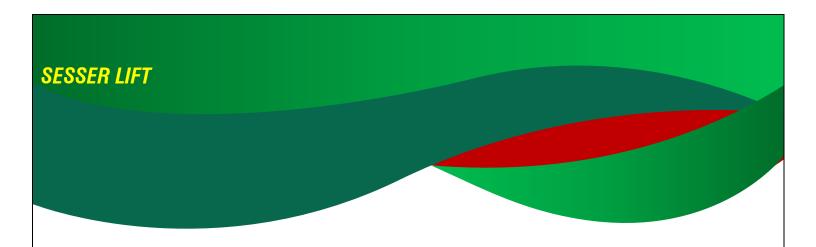


Brand	MANTALL
Manufacture Year	2020
Category	Boom Type
Model	IHZ160RT
Quantity	01



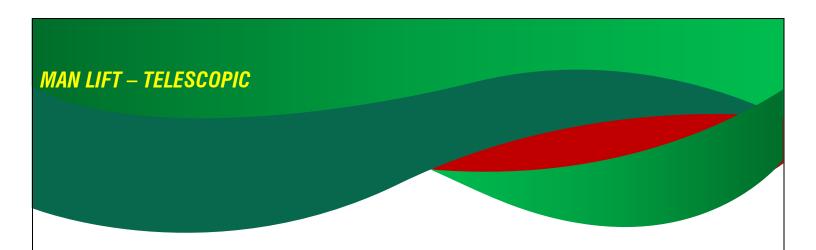


Brand	MANTALL
Manufacture Year	2021
Category	Sesser Type
Model	XE 120W
Working Height	12 M MAX
Туре	Hydraulic
Height (Foldable)	1.82 M
Lifting Capacity	320 Kg
Stock Quantity	02





Brand	MANTALL
Manufacture Year	2020
Category	Sesser Type
Model	XE 140W
Working Height	14 M MAX
Туре	Hydraulic
Height (Foldable)	1.92 M
Lifting Capacity	350 Kg
Stock Quantity	02

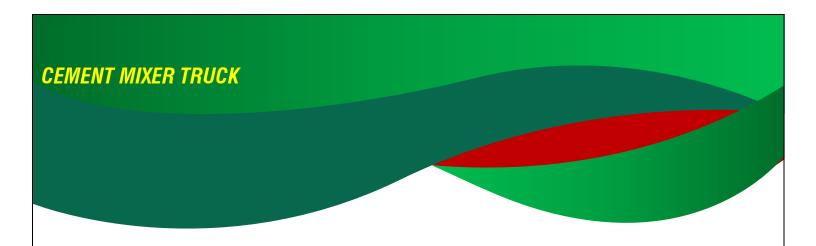




Brand	GENIE
Manufacture Year	2019
Category	Telescopic
Model	G S45
Туре	Boom 38.8 M
Quantity	01



Brand	ISUZU
Manufacture Year	2019
Category	Truck Munt.
Model	2016
Quantity	01

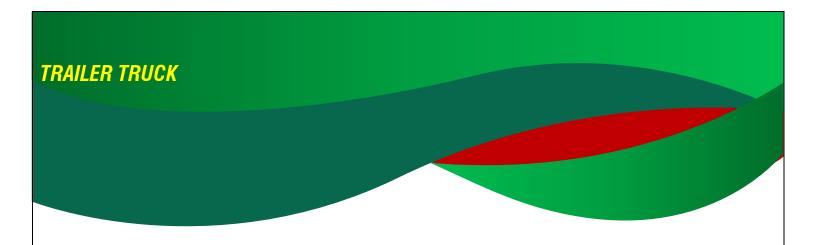




Brand	SINOTRUK
Manufacture Year	2019
Category	MIXER
Model	2019
Quantity	02



Brand	HOWO
Manufacture Year	2018
Category	MIXER
Model	2019
Quantity	02

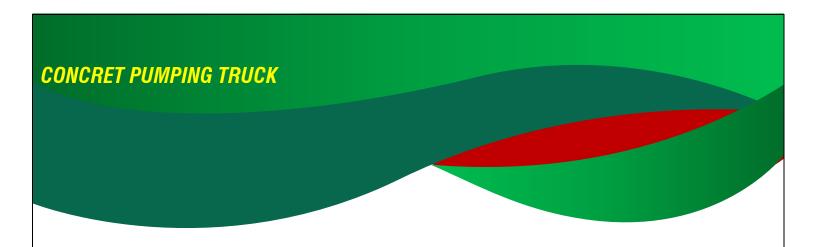




Brand	VOLVO
Manufacture Year	2019
Category	LOW BED
Model	2010
Quantity	01

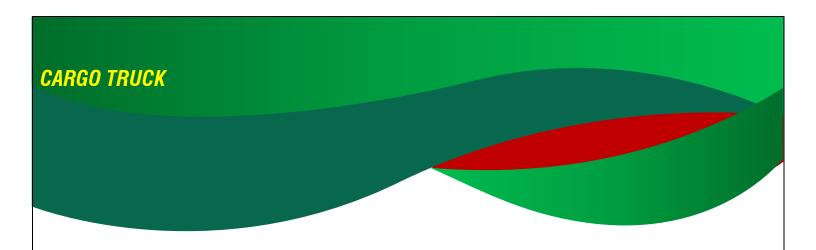


Brand	TATA
Manufacture Year	2018
Category	High Bed
Model	2019
Quantity	01





Brand	SINOTRUK HOWO
Manufacture Year	2019
Category	HYDRAULIC
Model	2018
Max. Pumping Height	
Quantity	01

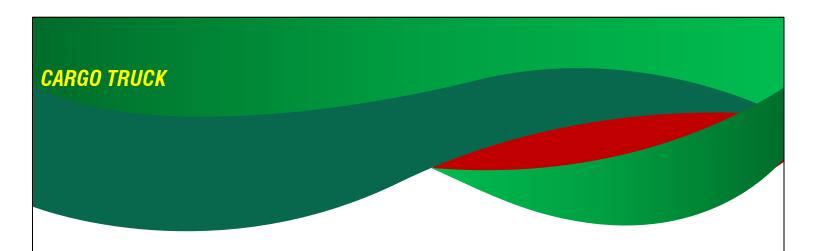




Brand	EICHER	
Manufacture Year	Year <b>2018</b>	
Category	DOUBLE EXCEL	
Model	2018	
Capacity	20 TON~~	
Quantity	06	



Brand	TATA
Manufacture Year	2018
Category	LOW BED
Model	2010
Capacity	15 TON~~
Quantity	08





Brand	TATA	
Manufacture Year	2019	
Category	LONG VEHICLE	
Model	2019	
Capacity	40 TON~~	
Quantity	03	



Brand	HINO
Manufacture Year	2018
Category	COVERD VAN
Model	2018
Capacity	15 TON~~
Quantity	05

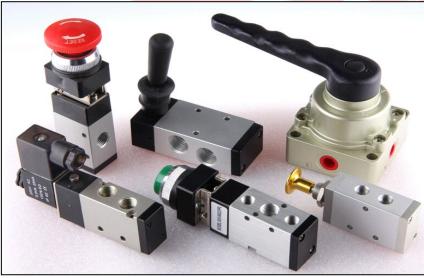
## CENTRAL COOLING SYSTEMS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Air Con Compressor		
2	Air Condition 1,1.5,2 Ton Window Type		
3	Air Condition 1,1.5,2,2.5,3 Ton Spilite Type		
4	Aluminum Foil Sheet		
5	Ceiling Fan		
6	Duct Sheet (Roll)		
7	Ducting Channel		
8	Ducting Materials		
9	Ducting Tools		
10	Exhaust Fan		
11	Fiber Optic / Glass Pipe		
12	Ferron Gas		
13	Galvanized Sheet Roll		
14	Insulation Wool / Glass Wool		7
15	Ms Sheet Roll		
16	Pipe Clamps		
17	Pipe Hanger		
18	Ss Sheet Roll		
19	Stand Fan		
20			
21			
22			
21 22 23			
24			
25			

## PUMP & ACCESSORIES









## SAFETY & PROTECTIVE EQUIPMENT'S



#### FIRE FIGHTING & SAFETY ITEMS



helmet shell, liner, importection from falling absorbtion. The helmet fitting so they don't fall orange, yellow, etc.), e



sophisticated compone combinations mixed wi that can withstand tem protection against large without the fire-resistar



self-contained breathin air tank is connected to perform under the mos toxic chemical spills, at would be quite limited

3.



there is because you w up of an iron head and and can even be used a orange, and red making



question is which type of l larger sized one that is gen is the more common type advanced fire ladder is the water from the ladder onto



7. Fir example, some hoses are a water at greater distances, which require more water nozzles, it's extremely imp given emergency.



of their standard fire fighti clearing out flammable tre gates, remove security bar tools, peoples lives can ea:



through windows.

9. Fir fires have been extinguish strong and can push large; you never want to make is easily cause fires to jump!







## FIRE FIGHTING & SAFETY IYEMS























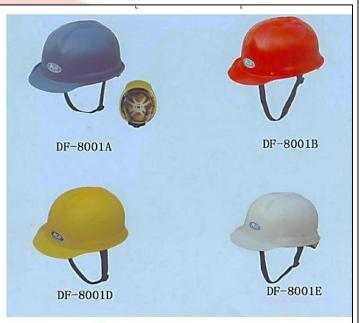




## SAFETY & PROTECTIVE EQUIPMENT'S

#### **SAFETY SHOES**





















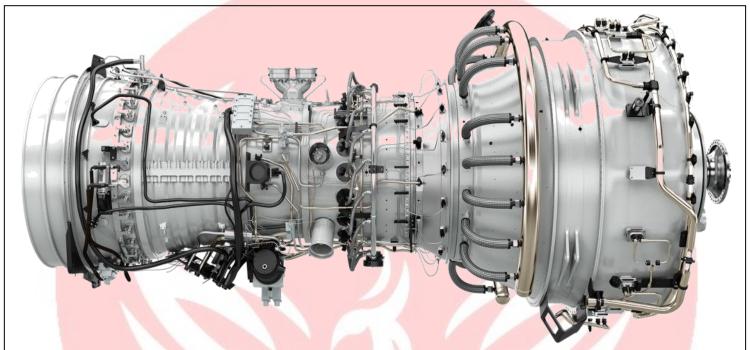
## PLC AUTOMATION SYSTEM

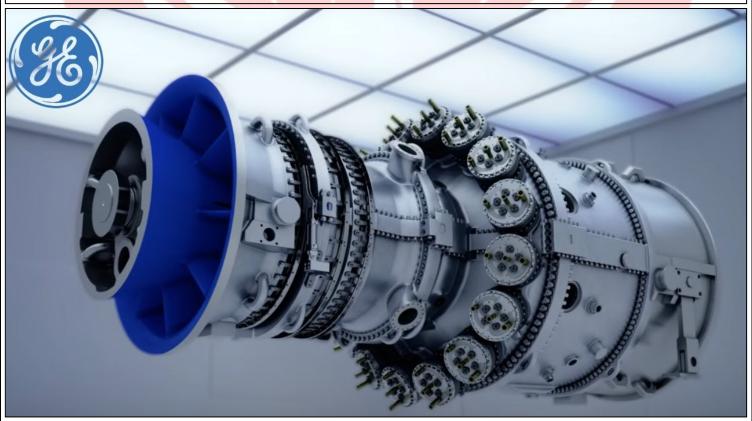






#### POWER PLANT TURBINE





# PROTECTIVE & HEALTH CARE ITEMS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Abdominal Exercise Machine		
2	Automatic Disinfectant Chamber		
3	Bike (Exercise)		
4	Blood Pressure Measuring Machine		
5	Boxing Bar / Boxing Pillow		
6	Cover All (PPE)		
7	Covid 19 Test Kit	7.0	/
8	Cross Trainers		
9	Disposable Hand Gloves		/
10	Disposable Mask	111	Aug.
11	Disposable Shoe Cover		
12	Face Shild		A 1
13	Heart Rate Monitoring		7
14	Hospital Apparetus		7
15	Icu Bed		y .
16	Industrial Protecting Mask (3m)		
17	Multi Weightlifter		
18	N95/Kn95 Mask (3m, Makita, Venus)		
19	Oxygen Cylinder (O <sub>2</sub> )	and the second s	
20	Portable Eye Wash Station		
21	Run Machine - Atuo		
22	Table Tennis		
23	Treadmills		
24	Vibration Plate		
25	Weightlifting Machine		

### OFFICE STATIONARY

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	A4/A3 Size Paper Roll		
2	A4/A3 Size Photo Copier		
3	Binding Machine		
4	Computer		
5	Electric Oil Heater		
6	Imaging Device	1/0	
7	Internet Facilities		
8	Lan Cable And Hub		
9	PABX System		
10	Papper		
11	Permanent Marker Pen		
12	Photo Copiers		
13	Plotter		
14	Power Cable Roll		7
15	Power Extension Cable		
16	Printer	7/	
17	Scale / Ruller (Steel, Plastic, Wooden)		
18	Scanner		
19	Spiral Ring		
20	Stationaries		
21	Tefflon Tape / Thread Tape		
22	Telephone Sets		
23	Ups (Watt As Required)		
24	White Board		
25	White Board Marker Pen		

### PAINT & SEALLING MATERIALS

SI. No	Description Of The Equipment's	Country Of Origin	Unit Quantity
1	Adhesive	BGD/Japan/USA/China	
2	Aluminum Paint	BGD/Japan/China	
3	Epoxy Paint	BGD/Japan/China	
4	Chalk Powder	Bangladesh/India	
5	Coating Paint	India/China/Japan	
6	Damp Stop	BGD/Japan/China	
7	Distembure	BGD/Japan/China	
8	Ladder	Hong Kong/China/Taiwan	
9	Oil Paint	BGD/Japan/China	A
10	Paint	BGD/Japan/China	91
11	Paint Brush	BGD/Japan/China	A
12	Paint Spray Machine	Japan/China/Taiwan	
13	Pre-Cladding Materials (Gala)	BGD/India/China	7
14	Primer	BGD/Japan/China	3
15	Red Oxide	BGD/Japan/China	
16	Roller Brush	BGD/Japan/China	
17	Roofing Compound	BGD/Japan/China	
18	Rust Cleaner	BGD/Japan/China	
19	Sand Papper	Japan/China/Taiwan	
20	Scrapper	BGD/Japan/China	
21	Silicon	Taiwan/Japan/China	
22	Silicon Gun	Taiwan/Japan/China	
23	Synthetic Enamel Paint 4l Can	BGD/Japan/China	
24	Spray Gun	Taiwan/Japan/China	
25	Spray Paint Can	Taiwan/Japan/China	

### PAINT & SEALLING MATERIALS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
26	THINNER (T3, T6, AND VARIOUS)	Taiwan/Japan/China	
27	TOUCH UP REMOVER	Taiwan/Japan/China	
28	WATER PAPER	Taiwan/Japan/China	
29	WD 40	Japan/China/USA	
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### SPECIAL CATEGORY PUMPS





### THE NEW L SERIES

SINGLE STAGE IN-LINE PUMPS











SPECIAL CATEGORY PUMPS



## SELF-PRIMING VOLUMETRIC PUMP













## SPECIAL CATEGORY PUMPS



### POWER & DISTRIBUTION TRANSFORMAR





Increase Power Availability



**Enhance Safety** 



Solutions for the Mining Industry



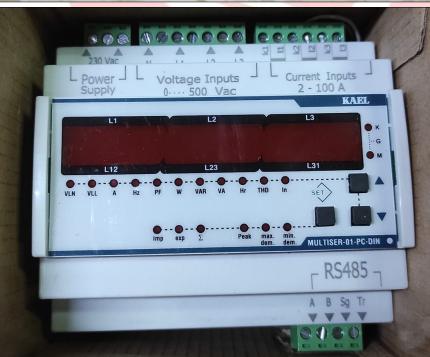


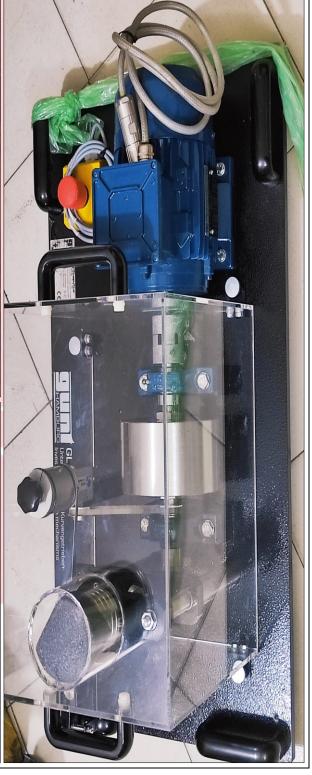




### **POWER PLANT SPARE**







### **POWER PLANT SPARES**









## BARGE & CARGO CARRIER





### **POWER PLANT SPARES**









## HOME APPLIANCE & SUPPLIES

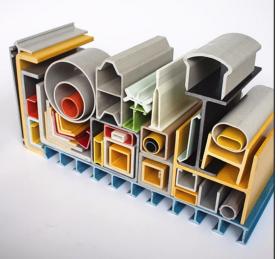
SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Bur B Q Cash For Charcoal	Bangladesh/China	
2	Bed	Bangladesh/Korea	
3	Bed Sheet	China/Korea	
4	Bed Wormer	China/Japan	
5	Blanket	Korea/China	
6	Brade Toaster	China/Japan	
7	Broom	Bangladesh	
8	Brush	Bangladesh	
9	Cabinet	China/Malaysia	/
10	Carpet	Iran/Turkey	
11	Chair	BGD/China/Malaysia	1
12	Cook Uniform	BGD/China	
13	Deep Freezer	BGD/Thai/Japan	7
14	Drown	BGD/China	7
15	Dvd	China/Japan	
16	Golf Ball	Korea/China/USA	
17	Golf Materials	Korea/China/USA	
18	Golf Practicing Net	China/Korea	
19	Ice Box	BGD/China	
20	Iron	BGD/China	
21	Juice Machine / Blender	China/Japan/Korea	
22	Kitchen Holds	Korea/Japan/China	
23	Mattress	Bangladesh/China/Korea	
24	Micro Oven	China/Japan	
25	Movie & DSLR Camera	Japan/USA	

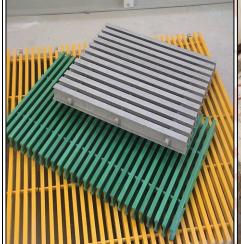
### HOME APPLIANCE & SUPPLIES

26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
26	Oil Heater	Japan/China	
27	Oven	China/Japan	
28	Pillow	Korea/China	
29	Pillow Cover	Bangladesh	
30	Refrigerator	BGD/China/Thai/Korea	
31	Rice Cooker	BGD/China/Japan/Korea	
32	Rice Plate	Bangladesh	
33	Sanitary Items	Bangladesh	
34	Smart Mobile Phone	BGD/China/Korea/USA	
35	Sofa	China/Malaysia	
36	Soup Bowl	Bangladesh	
37	Steel Cabinet	BGD/China/Malaysia	
38	Still Camera	Japan/Indonesia/Thai	
39	Table For Office Use	Bangladesh/Malaysia	7
40	Tv/Lcd/Led/OLED Monitor	China/Japan/Malaysia	A
41	Vehicles Rent Service	TOYOTA/HYUNDAI/SANGYUNG	
42	Washing Machine	Japan/China/BGD	
43	Water Dispenser	China/Taiwan/USA	
44	Water Heater	China/Japan	
45	Water Purifier	China/Taiwan/USA	
	Window Screen (Certain)	Bangladesh	
46 47 48 49 50			
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## FRP MATERILAS & COOLING TOWER SOLUTION







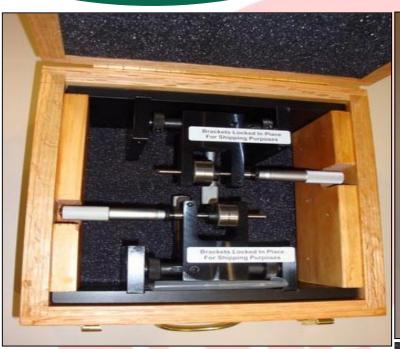








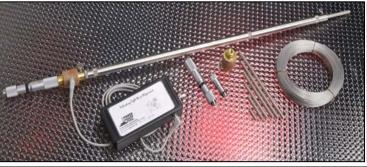
## POWER TOOLS ALIGNMENT SYSTEM

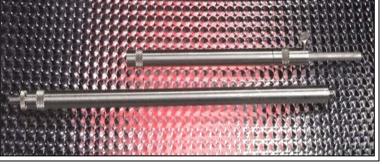












### SECURITY & MONITORING SYSTEM



Model: IP8M-2496EB-40MM



#### CAMERA

Image Sensor 1/2.5" STARVIS™ CMOS

#### **UHD** Resolution

Up to 4K UltraHD at 15fps (3840×2160)

Night Vision Up to 131 feet (2 IR LEDs)

Wide Dynamic Range (WDR)

Up to 120dB True WDR

#### LENS

Lens Type 4.0mm (Fixed)
Field of View H: 88°, V: 48°

#### MOBILE VIEWING

iOS and Android Devices Smartphones and Tablets

#### STORAGE

MicroSD Card Up to 128GB Local PC - NAS System Amcrest Cloud (Optional)

#### CONNECTIVITY

Power over Ethernet RJ-45 (10/100Base-T)

#### CONSTRUCTION

Weatherproof IP67, Metal Operating Temperature -22° F ~ 140° F Dimensions 7.1 x 2.8 x 2.8 in Weight 1.2 lbs

### SECURITY & MONITORING SYSTEM

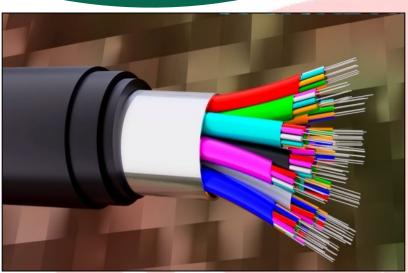


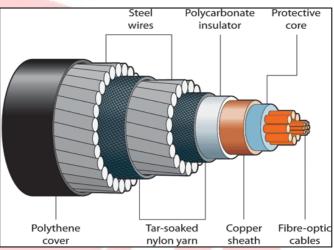






### SECURITY & MONITORING SYSTEM









## FACE RECOGNITION CCTV SYSTEM





## FACE RECOGNITION CCTV SYSTEM





## RADIO COMMUNICATION SYSTEMS





### HOME APPLIANCE & SUPPLIES

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Accommodation Rental Service with Furnishing	China/BGD	
2	Back Filling	0wn	
3	Fertilization	Bangladesh	
4	Grass Bed (Lawn Making Works)	0wn	
5	Land Development Works	0wn	
6	Land Leasing Agent	Agent	
7	Land Scaping	0wn	
8	Plantation	0wn	
9	Sand Compaction Works	Own	
10	Soil Compaction Works	0wn	
11	Soil Filling	Own	
12	Various Kinds Of Plants	0wn	
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### LUBRICANTS, PUMPS & FILTERS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	COUNTRY OF ORIGIN	UNIT QUANTITY
1	Air Filter	China/Korea/Japan	
2	Break Saw	Korea/China/Japan	
3	Centrifugal Pump	Italy/Japan/China/Korea	
4	Engine Oil	Italy/SA/Iran	
5	Ferron Gas	China/Italy	
6	Fuel Filter	China/Japan/Korea	
7	Fuel Gauge	China/Japan/Korea	
8	Gear Oil	Italy/SA/Iran/USA	- 38
9	Hi-Pressure Pump	Japan/Korea/China	
10	Mobil Filter	China/Japan	
11	Mud Pump	China/Japan	1
12	Service Water Pump	Japan/Italy/China/Korea	1
13	Shallow Well Jet Pump	Japan/Italy/China/Korea	
14	Submersible Pump	Japan/Italy/China/Korea	7
15	Suction Pump	Japan/Italy/China/Korea	//
16	Tire And Tube	Japan/China/Indonesia	
17	Coolant	Ingersol Rand	
18	Gear Oil	SINOPAC/MOBIL/LUBRUF	
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### CHEMICALS

SL. NO	DESCRIPTION OF THE EQUIPMENT'S	UNIT QUANTITY	COUNTRY OF ORIGIN
1	Ammonium By-Fluoride (NH <sub>4</sub> HF)		China
2	Ammonium (NH <sub>3</sub> )	200 L/Drum	China
3	Ammonium Water (NH <sub>4</sub> OH)		China
4	Anti-Foam Synthesized		China
5	Citric Acid Monohydrate (C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> H <sub>2</sub> O)		China
6	Dynamic Descale	200 L/Drum	China
7	Formic Acid (HCOOH)		China
8	Hydrazine Hydrate N <sub>2</sub> H4	25 Kg/Bag	China
9	Hydrazine Hydrate N <sub>2</sub> H <sub>4</sub>	50L/Jar	China
10	Hydrochloric Acid HCL	200 L/Drum	China
11	Inhibitor	200 L/Drum	China
12	Inhibitor For Organic Acid (Synthesized) For Organic Acid		China
13	Poly Aluminum Chloride (PAC)	25 Kg/Bag	China
14	Sodium Carbonate (NA <sub>2</sub> CO <sub>3</sub> )	7	China
15	Sodium Diphosphate (NA <sub>2</sub> PO <sub>4</sub> )	25 Kg/Bag	China
16	Sodium Hypochlorite (NAOCL)	Tank Lorry	China
17	Sodium Nitrite (NANO <sub>2</sub> )		China
18	Sodium Try-Phosphate (NA <sub>3</sub> PO <sub>4</sub> )	25 Kg/Bag	China
19	Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	Tank Lorry	China
20	Try-Sodium Phosphate (NA3PO <sub>4</sub> )		China
21	Wetting Agent (NP-8mol)		China
22	Zinc Oxide (ZnO)	25 Kg/Bag	China
23	Meperfluthrin TC 97%	25 Kg/Drum	China
24	Dimefluthrin TC 95%	25 Kg/Drum	China
25			

### NOTES

LOGISTICS, SHIPPING, **CUSTOMS** CLEARENCE & FREIGHT FORWARDING

We Pride Ourselves On Making Transport Simple And Affordable.

We Offer Safe, Time Saving And Convenient Transportation Services In Your Business.

Our Ability To Provide In-Depth, Expert Knowledge Of Individual Geographic Trades And Markets.

SIMPLE AND TROUBLE-FREE SERVICES

### LOGISTIC & FREIGHT FORWARDING

Being an agent for all major airlines, we provide a comprehensive package of Air Freight services. We make sure that you get a cost effective and efficient premium service beyond the costly structure, by creating cost cutting opportunities and focusing on constant communication and faster transit facilities.

Our Global Network has expanded new horizon of possibilities of businesses, bating on the changing customer needs, in challenging environment, with expertise grown over years of experience. In order to meet the changing needs, we offer Air Freight products into different levels based on price, delivery times, routings, handling procedures, etc.

The vital element of the entire Air Freight product is the ground service, which is our major concern and field of proven expertise. The finest technology, procedure and resource personnel are involved to assure the best quality service for you, which is also a part of continual improvement over time, complying with the highest level of efficiency and effectiveness.

We believe in continual improvement that benefits us and all our stakeholders for today, tomorrow and thereafter. Our determination is to achieve the desired success not only for us, but also for the ones who work for us and are relying on our services.

### AIR & OCEAN FREIGHT SERVICES

- AWB & Documentation
- Air Carrier Booking
- Letters of Credit
- Freight Insurance
- Consolidation & Handling
- Full Coordination
- Customs Clearance
- Trucking & Warehousing
- Vehicle Shipping
- VIP Courier

#### **OCEAN FREIGHT**

Starting from ocean freight forwarding and consolidation, to LCL or FCL container management and all the ground jobs, BRIDGE ASIA IMPEX LTD., is offering a full range of Ocean Freight services being a licensed Ocean Transportation Intermediary and world class NVOCC. With the benefits of having our own shipping line and our contractual relationships with steamship lines, we can offer highly flexible scheduling to our business counterpart whenever required. BRIDGE ASIA's relationship with its business counterparts and customers is moving away from purely transactional business to value-added propositions.

### AIR & OCEAN FREIGHT SERVICES

#### **STRUCTURE & CARRIERS**

BRIDGE ASIA IMPEX has a strong presence in all major cities and ports in Bangladesh and overseas, making it more competitively successful to operate globally. We are involved in several major freight forwarding networks such as: WWPC, GLF, WFP, WBN, PCN, WFG, XLP, PPG, AOG, PLA, OPCA which facilitates us to maintain a strong partnership base with the majority of the world's biggest ocean carriers, expanding opportunities for over-the-counter services at home and abroad. This extended networking relationship with proven expertise in the field of performance has enabled us to win over reliability and credibility from business counterpart throughout this global network, building up self-sufficient base both in terms of financial and physical securities.

That is because our passion is to find better and smarter ways of achieving desired output which works as one of the most effective influential force behind our business. And that is what has made us the leading Logistics Company in Bangladesh. BRIDGE ASIA IMPEX LTD., has been catering to the tailored needs of huge to small companies, starting from multinationals to smaller enterprises through the talented Customer service team who understands customer demands and offers them with effective solutions of thing which might have otherwise seemed impossible.

TRANSPORTATION/ LOGISTICS

#### TRANSPORTATION/LOGISTICS

- Trucks with/without Tailgates
- Prime movers for containers with/without tri axle chassis
- Prime movers with low bed chassis for special equipment and project cargos
- Cranes and lorry crane with operating supervisor
- Police escort for over—sized/heavy-lift Project Cargo
- Container Depot/Yard storage
- Local delivery and distributions
- Cross-border trucking

#### **PROJECT LOGISTICS**

With professionals possessing of worldwide logistics experience, BRIDGE ASIA IMPEX LTD. can offer you commitment to quality service and a long-term seamless relationships which we have cultivated with our clients, providers, and vendors, utilizing the expertise of professionals who are onsite at locations nationwide. A fully trained dynamic team in all modes of transport and documentation ensures efficient performance and expert recommendations whenever you need.

We will help you accommodate your contractual obligations, mitigate risks, and remain compliant with the rules and regulations of customs whenever required. Our tailor-made solutions will help you minimize costs, avoid risks and delays in the global transport of over dimensional and heavy lift shipments from several sectors such as: **Power, Energy, Oil & Gas, Any Construction Site etc.** 

TRANSPORTATION/ LOGISTICS

#### **SERVICES INCLUDE:**

- Procurement and expediting
- Warehousing and distribution
- Air, sea and road transport
- 24-hour site management
- Customs clearance

### CAMP/TEMPORARY OFFICE & ACCOMMODATION MANAGEMENT WITH FULL CATERING, LAUNDRY SERVICES

- Mining Project Area
- Power & Energy Related Project
- Machinery & Equipment Support
- Infrastructure Development & Construction
- Heavy Lift Services
- Oil & Gas Sectors

Project Logistics and Supply Chain Management (PLSCM), a subsidiary of BRIDGE ASIA IMPEX INTERNATIONAL., acts as a supporting arm of BRIDGE ASIA IMPEX INTERNATIONAL., Logistics Limited that undertakes detailed planning and on-site development and support to ensure timely support to minimize any chances of delay. Regardless of the scale of work, PLSCM ensures scheduled and timely delivery of projects through trained and experienced teams on the field who are capable of implementing a wide range of projects, specializing in construction. Some areas of specialization include the construction of oil and gas processing plants, high pressure pipelines, water and effluent treatment plants, and heavy cargo capable jetties.

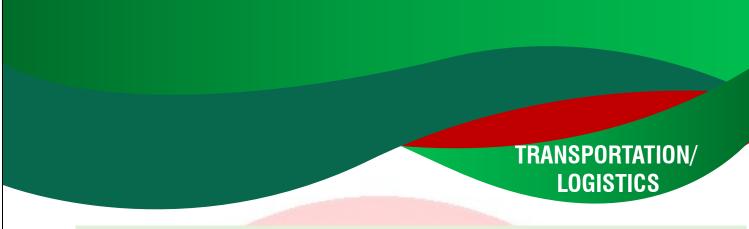
# TRANSPORTATION/ LOGISTICS

Through years of experience and technical knowledge, the PLSCM team has acquired a depth of understanding about compliance policies of multinational companies and is well adapted to meeting high standards of working procedures. **PLSCM** has the capacity to address and resolve various problems that might emerge during the course of the project. National and international consolidation, distribution and coordination of partial consignments from various supplier countries are part of the PLSCM comprehensive project management.

PLSCM can undertake specialized and general civil construction, such as offices, residential buildings, warehouses, or utility buildings. We are fully equipped to install the following:

- Power distribution cables,
- Instrument cables and
- Firefighting equipment
- Sewer system
- Water distribution system
- Fire hydrant system
- Cathode protection system
- Pig launcher and pig receiver etc.

PLSCM has its own construction equipment, ample storage facilities in Dhaka, Chittagong and Khulna, and multiple modes of transport for the equipment and materials. This allows us to conveniently set up construction anywhere in Bangladesh at the lowest possible cost. PLSCM can also carry out different types of



- Non-Destructive Testing Onsite,
- Including Radiography,
- Ultrasonic Test,
- Magnetic Particle Test,
- Dye Penetration Test, And
- Hydrostatic Testing for Oil And Gas Pipelines And Fire Hydrant Systems.

While BRIDGE ASIA IMPEX INTERNATIONAL., Logistics' expertise lies in effectively and safely transporting cargo across the globe, it is PLSCM's role to assemble and install once cargo reaches the project site. We take pride in the quality of our work and the commendable safety measures we take every step of the way.

### BRIDGE ASIA IMPEX INTERNATIONAL., PLSCM IS ALSO INVOLVED IN MAJOR CONSTRUCTION ACTIVITIES SUCH AS:

- 1. Constructing Office Buildings, Residential Buildings, Embassy Buildings, Industrial Buildings, Control Rooms, Utility Buildings And Laying Warehouse, Plant And Equipment Foundations.
- 2. Developing Sites As Per The Requirements Of The Client; Construction And Supply Of Living/Store Containers.
- 3. Specializing In Civil Construction Work Such As Drill Pads, Plant And Equipment Foundations Of Oil And Gas Processing Plants, Riverside Jetties For Unloading Heavy-Lift Cargo And So On.
- 4. Constructing Plant Piping, Fire Hydrant Systems, Water Distribution Systems, Sewer Systems, Water Treatment Plants, Effluent Treatment Plants And So On.
- 5. Constructing High Pressure Oil And Gas Pipelines And Installation Of The Catholic Protection System.
- 6. Survey Work, Soil Testing, Non-Destructive Testing (NDT) By Radiography, Ultrasonic Test, Magnetic Particle Test, Dye Penetration Test, Among Others.
- 7. Installation And Erection Of Oil And Gas Processing Plants, Including Necessary On-Site Fabrication Work.
- 8. Installation Of Power Distribution Cables, Instrument Cables And Firefighting Equipment.
- 9. Hydrostatic Testing Of Oil And Gas Pipelines And Fire Hydrant Systems, And Installation Of Pig Launcher And Pig Receiver And Pigging Of Oil And Gas Pipeline.
- 10. Project Management And Planning.

#### **CIVIL & MECHANICAL CONSTRUCTION**

Project Logistics and Supply Chain Management (PLSCM), a subsidiary of BRIDGE ASIA IMPEX INTERNATIONAL., acts as a supporting arm of BRIDGE ASIA IMPEX INTERNATIONAL., that undertakes detailed planning and on-site development and support to ensure timely support to minimize any chances of delay. Regardless of the scale of work, PLSCM ensures scheduled and timely delivery of projects through trained and experienced teams on the field who are capable of implementing a wide range of projects, specializing in construction. Some areas of specialization include the construction of oil and gas processing plants, high pressure pipelines, water and effluent treatment plants, and heavy cargo capable jetties.

Through years of experience and technical knowledge, the PLSCM team has acquired a depth of understanding about compliance policies of multinational companies and is well adapted to meeting high standards of working procedures. PLSCM has the capacity to address and resolve various problems that might emerge during the course of the project. National and international consolidation, distribution and coordination of partial consignments from various supplier countries are part of the PLSCM comprehensive project management.

PLSCM can undertake specialized and general civil constructions, such as offices, residential buildings, warehouses, or utility buildings. We are fully equipped to install the following:

- 1. Power Distribution Cables, Instrument Cables And Firefighting Equipment
- 2. Sewer System

- 3. Water Distribution System
- 4. Fire Hydrant System
- 5. Cathode Protection System
- 6. Pig Launcher And Pig Receiver

PLSCM has its own construction equipment, ample storage facilities in Dhaka, Chittagong and Comilla, and multiple modes of transport for the equipment and materials. This allows us to conveniently set up construction anywhere in Bangladesh at the lowest possible cost. PLSCM can also carry out different types of non-destructive testing onsite, including radiography, ultrasonic test, magnetic particle test, dye penetration test, and hydrostatic testing for oil and gas pipelines and fire hydrant systems.

While BRIDGE ASIA IMPEX LTD., expertise lies in effectively and safely transporting cargo across the globe, it is PLSCM's role to assemble and install once cargo reaches the project site. We take pride in the quality of our work and the commendable safety measures we take every step of the way.

#### **WAREHOUSING, STACK YARD & STORAGE SOLUTIONS**

fit-for-purpose Warehouse, With self-owned BRIDGE ASIA **IMPEX** INTERNATIONAL., can take the lead to provide client specific solutions by managing and accommodating the requirements as per operating customized storage space. We have built up an efficient workforce which is capable to seamlessly integrate a wide range of logistics services as per your requirements, where needed. From receiving consignments in bulk to distribution of break-bulk to wide number of different destinations, we ensure increased delivery speed that would also cut costs of storage and inventory holding. Even if convenience or complexity of your business is an issue, BRIDGE ASIA IMPEX LTD., owns the expertise to provide you with a dedicated solution that fits your needs. With the establishments of such infrastructure and facilities, we create opportunities for husiness

A global network of cargo storage facilities enabling door-to-door transport solutions.

At BRIDGE ASIA IMPEX INTERNATIONAL., we offer a seamless, unparalleled level of service for our landside operations. We understand that the ability to store cargo and containers is crucial for our customer's supply chain.

This is why we consistently focus on warehousing and distribution. Through establishing a global network of warehouse and storage facilities, we are proud to offer a door-to-door logistics service to our customers, enabling them to move cargo anywhere in the world.

BRIDGE ASIA IMPEX INTERNATIONAL.,'s warehousing allows us to offer our customers greater speed, efficiency and flexibility for their supply chains. Our network of warehouses, adding up to millions of square meters around the globe, means that we can offer a broad range of services with door-to-door cargo integrity.

Many of our warehouses are able to provide comprehensive pick / pack, de-stuff / pelletize, bulk stack and storage services and facilities. As a result, BRIDGE ASIA IMPEX INTERNATIONAL., will not only transport your goods quickly and safely, but we can also help play a key coordinating role in your distribution network. You get to release your goods when and how you desire.

Our available facilities also allow us to ensure the smooth transition of your cargo through every phase of the transport cycle. This is combined with our outstanding levels of customer service and our tailor-made, flexible solutions.

Even in countries where BRIDGE ASIA IMPEX INTERNATIONAL., doesn't have its own warehousing facilities, we are still able to offer unrivalled expert guidance on finding / arranging cargo storage solutions.

In addition to our many operational benefits, using BRIDGE ASIA IMPEX INTERNATIONAL.,'s warehousing services will also save you money in terms of:

- Reduced inventory.
- Lower container storage costs.
- Lower demurrage bills.

growth for our existing and potential clients to accelerate their progress in the competitive market, with super cost saving solutions that comes in a package.

### IMPORT & EXPORT/ LOGISTICS

#### **IMPORT SERVICES**

BRIDGE ASIA IMPEX INTERNATIONAL., has shown its' expertise as one of the leading high technology-based, licensed import brokers in the country. From the commencement of a service, we make sure that our clients meet all the standards of compliance and have all required documentations prepared to proceed in order to avoid delays and expensive penalties. In order to control the global shipments to and from overseas, BRIDGE ASIA IMPEX LTD., employs the best skilled force in collaboration with our professional network to get a job done faster than usual.

#### **EXPORT SERVICES**

Our export services implement the latest regulations, minimizes paperwork, expedites transit, and lowers shipping costs with tailored and personalized service for greater outcome. The workforce involved in Export-Import duties keep pace with the trending latest seminars and keep themselves updated about the industry changes taking place every day.

#### **CUSTOMS CLEARANCE**

BRIDGE ASIA IMPEX INTERNATIONAL., understands the importance of smooth customs clearance for the business of our valued clients. Our experts facilitate the customs clearance procedure with their extensive knowledge on local and international rules and regulations, including the existing and potential challenges of global trade. We will help you take well organized customized decisions that would fit your requirements that would optimize tax, cash flow and lead time of operations.

#### DOOR TO DOOR EXPRESS DELIVERY

BRIDGE ASIA IMPEX INTERNATIONAL., Jointly Giving world standard Courier and Freight Worldwide with SUNDARBAN GROUP & KOROTOA COURIER - is largest and wide Courier and Freight among the Bangladesh as well as South South-East Asian Countries, an ISO certified company having membership with International Recognized Associations, having own offices in China, Hong Kong, Malaysia and Singapore besides many offices in Bangladesh like Dhaka Airport, Chittagong Port, Khulna Mongla Port, Benapole Cross Border, Sonamasjid Cross Border, Tamabil Cross Border, Burimari & Hili Land Port etc. We are the recognized and well known one of the Project shipping, Door to Door Air Cargo & Sea Cargo Shipping in Bangladesh for many years and handle majority of Mega development projects of the Government of Bangladesh. We have wide range of Door to Door Cargo Services from CHIAN, INDIA, MALAYSIA, JAPAN, INDONESIA, SINGAPORE, USA, UK, THAILAND, HONGKONG, RUSSIAN FEDARATION etc.

BRIDGE ASIA IMPEX INTERNATIONAL., **Helps Bangladesh Garments to be Competitive** Helped many garments Industries in Bangladesh to be competitive in global market by offering the lowest Courier and Freight rate worldwide and at the same time by meeting the deadline even after delay in production of samples or shipments.

Besides garments we handle specialized shipments like temperature controlled clinical trial shipments, biological shipment, pharmaceutical shipments, dangerous goods, On Board Courier (OBC), Aircraft On Ground (AOG) shipments, project and outsized shipments.

### SERVICES AT A GLANCE

#### **OUR SERVICES AT A GLANCE:**

- International Courier Service.
- E-Commerce Delivery.
- Import Consolidation (AIR & SEA).
- Export Consolidation (AIR & SEA).
- AOG Aircraft on Ground.
- Sea Cargo Services.
- Air Caro Services at the Door Step
- Roadway Consolidation.
- Railway Consolidation.
- Temperature controlled Clinical Trial
- Cargo Insurance.
- Custom Clearance Services.
- Warehousing and Distribution.

In a dynamic and rapidly changing industry of export/import logistics in Bangladesh, BRIDGE ASIA IMPEX LTD., has emerged, through 21 years of experience, as the country's leading logistics management company. Our journey began in 1998, and since then we have evolved into a comprehensive one-stop service provider for shipping, clearing and forwarding, export and import, project installation and support services. With a broad range of logistics capabilities and a team of over 250 staff, BRIDGE ASIA IMPEX LTD., takes pride in its capacity and overarching expertise that enables it to effectively meet any need for logistic services. Our strong commitment to exceeding our client's expectations of quality has earned us the ISO 9001:2008 accreditation in 2011. We also adhere strictly to the Health, Environment and Safety (HES) policy that is enforced throughout the organization.

BRIDGE ASIA IMPEX LTD., has delivered numerous projects across Bangladesh to national and international clientele, consistently catering to our clients' needs with utmost professionalism. Transcending the regular work of planning cargo movements, our work encompasses delivering and installing heavy and oversized cargo, using multiple means of inland transport. Our service covers every aspect of cargo movement: survey, planning, monitoring, insurance, and customs clearance. Our specialized team can give our clients individual account supervision and status reports every step of the way, and is capable of covering every detail of project requirement, right down to in-house catering at the project site. When you select BRIDGE ASIA IMPEX LTD., to manage your project, you get a true partner in the logistics industry.

With headquarters in Dhaka, our dynamic team of over 250 staff works out of four offices in Dhaka, Chittagong, Khulna and Benapole. Our global network and direct links to over 270 ports, allows us to provide dependable air and sea freight services every day, across the world.

BRIDGE ASIA IMPEX LTD., also offers a full range of support services in offshore oil and gas surveys, specialized and general civil construction, and customs brokerage. Over the years we have prioritized establishing long-term relationships with all our partners for sustainable growth. Our long-standing relationships with the National Board of Revenue (NBR), the Board of Investment, Chief Controller of Import and Export, Customs, Department of Passport and Immigration Department, and Bangladesh Central Bank —allows us to offer a complete service package to our clients, right down to handling visa extensions and renewing work permits. We also offer international courier services and travel planning services, via our sister subsidiary companies.

We have successfully completed several projects in the Airport Terminal, oil, gas, and power plant construction, solar power plant, as well as water treatment plants and construction.

#### **BRIDGE ASIA IMPEX LTD., Network:**

The process of growth and change for BRIDGE ASIA IMPEX LTD., has been continuous and over time we have developed a strong network through membership with the following international associations:

While we undertake a diverse range of activities, our core expertise is in the following services:

- 1. Project Logistics and Project Management
- 2. Air and Sea Freight Forwarding
- 3. Survey, planning, monitoring & execution of cargo movement.
- 4. Customs Clearance, Port formalities at all major sea and airport
- 5. Consultation and Cargo Insurance
- 6. Handling, Heavy Lifting(HL) and installation of Dangerous and Oversized Cargoes (ODC)."
- 7. Marine Transportation and RO-RO Operation
- 8. Warehouse, Storing and Jetty facilities.
- 9. Jacking and Skidding
- 10. Engineering solutions and tactics to transport and lift all types of abnormal loads.
- 11. Over side/Pier loading/discharging and multi modal transportation inland.
- 12. Inland transportation by road, rail, air and river transport
- 13. Document distribution and updated status reports
- 14. Packing/Relocation/Shipping of Personal Effects of Expatriates
- 15. Individual account supervision and quotations (as per clients' requirement)
- 16. Available trained professionals to assist project execution.

Our Partner IMTIAJ ENTERPRISE is primarily an import, export and indenting company that exclusively supplies goods to companies and many government departments. With a global network of exclusive contacts, over 270 ports and all legislative licenses and permits, IMTIAJ ENTERPRISE can seamlessly source an impressive inventory of products for its clients.

Renowned foreign companies from different commercial sectors as well as national top tier companies can vouch for the professional and proficient services of IMTIAJ ENTERPRISE. We are the exclusive supplier for the Bangladesh Defense Ministry and several other government departments as well as numerous multinational companies. Beyond the helm of export and import, IMTIAJ ENTERPRISE also offers administrative support and services to many ministries, the Bangladesh Bank, the Board of Investment, the National Board of Revenue and many other organizations.

The strong relationship we have cultivated with various government departments enable us to assist startup companies or new branch offices in obtaining all necessary permissions for transacting business, such as:

- 1. Board of Investment permit
- 2. Trade license
- 3. Tax registration certificate
- 4. VAT registration
- 5. Import / export registration certificate
- 6. Bangladesh Bank Permission (18 B)

Our Partner IMTIAJ ENTERPRISE can also provide support to expatriate personnel in processing all of the following:

- 1. E VISA recommendation from Board of Investment.
- 2. Pursuing E-VISA from Bangladesh missions overseas.
- 3. Work permit.
- 4. Bangladesh Bank permission 18 A.

- 5. Facilitating necessary investigation by the National Security Intelligence and Special Branch of Police.
- 6. Home Ministry security clearance
- 7. Applying for long-term multiple entry visa from the Department of Immigration & Passport

#### REEFER CARGO

Unrivalled customer care and expertise in the global transport of refrigerated cargoes. Owing to the current trend of globalization and the growing reefer market, we have developed a strong service offering and built one of the largest reefer container fleets in the world.

#### Why Choose BRIDGE ASIA IMPEX LTD.,?

- Tailor-made end-to-end transport solutions across road, rail and sea.
- World leading reefer fleet we have grown our reefer fleet to be one of the most advanced in the world.
- Outstanding global coverage connecting all of the world's trade centers.
- Weekly & regular shipping services to global destinations.
- Multidisciplinary reefer expert teams to ensure smooth and steady operations.
- Regular and frequent monitoring of the shipment from the receipt of the loaded container to final destination.
- Pre-trip inspection (PTI) checks a thorough PTI ensure the very best service and equipment to fulfil your requirements.

#### **Our Reefer Experts**

We have improved our reefer container fleet but more importantly, we have ensured we train and develop teams of reefer experts in our agencies around the world. At BRIDGE ASIA IMPEX LTD., we understand the importance of preserving the condition of our customers' cargo from the moment it is loaded until the moment it reaches its delivery point. Over the years, we have built strong experience and expertise in transporting chilled and frozen goods – commodities including fresh produce such as fruit and vegetables, meat, fish, poultry, dairy products and pharmaceuticals.

Our 1,000 reefer experts will support you through each step of the preparation of your refrigerated shipment.

#### **End-To-End Reefer Shipping Services**

In 2019, BRIDGE ASIA IMPEX LTD., transported more than 75,687 TEU of reefer cargo. BRIDGE ASIA IMPEX LTD.,'s services go far beyond the port. We offer inland transport by road, rail and barge. By using our complete intermodal network, our customers can rely on a real door-to-door service.

#### **Want To Know More?**

Whatever you're shipping and wherever your destination, BRIDGE ASIA IMPEX LTD., will handle it for you – properly.

#### TRADE SERVICES

BRIDGE ASIA IMPEX LTD., brings its customers outstanding global coverage, connecting all of the world's trade centers.

What makes our service stand out from the crowd, however, is our ability to provide in-depth, expert knowledge of individual geographic trades and markets.

#### **GLOBAL AND LOCAL EXPERTISE**

BRIDGE ASIA IMPEX LTD.,'s Trade Managers each have an in-depth understanding of individual overseas markets and the dynamics of specific trades. This expertise enables them to provide you with market-specific, local advice on factors affecting the transit of your cargo. This might include:

- Terminal conditions.
- Local or overseas transport infrastructure.
- Berthing delays or congestion.
- Local or overseas regulatory and political changes.
- Any relevant customs procedures.

So whether you're importing or exporting, working with BRIDGE ASIA IMPEX LTD., will plug you into a network of experts across more than 493 offices, planning 200 global routes to 500 ports in over 155 countries, and we're committed to offering competitive rates and transit times.

#### **Service Tailored To Your Needs**

With all of this expertise and capability comes an unrivalled commitment to customer service. We will work hard to understand your needs in order to develop a productive, long-term partnership. At BRIDGE ASIA IMPEX LTD., we don't have a 'one size fits all' approach. We believe that by staying close to your business as it evolves, we are able to develop our services to match your changing needs. That way we can continue to offer a truly tailor-made range of services – whatever you want to ship, wherever you want to ship it.

### PROJECT CARGO & CUSTOMS CLEARENCE

#### **PROJECT CARGO**

We provide global breakbulk and out-of-gauge services, bringing you first class project cargo management, no matter whether you have a requirement for heavy lift cargo, or for oversized cargo which cannot fit inside a standard container.

#### **CUSTOMS CLEARANCE**

BRIDGE ASIA IMPEX LTD.,'s extensive knowledge and experience of global Customs clearance procedures can save you time and money.

Each item of cargo you are importing or exporting must satisfy official Customs formalities and regulations in order to proceed across international borders.

Having worked closely with international Customs authorities for a number of decades, our customers benefit from fast, efficient processing of their cargo through border formalities.

Many of our global agencies can actually offer an in-house Customs clearance service. This provides an easy, efficient and legally compliant transit of international cargo without involving any other organization or regulatory body. These agencies can:

- Provide expert advice and guidance on all necessary procedures and relevant cargo codification.
- Talk you through all the Customs documentation you will need to complete for different cargo types and countries of origin/destination.
- Submit import and export Customs entries on your behalf.

### PROJECT CARGO & CUSTOMS CLEARENCE

- Authorize some Customs documentation on-site (such as the EUR1 / ATR).
- Provide guidance on likely Customs duty for different cargoes (based on classification code and country of origin with which you provide us).

Our Customs clearance services ensure a smooth and transparent transportation process, minimizing any unnecessary delays or expense. What's more, since many of our global network of agencies are AEO (Authorized Economic Operator) accredited businesses, our customers benefit from:

- Swifter processing through Customs procedures.
- Reduced risk of Customs intervention for ocean-going shipments.
- Prioritization over non-AEO businesses where Customs have selected cargo for examination.
- Lower risk score in Customs' risk management systems.

With our commitment to delivering customer service excellence, at BRIDGE ASIA IMPEX LTD., we work hard to make international shipping fast, straightforward and stress-free for you at every stage of the transit.

## CARGO & TRAILERS

#### **CARGO TRAILERS**

Whatever your cargo or destination, BRIDGE ASIA IMPEX LTD., has the trailer to suit your needs.

BRIDGE ASIA IMPEX LTD., is committed to providing transport solutions that meet the diverse needs of our customers.

That's why we have a large inventory of well-maintained specialist equipment designed to accommodate practically any cargo type and any loading or discharging environment.

These cargo trailers include (but are not limited to):

- Rigid: A static trailer that can be used when access is restricted.
- **Flatbed**: A trailer with no sides, allowing for cargo that will not fit or cannot be easily loaded into a standard container. This is typically used for project or out-of-gauge cargo.
- **Tipper**: A specialized chassis to lift the container up at one end to unload loose cargo.
- Low loader: A trailer with an adjustable deck height allowing for the transportation of particularly tall or heavy cargo.
- Container-lift trailer: A vehicle with equipment capable of lifting containers on and off the trailer.
- **Generator set trailer:** A purpose-built trailer with its own generating equipment designed to provide power for refrigerated containers.

# CARGO & TRAILERS

Naturally, BRIDGE ASIA IMPEX LTD., also provides our customers with the necessary guidance to determine the appropriate equipment for the safe and secure transport of their cargo. Our intermodal and transport teams around the world will happy to help recommend the appropriate trailer for individual cargoes, taking into account any physical or environmental considerations at the point of loading or discharge.

Similarly, our out-of-gauge / breakbulk teams will provide the necessary expertise to arrange the transport of any oversized cargoes.

#### **CONTAINER EQUIPMENT**

In addition to the cargo trailers BRIDGE ASIA IMPEX LTD., customers are able to select the perfect container equipment to suit the optimal transport of their cargo. We have more than 10 million containers in circulation at any one time including:

- 20ft / 40ft standard and high cube containers.
- 20ft / 40ft open-top containers.
- 20ft / 40ft and high cube reefer containers.
- 20ft / 40ft flat racks.
- 20ft / 40ft platforms.
- 20ft / 40ft open-top containers.

With this equipment strategically positioned around the globe, BRIDGE ASIA IMPEX LTD., will have the ideal equipment to suit your cargo – whatever it is, wherever it is.

#### **CROSS TRADING**

Our global cross trade teams can help you move cargo from any origin to any destination. At BRIDGE ASIA IMPEX LTD., we understand that sometimes our customers need to move cargo to and from countries in which they themselves aren't based. That's why we've established our local cross trades team, who can help with queries and bookings outside of the country from where your business operates.

#### **What Is Cross Trading?**

When cargo is moved between an origin and destination without it entering the country where the shipper is registered it is commonly referred to as cross trades.

#### **BRIDGE ASIA IMPEX LTD.,'s Cross Trades Services**

At BRIDGE ASIA IMPEX LTD., we have dedicated teams of specialists, experienced in all aspects of cross trades to enable you to ship cargo direct from any origin to any destination, whilst maintaining a local contact. With operations covering 200 trade lanes and an extensive global network of over 480 BRIDGE ASIA IMPEX LTD., agents, we have the resources and in-depth local knowledge necessary to support businesses with their international growth aspirations and logistics requirements. Our cross trades teams support our full range of containerized freight services, in particular dry cargo, refrigerated cargo (reefers), out-of-gauge, precious and hazardous cargo. Our teams provide a comprehensive service that includes competitive pricing, securing bookings, documentation handling, tracking facilities and pre/on carriage arrangements. This means that wherever your cargo is traveling to or from, you'll have a dedicated team supporting you, locally.

#### **LOCAL SERVICES**

#### **X** Air Freight Forwarding

- Airport to Airport Services
- Airport to Door Services
- Door to Door Services
- Multi-modal Services (Air-Sea and Sea-Air)

#### <u>Ocean Freight Forwarding</u>

- Import and Export Full Container
   Loaded (FCL)
- Import and Export Less Than Container
   Load (LCL)
- Simple Consolidation
- Garments on Hanger

#### **\* Contract Logistics**

- General Warehousing (Non-Bonded)
- Cross-Border Transportation between

#### India and Bangladesh

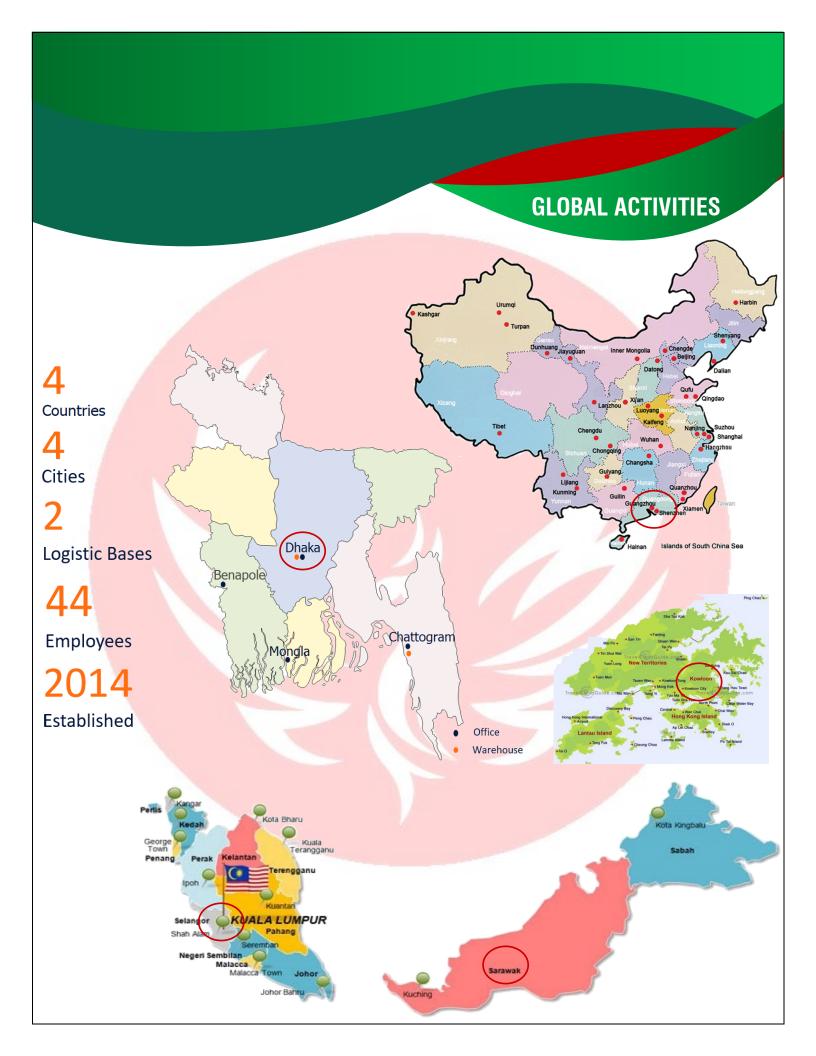
- Domestic Transportation
- Garments on Hanger
- Labelling, Palletizing and Shrink
   Wrapping
- Garments on Hanger

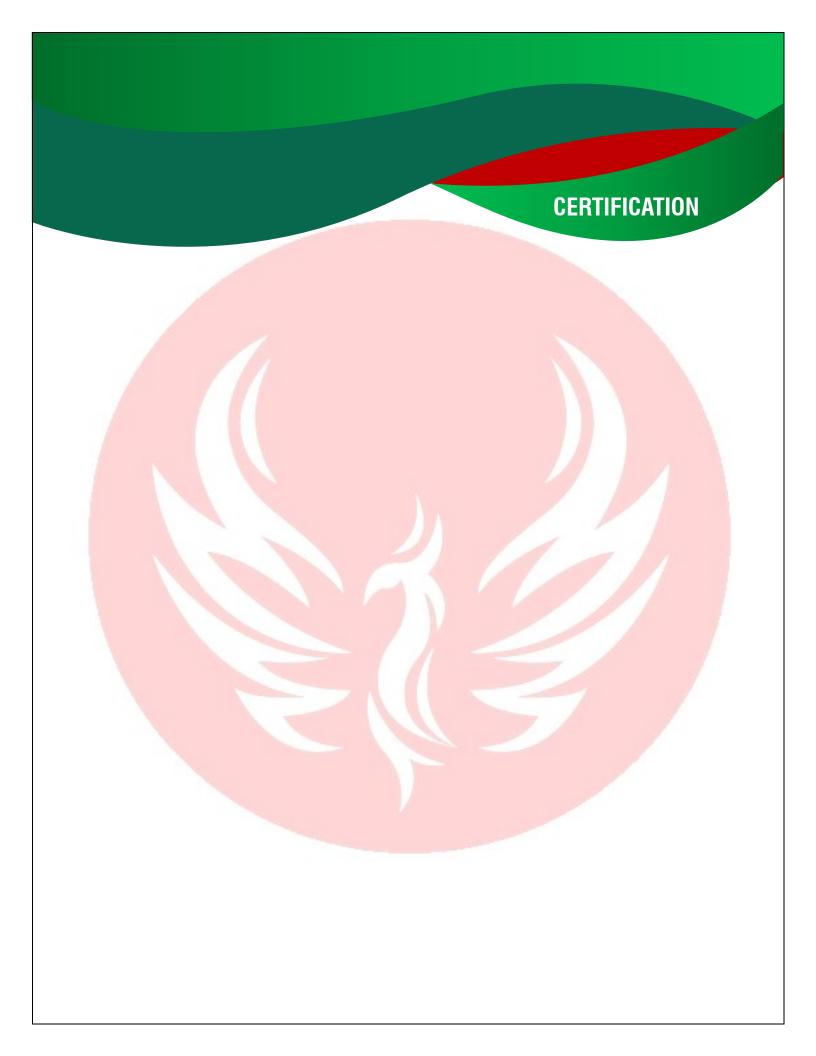
#### **<u>Karange</u>** Customs Brokerage

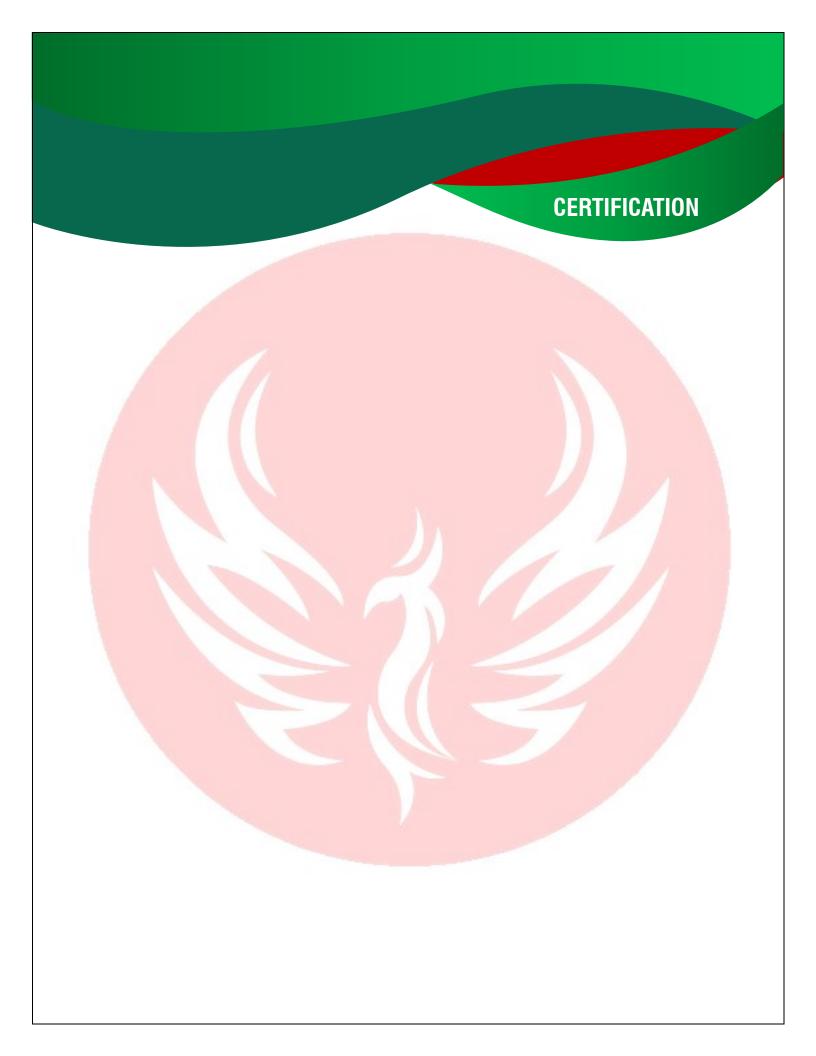
- Export Customs Clearance
- Import Customs Entry and Clearance

#### **\* Supply Chain Solutions**

- Buyer's Consolidation
- Purchase Order Management
- Carrier and Vendor Management
- Vendor Education and Training







**AUTHORIZED ALLIANCES AND PARTNERS** 



TAISEI KOGYO (\*\*) CHANGWON



Corporation



TOYO TANISO

Inspiration for Innovation























AUTHORIZED ALLIANCES
AND PARTNERS



**COWQY** EnTech





Rockwell Automation







Allen-Bradley

by **ROCKWELL AUTOMATION** 





**LARSEN & TOUBRO** 



**Always Reliable** 



















**Purolite**®

AUTHORIZED ALLIANCES
AND PARTNERS











Schneider Electric

**SAMSUNG C&T** 



SIEMENS







Atlas Copco





AUTHORIZED DISTRIBUTOR ENGINES | GENERATORS | PARTS



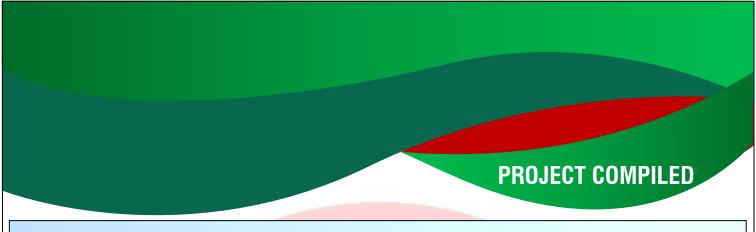
PROJECT: 150 MW COMBINED CYCLE POWER PLANT, CHANDPUR, BANGLADESH SUPPLY: 1. FKHG1N GENERATOR CIRCUIT BREAKER, 2. GAS BOOSTER, 3. AUTOMATION SYS.





PROJECT: 335 MW COMBINED CYCLE POWER PLANT, SIDDIRGANJ, NARAYANGANJ SUPPLY: 1. PIPES & FITTINGS, 2. SW GASKETS, 3. SAFETY MATERIALS, 4. CHEMICALS, 5. STEEL PLATES, 5. ALIGNMENT EQUIPMENT'S, 6. CARBON SIV, 7. PUMPS etc.







PROJECT: 1300 MW ULTRA SUPER CRITICAL COAL POWERED POWER PLANT, MATARBARI SUPPLY: 1. PIPES & FITTINGS, 2. STEEL BEAM, 3. SAFETY MATERIALS, 4. EQUIPMENT'S, 5. STEEL PLATES, 6. GEO TEXTILE, 7. TEMPORARY OFFICE, 7. PUMPS etc.





PROJECT: AES MEGHNAGHAT PRIVATE LIMITED, NARAYANGANJ SUPPLY: 1. CENTREL CHILLING UNIT, 2. PIPES & FITTINGS, 3. CONTROL VALVE, 4. AUTOMATION SYSTEM, ALLEN BRADLLY 5. HIGH PRESSURE PUMPS, 6. ACTUATOR etc.







FOOT OVER BRIDGE: NORTH CITY CORPORATION, DHAKA FOOT OVERBRIDGE: AGRABAD, CHITTAGONG

PROJECT: FOOT OVERBRIDGE, SITAKUNDU, CHITTAGONG





PROJECT: SASSEC -1, JOYDEVHPUR-TANGAIL-ELENGA 4 LANE PROJECT, BANGLADESH SUPPLY: 1. TEMPORARY OFFICE BUILDING, 2. STONES, 3. CCTV & INTERNET, 4. EQUIPMENTS, 5. W-BEAM GUARD RAIL, 6. BRICKS, 7. SANDS, 8. VEHICLES etc.







FOOT OVER BRIDGE: BANGLADESH RAILWAY IN TONGI BHOIROB DOUBLE LINE TOTAL NO. OF BRIDGE: 06, EMPLOYYER: BANGLADESH RAILWAY

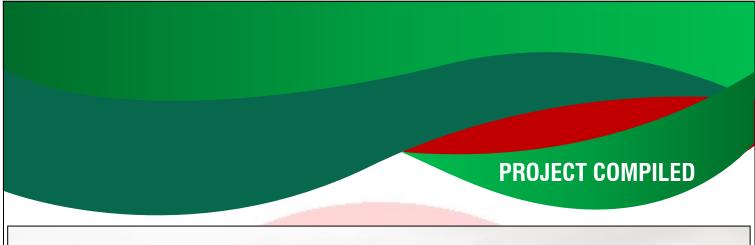






FOOT OVER BRIDGE: BANGLADESH RAILWAY IN TONGI BHOIROB DOUBLE LINE TOTAL NO. OF BRIDGE: 06, EMPLOYYER: BANGLADESH RAILWAY







FOOT OVER BRIDGE: BANGLADESH RAILWAY IN TONGI BHOIROB DOUBLE LINE TOTAL NO. OF BRIDGE: 06, EMPLOYYER: BANGLADESH RAILWAY



# PROJECT COMPILED

# **GOVERNMENT PROJECTS**

Client Location		Scope	Qty. (MT)	Remarks
Toma Group	Tongi Bhairab Double Line Project.	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -		Railway Foot Over Bridges, Bangladesh Railway. Material, Fabrication & Erection.
Max Group	Kashiyani Gopalganj Tungipara (KGT) Project	03 Railway Bridges	158	Bridge Erection
Toma Group	Kashiyani Gopalganj Tungipara (KGT) Project	04 Railway Bridges	185	Bridge Erection
MONICO Group	Western Bangladesh Bridge Improvement Project	02 Composite Bridges	768	Bridge Erection

# INDUSTRIAL PROJECTS

Name of Client Location		Area. (Sft.)	Remarks	
Universal LPG Ltd.	Choddogram, Comilla	24,000	LPG Bottling Factory	
Universal LPG Ltd.	Barobkundo, Chittagong	36,000	LPG Plant's 3 Steel Sheds	
AM Auto BricksLtd.	Chotoraypara, Gazaria, Munshiganj	42,000	Auto Brick Factory Shed	
KGT Project	Gopalganj- Kashiani, Bangladesh	6 Steel Guider Railway Bridges	Steel Guider Railway Bridges	
KGT Project	Gopalganj- Kashiani, Bangladesh	4 Steel Guider Railway Bridges	Steel Guider Railway Bridges	

We have own 20,000 sq.ft factory facility Near at the MEGHNAGHAT TOLL PLAZA, SONARGAON the same time we have an outsourced Gazipur Union, Maowna, Gazipur which is full-fledged equipped and largest fabrication plant in Bangladesh. The Facility Agreement copy is attached.

# **Production Floor Space:**

#### **Own Facility:**

Unit 1 # 28,000 Square Meter

#### **Out Sourced Facilities:**

**	Unit	1	#	16,000 sft
**	Unit	2	#	30,000 sft
**	Unit	3	#	48,000 sft
**	Unit	4	#	48,000 sft
**	Unit	5	#	52,000 sft

# **Machinery in the Facilities:**

- Bending machine
- Roof forming machine
- Z Purling machine
- C Purling machine
- Gantry auto welding machine
- H Beam straightening machine
- Gantry auto welding machine
- H-Beam Assembly machine
- CNC Flame Cutting machine.
- Hydraulic Punch machine (manual)
- CNC hydraulic drilling and punching machine.
- Slitting machine
- Shear machine
- CNC H-Beam Sawing machine
- CNCH-Beam Drilling machine
- CNC H-Beam Beveling machine.
- Double Gantry Auto Welding machine
- H-Beam Milling machine
- CNC Column Beam Welding machine
- CNC H-Beam Drilling machine



DREDGING AT MIRJAPUR, TANGAIL : SASSEC 1 ROAD CONNECTIVITY PROJECT UNDER RHD





DREDGING AT MIRJAPUR, TANGAIL: SASSEC 1 ROAD CONNECTIVITY PROJECT UNDER RHD



# S M ENGINEERING & CONSTRUCTION BRIDGE ASIA IMPEX (HK) LIMITED

Hot Line: +88 016 1118 0002

: +88 017 7088 8898

mail : sujanwarasi@gmail.com

: engr.mah121@gmail.com

Ref.: SMB/Quotation/Feb.-2018/1122018

Date: February 11, 2018

To

The Authorized Representative Spectra Engineer's Limited House # 17, Road # 106, Block # CEN (F), Gulshan - 2

Dhaka- 1212, Bangladesh.

Subject: Supply of Coarse Sand (FM 2.5), SASEC Road Connectivity Project, WP-01, Konabari, Gazipur.

Dear Sir

We are submitting here with the price Quotation of Coarse Sand (FM 2.5) for SASEC Road Connectivity Project, WP-01, Konabari, Gazipur including carrying at your site for your kind appraisal as follows:

					. 2,0,0,000.00
01.	Coarse Sand (FM 2.5)	Cft.	(1,550,000)	(46.50)	72,075,000.00
SI. No.	Description of Items	Unit	Approx. Quantity (Cft.)	Rat (in Taka)	Amount (in Taka)

We will be grateful to you, if you consider submitted price quotation and necessary steps from your end.

Thanking you,

#### BANK INFORMATION

Bank Name

: CITY BANK LIMITED

Account Name

: SAKM SHAHIDUZZAMAN WARASI

Account No

: 230 302 600 3001

Address

: Lake View Branch, Banani, Dhaka

The Co

With Worm Regards SAKM SHAHIDUZZAMAN WARASI BRIDGE ASIA IMPEX

CEO

Mobile No: +880 16 1118 0002 Email: sujanwarasi@gmail.com Engr. Mahfuzur Rahman BRIDGE ASIA IMPEX Executive Director

Mobile No: +88 017 7088 8898 Email: engr.mah121@gmail.com

Ref.: MSEE/Quotation/Nov.-19112019001

DHAKA OFFICE: House # 30, Rabindra Sarani, Sector # 7, Uttara, Dhaka 1230, Bangladesh. CHINA OFFICE: Room # 911, B1, South Block, Yuexiu Apartment, 149-1 Xian Road, Yuexiu Dist. Guangzhou 51000, China. MALAYSIA OFFICE: Petaling Indah Condominium, G-1 1C/149, Off Jin Sc Besi, Kuala Lumpur 57000, Malaysia. HONG KONG OFFICE: Flat # 1506, 15/F Lucky Center, No 165~171, Wanchai Road, Wanchai, Hong Kong.

Overseas Contact: +86 166 2000 4824 (WhatsApp, WeChat, Viber), Email: <a href="mailto:bridgeasiaimpex@gmail.com">bridgeasiaimpex@gmail.com</a>
Thank you for your inquire, It would be pleasure to do work for you on your project, Hope to complete this order on time after get your approval, on time as per the our commitment with you

# S M ENGINEERING & CONSTRUCTION BRIDGE ASIA IMPEX (HK) LIMITED

Hot Line: +88 016 1118 0002

: +88 017 7088 8898

Email : sujanwarasi@gmail.com

: engr.mah121@gmail.com

Ref.: SMB/Quotation/Nov.-2019/29112019

Date: November 29, 2019

То

The Project Manager

SASEC Road Connectivity Project-II

Improvement of Hatikamrul-Elenga-Rangpur Road to a 4-Lane Highway, Palashbari, Gobindogonj.

Subject: Rate Quotation of Supply for Coarse Sand (FM 2.5).

Dear Sir

We are submitting here with the price Quotation of Coarse Sand (FM 2.5) for your Project including carrying at stack yard for your kind appraisal as follows:

SI. No.	Description of Items	Unit	Approx. Quantity (Cft.)	Rat (in Taka)	Amount (in Taka)
01.	Coarse Sand (FM 2.5)	Cft.	25,00,000	55.00	137,500,000.00
				Total Amount =	137,500,000.00

#### Terms and Condition & Mode of Payment:

- This offer is excluding VAT & TAX.
- 50% Payment to be paid after reached the material at your Project Site Stack yard.
- Truck Fare will be full paid from your Project Site Office.
- Rest amount to be paid made within 7 (Seven) days after completion the work order quantity.
- Period of Completion the work will be negotiation.

We will be grateful to you, if you consider submitted price quotation and necessary steps from your end

#### BANK INFORMATION

Bank Name : CITY BANK LIMITED

Account Name : SAKM SHAHIDUZZAMAN WARASI

Account No : 230 302 600 3001

Address : Lake View Branch, Banani, Dhaka

Som (D)

With Worm Regards SAKM SHAHIDUZZAMAN WARASI BRIDGE ASIA IMPEX

CEO

Mobile No: +880 16 1118 0002 Email: sujanwarasi@gmail.com Engr. Mahfuzur Rahman BRIDGE ASIA IMPEX Executive Director

Mobile No: +88 017 7088 8898 Email: engr.mah121@gmail.com

DHAKA OFFICE: House # 30, Rabindra Sarani, Sector # 7, Uttara, Dhaka 1230, Bangladesh. CHINA OFFICE: Room # 911, B1, South Block, Yuexiu Apartment, 149-1 Xian Road, Yuexiu Dist. Guangzhou 51000, China. MALAYSIA OFFICE: Petaling Indah Condominium, G-1 1C/149, Off Jin Sc Besi, Kuala Lumpur 57000, Malaysia. HONG KONG OFFICE: Flat # 1506, 15/F Lucky Center, No 165~171, Wanchai Road, Wanchai, Hong Kong.

Overseas Contact: +86 166 2000 4824 (WhatsApp, WeChat, Viber), Email: bridgeasiaimpex@gmail.com
Thank you for your inquire, It would be pleasure to do work for you on your project, Hope to complete this order on time after get your approval, on time as per the our commitment with you

# BUILDING & OFFICE PROJECTS



### **WORK ORDER**

Name of The Client

BRIDGE ASIA IMPEX/S M ENGINEERING & CONSTRUCTION

Project Name :

06 ST. OFFICE BUILDING CONSTRUCTION, No. of Buliding 03

Quotation No : 2020/02-32

Address:

27 NO. DHANMONDI C/A

Date: 2020-03-12

Description of The Work: To build up 06 St. Office Building Based on The Approved Drawing also prepare the Under Ground Parking with RCC Concrete Pavement along with related works as Described in the Details Drawing

Client No : SMB\_88/02 Client Name : S M C & T

Quantity/Spec	Item Description	Specification & Work Details	Total Amount	Remarks
48 Piling with	16-20 meter Piling	No. of Pile : Dimention : D 600 mm L 16~20 m	16,591,200.00	Automatic Rig
4500 Sqm	RCC Work	250 mm Thickness As per Drawing	65,250,000.00	
5400 TON	Re-Bar Works	As per Drawing	29,700,000.00	
Brick Wall	Auto Bricks	Wall Thickness 250 mm & 375 mm	1,936,800.00	
Electric Work	LOT	APROX	3,575,000.00	
Plumbing	LOT	APROX	4,534,000.00	
Tiles	LOT	APROX	5,245,000.00	
Interior	LOT	APROX	7,862,500.00	
Central AC	LOT	APROX	25,000,000.00	
Fire Fighting System	LOT	APROX	22,500,000.00	
Generator & Sub Stati	CLOT	APROX	12,500,000.00	
Paint & Polishing	LOT	APROX	1,500,000.00	
Solar System	LOT	APROX	17,500,000.00	
Window Doors & Glass	LOT	APROX	23,000,000.00	
Elevator	06 Set Mitsubishy	As Per Assigned Drawing	27,000,000.00	
		Sub Total	263,694,500.00	
		VAT 15%	39,554,175.00	
		AIT 7.5%	19,777,087.50	
	RED FOUR CORE EIGHTY ONE	Profit 10%	26,369,450.00	
SEVEN ONLY.		SUB TOTAL	349,395,212.50	
		GRAND TOTAL (03 NOS)	1,048,185,637.50	

Terms & Conditions :

- The Quoted Price Not Included Any VAT & AIT
- The Price is Based on the Description & Preliminary Drawing
- Any Administrative and Necessary Permission will arrange by the Client
- Workable tools will Provide By Sub Contractor
- Any Additional Work Price will Include with this Price
- This is a Full Package Quotation

Payment Terms:

50% As Advance to Assigned Bank

Rest 50% as per Monthly progress of the work and estimation Other Terms & Conditions mention in the Deed of Agreement

Authorized Signature

Authorized Signature

Address : M/s. RONY ENTERPRISE. STUDIO A.
Studio A, Road # 8, House # 467, DOSH, BARIDHARA, DHAKA, Tel. No : +880 -18 - 1938 1242, E-mail : rony\_bdc@yahoo.com

# SECTION-I: QUALITY MANAGEMENT SYSTEM DESCRIPTION.

### 1.0 Introduction

The project quality plan covers the measure to ensure the quality for Fabrication Shop and Site construction/ Erection activity for steel structure works.

# 2.0 Quality Policy

The management & staff of BRIDGE ASIA IMPEX INTERNATIONAL. (BAIHKL) are committed to satisfy our interested parties in quality, Occupational health& Safety and Environmental interest at all times. BAIHKL will be bound & well-famed to ensure.

#### 2.1 Quality

- Complete Satisfaction of Clients at all times
- Continual Improvement

# 2.2 Occupational health & Safety

(a) Prevention of injury and Ill health

#### 2.3 Environment

Prevention of Pollution: These processes are managed by BAIHKL in accordance with the requirements of International Standard referenced above. BAIHKL insures outsourced processes are monitored in accordance to product quality and customer requirements.

# 3.0 Quality objectives

Management of BAIHKL ensures that quality objectives, including those needed to meet requirements for Service are established at relevant functions and levels. The quality objectives are measurable and consistent with the quality policy.

# **Quality objectives**

#### 1. Customer Satisfaction

- a. Meet the Project schedule Delivery defect-free product & service OHS Objective
- **2.** Prevention of injury and Ill health

# **Environmental Objective**

3. Prevention of Pollution



### 4.0 Quality System

The documentation of quality management system of BAIHKL consists of: QOHSE Manual Corporate Procedure manual Project Quality Plan & Quality System procedures (Project Specific) Method Statements & Quality records. The quality planning of the jobs shall be carried out prior to the commencement of works. All the quality system documents shall be controlled by the quality assurance department

#### 5.0 Document and Data Control:

#### 5.1 Document/ Data approval and Issue/ Data Changes

All documents shall be reviewed for adequacy and approved by authorized personnel prior to issue. Document such as drawings and standers shall be made available at point of usage. Obsolete documents shall be promptly remove from all location of issue or usage or otherwise assured against unintended use. Mater document control list for every controlled document shall be maintain. Any changes made to the documents shall be reviewed and approved by authorized personnel.

# 6.0 Purchasing

BRIDGE ASIA IMPEX INTERNATIONAL will ensure that purchased product confirms to specified requirements. This includes the evaluation and selection of subcontractors. All suppliers and subcontractors shall comply with BAIHKL quality management system.

# 6.1 Purchase Order (PO)

Procurement department is responsible for the issuance of PO of the products to be purchase from the vendors. The purchase order shall describe the type, class, grade and other precise identifications to the specified requirements and standards. All documents shall be reviewed and approved prior to release.

#### 6.2 Verification of the Purchased Product

BAIHKL, has established and implemented inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements. Where BAIHKL or its customer in tends to perform verification at the supplier's premises, BAIHKL states the intended verification arrangements and method of product release in the purchasing information.

### 7.0 Control of Production and Service Provision

BAIHKL plan sand carries out production and service provisions under controlled conditions. Controlled conditions include, as applicable:

- Availability of information that describes the characteristics of the product or service.
- Availability of work instructions, as necessary.
- Use of suitable equipment.
- Availability and use of monitoring and measuring devices.
- Implementation of monitoring and measurement.
- Implementation of release, delivery and post-delivery activities.

BAIHKL, has a specific business need to have the ability to process limited customized Orders where respective part drawings are pre-approved by the customer. Given cost considerations all order processing requirements associated with these Orders are thereby waived. All other Drawings and associated records of such transactions are kept as records.

#### 8.0 Validation of Processes for Production and Service Provision.

Performance and Verification of Servicing. Quality system activities related to servicing operations are similar to the corresponding activities related to manufacturing, and delivery of customer's products. All relevant procedures established for production operations equally apply to servicing. Work instructions issued by the Customer Service supplement those procedures.

# 9.0 Identification and Traceability

Where appropriate, BAIHKL identifies its products by suitable means throughout service realization. BAIHKL identifies the product status with respect to monitoring and measurement requirements. Where traceability is a requirement, BAIHKL controls and records the unique.

# 10.0 Inspection and Testing

All materials, processes and workmanship shall be inspected in accordance with client's specifications project approved inspection and test plan. The inspection & test plan shall include, Material Verification Welding Inspection Non-destructive Tests and All inspection test records shall identify the inspection authorities responsible for the release products.

# 10.1 Receiving Inspection and Testing:

Incoming materials including fabrication items should not be used unless it has been inspected & verified by the QA/QC staff as confirming to specified requirements.

# 10.2 In-process Inspection and Testing

No item of product shall be permitted to pass the next stage of production until the required inspection and testing is completed as per specified requirements. All nonconformities shall be

#### 10.3 Final Inspection and Testing and Qualification

No product shall be dispatched until all the specified activities have been satisfactorily completed and the associated data and documentation are authorized. All inspection and Concern personnel shall be qualified and must be independent of production.

# 11.0 Control of Inspection, Measuring and Test Equipment

BAIHKL has identified & documented a procedure (Calibration of Equipment/ Device control procedure) for the effective control of monitoring measuring equipment's device (MMED). Prior to every inspection activity shall verify of adjustment and calibration of inspection, testing and measuring equipment's. Record of calibration and measuring instruments to be used for testing of work shall be prepared and maintained. The calibration status of the instruments shall be updated in the summery of monitoring measuring equipment's device (MMED).

# 12.0 Inspection and Test Status

BAIHKL shall update and maintain the inspection status/ record for the progress of quality control record by using DATABASE.

# 13.0 Control of Nonconforming Product.

BAIHKL ensures that products that do not conform to product requirements are identified and controlled to prevent unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in a documented procedure. BAIHKL deals with nonconforming product by one or more of the following ways: by taking action to eliminate the detected nonconformity; by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer; by taking action to preclude its original intended use or application. Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are kept. When nonconforming product is detected after delivery or use has started, BAIHKL takes action appropriate to the effects, or potential effects, of the nonconformity.

### **14.0 Preventive Action**

BAIHKL determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

A documented procedure is established to define requirements for:

(1) Determining potential nonconformities and their causes and Evaluating the need for action to prevent occurrence of nonconformities. Determining and implementing action needed and Records of results of action taken. Reviewing preventive action taken.

#### 15.0 Control of Records

Records are established and maintained to provide evidence of conformity to requirements and of the effective operation of the QMS. Records remain legible, readily identifiable and retrievable. A documented procedure is established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

# **16.0 Internal Quality Audit**

BAIHKL conducts internal audits at planned intervals to determine whether the QMS conforms to planned arrangements, to the requirements of the International Standard and QMS requirements established by BAIHKL is effectively implemented and maintained. An audit program is planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. Selection of auditors for conducting audits ensures objectivity and impartiality of the audit process. Auditors do not audit their own work. The responsibilities and requirements for planning, conducting, reporting results and maintaining records are defined in a documented procedure. The Management responsible for the area being audited ensures that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results

# 17.0 Training

All person shall be properly qualified and experienced for the task to be undertaken. Training will be providing where necessary, to ensure all personnel are capable of undertaking the task assigned to them. The identification and provision of training shall be controlled joint by the site manager and human resource department. The site manager shall conduct necessary on the job training and safety orientation. Training record shall be maintained accordingly.

# **18.0 Statistical Technique:**

Weld reject ratios by welder and for the project overall shall be prepared and maintained. The reject ratio statistics shall be reviewed weekly in order to monitor welder performance. Welders with excessive reject ratios shall be withdrawn from production, retrained and requalified.

# **SECTION-II: PROJECT QUALITY SYSTEM**

# 1.0 Scope of Work

Name Of project:

Client :

Owner :

Location :

**Project Schedule:** 

# 2.0 Organization Responsibility

The organization chart for this project is shown in Appendix 1. The project management is responsible for the implementation of a quality management system that is best suited to every aspect of works to the fullest extent in order to achieve high quality standard. The responsibility and authority of the key personnel shall be as follows:

# **Project Manager**

The project manager is responsible for the overall planning, execution, and control of the project till completion. He shall make sure that the project cost is within the allocated budget and delivery the work to the client according to contractual schedule, meeting the specified quality standards. He is responsible for the mobilization and demobilization of manpower and major equipment.

# **Site Manager**

The responsibility of the site manager is overall site management and project coordination between the client/ owner, project staff and subcontractors. He shall ensure all aspects of works under BAIHKL scope are execute with respect to the approved design and specification and within the client's quality standard.

# **Quality Control Engineer**

The Quality Control Engineer is responsible for establishing, implementing and maintaining the quality system as per this project quality plan. He shall assist the site management at various stages of production by inspection and test in accordance with the approved inspection and

test plan and/ or specification. He shall be in-charge of control and maintenance of inspection and test reports. He is authorized to identify quality related non-conformances and initiate corrective actions. He shall also assist the production personnel in solving problems pertaining. to quality to prevent recurrence. He shall submit the monthly quality objective report to head office every month.

#### **Construction Coordinator**

The main function of construction coordinator is the control of equipment use age such as cranes, Lorries, scaffolding etc. and coordination of work interface with other implementation contractors. He is also responsible for the planning of heavy lifts in coordination with the lifting supervisor and piping engineers.

#### **Material Controller**

He is responsible for the receipt, storage, preservation and issuance of all materials that are supplied by the main contractor and workshop / store. During material receiving, he is responsible for conducting visual inspection to ascertain the materials received are in good condition. Any visual damage to creatures or packing will be immediately noted for further inspection. He also checks the quantity of goods received and cross check with the packing list/ picking tickets. In the event of nonconformities, he shall inform the superintendent and OC section for any discrepancy noticed. He will liaise with the client materials controller.

# **Schedule Planning & Control**

He is responsible for the overall planning of the project schedule. He shall update the schedule whenever necessary by comparing the progress of works submitted by individual project engineer with the agreed original schedule. He is responsible for reporting to the project/ site manager of any deviation of the status on progress from the original plan.

# **Safety Officer**

The Safety Officer is responsible for establishing and enforcing safety rules and regulations adaptable to the site. He shall ensure safe and healthy working conditions are not to be taken for granted by everyone. He is also responsible for conducting site safety meetings and other relevant training company workers and staff.

# **Lifting Supervisor**

TheLiftingSupervisorwillreporttoconstructioncoordinatororhisdeputy. Hismainduty is to stouch day lifting and rigging to meet project schedule requirement and in accordance with the project safety rules and regulations. He shall also monitor the safety of personnel working under his charge.

#### **Document Control**

He will maintain a register for incoming drawing and documents to ensure that superseded drawing and documents are either marked or discarded.

#### **QC Inspector**

He is responsible to assist the QA/QC engineer in the implementation of quality system as per project specification. He will inspect and monitor day to day work to meet project specification and requirements. He will also monitor Non-Destructive Examination (NDE) as defined in the specification for NDE for structural weldments. He will liaise with the material controller to ensure for the control of accepted, hold and rejected materials. He will liaise with client QC Inspector.

### **Welding Supervisor**

He will take control of storage of all approved welding consumables including baking of low hydrogen electrodes and daily issuance of electrodes to qualified welders. He is in charge in the development of welders to ascertain that only qualified welders are assigned as per their qualified positions and materials qualifications. He will maintain a log of daily baking issuance of welding consumables.

# 3.0 Project Schedule

The project schedule is shown in appendix-2

# 4.0 Codes and Standards

The latest editions and addenda of, but not limited to, the code and standard in effect date of contract award shall be complied with. Where codes and Standards are referred by title or basic designation only, they are applicable to the extent indicated by the specific reference.

#### 5.0 Forms and Records

Client inspection forms to be used to record site inspection and testing shall be as per client's standard formats if advised by client. With the client's approval this formats could be modified to suit the site requirement. BAIHKL will inform client's quality control manager in cases where HECC inspection formats has to be used.

#### **Appendix-1 Codes, Standards, Specification and procedures**

#### 1.0 International Standards

1.11ASME-V : Non-Destructive Examination(BPVC)

1.12ASME-IX : Welding and Brazing Qualification(BPVC)

1.13ASME-II A : Materials part A- Ferrous Materials Specification (BPVC)

1.14ASME-II C : Material Part C- Specification for welding Rods, Electrodes & Filler

1.15AWS-D1.1/D1.1: Structural Welding Codes- Steel

1.16NACENO.2 : Near White Metal Blast Cleaning SSPC-10-2000

1.17 NACENO.3 : Commercial Blast Cleaning SSPC-SP-6-2000

1.18SSPC-PA2 : Measurement of Dry Coating thickness with Magnetic Gages

1.19SSPC-SP6 : Commercial Blast Cleaning NACE NO 3-2000

1.20 SSPC-SP10 : Near White Metal Blast Cleaning NACE NO. 2-2000 1.21SSPC-

Vis1 : Visual Standard for Abrasive Blast Cleaned Steel.

### **Appendix-2 List of Procedures**

#### **Procedure**

#### **S/N** Procedure Title Reference

- Project Quality Plan
- Welding Consumable Control procedure
- ❖ Weld Repair Procedure
- Dimensional control Procedure
- Erection Methodology
- Preservation Procedure
- Material Control Procedure
- Calibration of Equipment/ Device Control Procedure
- Material Handling & Storage Procedure
- Employees NDT Certification Records
- Visual Inspection Procedure

- Document Control Procedure
- PT Procedure
- MT Procedure
- UT Procedure
- RT Procedure
- WPS & PQR

#### SECTION-III: FABRICATION AND ERECTION OF STRUCTURAL STEELWORK

#### 1.0 INTRODUCTION

The steel-framed building derives most of its competitive advantage from the virtues of prefabricated components, which can be assembled speedily at site. Unlike concreting, which is usually a wet process conducted at site, steel is produced and subsequently fabricated within a controlled environment. This ensures high quality, manufacture offsite with improved precision and enhanced speed of construction at site.

The efficiency of fabrication and erection in structural steelwork dictates the success of any project involving steel-intensive construction. Current practices of fabrication and erection of steel structures in India are generally antiquated and inefficient. Perhaps, this inadequate infrastructure for fabrication is unable to support a large growth of steel construction. In India, the fabrication and erection of structural steelwork has been out of the purview of the structural designer. Nevertheless, in the future emerging situation, the entire steel chain, i.e. the producer, client, designer, fabricator and contractor should be able to interact with each other and improve their efficiency and productivity for the success of the project involving structural steelwork. Hence it becomes imperative that structural designers also must acquaint themselves with all the aspects of the structural steel work including the "fabrication and erection," and that is the subject matter of the present chapter to briefly introduce good fabrication and erection practices.

#### 2.0 FABRICATION PROCEDURE

Structural steel fabrication can be carried out in shop or at the construction site. Fabrication of steelwork carried out in shops is precise and of assured quality, whereas field fabrication is comparatively of inferior in quality. In India construction site fabrication is most common even in large projects due to inexpensive field labor, high cost of transportation, difficulty in the transportation of large members, higher excise duty on products from shop.

Beneficial taxation for site work is a major financial incentive for site fabrication. The methods followed in site fabrication are similar but the level of sophistication of equipment at site and environmental control would usually be less. The skill of personnel at site also tends to be inferior and hence the quality of finished product tends to be relatively inferior. However, shop fabrication is efficient in terms of cost, time and quality.

Structural steel passes through various operations during the course of its fabrication. Generally, the sequence of activities in fabricating shops is as shown in Table1. The sequence and importance of shop operations will vary depending on the type of fabrication required. All these activities are explained briefly in the subsequent parts of the section.

### Sequence of activities in fabricating shops

### S. No. Sequence of Operation

- 1. Surface cleaning
- 2. Cutting and machining
- 3. Punching and drilling
- 4. Straightening, bending and rolling
- 5. Fitting and reaming
- 6. Fastening (bolting, riveting and welding)
- 7. Finishing Quality control
- 8. Surface treatment Transportation
- 9. Welded connections

# 2.1 Surface cleaning

Structural sections from the rolling mills may require surface cleaning to remove mill scale prior to fabrication and painting.

Hand preparation, such as wire brushing, does not normally conform to the requirements of modern paint or surface protection system. However, in some applications manual cleaning is used and depending on the quality of the cleaned surface they are categorized into Grade St-2 and Grade St-3.

Blast cleaning is the accepted way of carrying out surface preparation in a well-run fabrication shop. Abrasive particles are projected on to the surface of the steel at high speed by either compressed air or centrifugal impeller to remove rust and roughen the surface before

surface oxides are removed, and a rougher surface is obtained to provide an adequate key for metal spraying or special paint. Depending upon the increase in the quality of the cleaned surface, the blast cleaning is categorized into Grade – Sa2, Grade – Sa2½ and Grade Sa- 3.

Flame cleaning is another method of surface cleaning. In this method the surface is cleaned using an oxy- acetylene torch which works on the principle of differential thermal expansion between steel and mill scale. In another method called the steel piece is immersed in a suitable acid and the scale and rust are removed.

### 2.2 Cutting and Machining

Following surface preparation, cutting to length is always the first process to be carried out, and this is done by any of the following methods.

#### 2.2.1 Shearing and cropping

Sections can be cut to length or width by cropping or shearing using hydraulic shears. Heavy sections or long plates can be shaped and cut to length by specialist plate shears. For smaller plates and sections, machines featuring a range of shearing knives, which can accept the differing section shapes, are available.

### 2.1.1 Flame Cutting or Burning

In this method, the steel is heated locally by a pressurized mixture of oxygen and a combustible gas such as propane, which passes through a ring of small holes in a cutting nozzle. The heat is focused on to a very narrow band and the steel melts at 15000 C when a jet of high-pressure oxygen is released through a separate hole in the center of the nozzle to blast away the molten metal in globules. The desired cuts are obtained quickly by this process. However due to a rapid thermal cycle of heating and cooling, residual stresses and distortion are induced and hence structural sections that are fabricated using flame cutting are treated specially in the design of structural steelwork.

# 2.1.2 Arc Plasma Cutting

In this method, the cutting energy is produced electrically by heating a gas in an electric arc produced between a tungsten electrode and the work piece. This ionizes the gas, enabling it to conduct an electric current. The high-velocity plasma jet melts the metal of the work piece. The cut produced by plasma jet is very clean and its quality can be improved by using a water injection arc plasma torch. Plasma cutting can be used on thicknesses up to about 150 mm but the process is very slow.

#### 2.1.3 Cold Sawing

When a section cannot be cut to length by cropping or shearing, then it is normally sawn. All saws for structural applications are mechanical and feature some degree of computer control. There are three forms of mechanical saw - circular, band and hack. The circular saw has a blade rotating in a vertical plane, which can cut either downwards or upwards, though the former is more common. Band saws have less capacity. Sections greaterthan600mmX600mm cannot be sawn using band saws. The saw blade is a continuous metal edged, with cutting teeth, which is driven by an electric motor. Hacksaws are mechanically driven reciprocating saws. They have normal format blades carried in heavy-duty hacksaw frame. They have more productivity than band saws.

#### 2.2 Punching and Drilling

Most fabrication shops have a range of machines, which can form holes for connections in structural steelwork. The traditional drilling machine is the radial drill, a manually operated machine, which drills individual holes in structural steelwork. But this method has become too slow for primary line production. Therefore, larger fabricators have installed NC (Numerically Controlled) tooling, which registers and drills in response to keyed in data. These can drill many holes in flanges and webs of rolled steel sections simultaneously. It is also possible to punch holes, and this is particularly useful where square holes are specified such as anchor plates for foundation bolts. While this method is faster compared to drilling, punching creates distortion and material strain hard enigma round the holes, which increase with material thickness. Its use is currently restricted to smaller thickness plates. In order to reduce the effect of strain hardening and the consequent reduction in ductility of material around punched holes, smaller size (2 mm to4 mm lesser than final size) holes are punched and subsequently reamed to the desired size.

# 2.3 Straightening, Bending and Rolling

Rolled steel may get distorted after rolling due to cooling process. Further during transportation and handling operations, materials may bend or may even undergo distortion. This may also occur during punching operation. Therefore, before attempting further fabrication the material should be straightened. In current practice, either rolls or gag presses are used to straighten structural shapes. Gag press is generally used for straightening beams, channels, angles, and heavy bars. This machine has a horizontal plunger or ram that applies pressure at points along the bend to bring it into alignment. Long plates, which are cambered out of alignment longitudinally, are frequently straightened by rollers. They are passed through

Misalignments in structural shapes are sometimes corrected by spot or pattern heating. When heat is applied to a small area of steel, the larger unheated portion of the surrounding material prevents expansion. Upon cooling, the subsequent shrinkage produces a shortening of the member, thus pulling it back into alignment. This method is commonly employed to remove buckles in girder webs between stiffeners and to straighten members. It is frequently used to produce camber in rolled beams. A press brake is used to form angular bends in wide sheets and plates to produce cold formed steel members.

### 2.4 Fitting and Reaming

Before final assembly, the component parts of a member are fitted-up temporarily with rivets, bolts or a small amount of welds. The fitting-up operation includes attachment of previously omitted splice plates and other fittings and the correction of minor defects found by the inspector. In riveted or bolted work, especially when done manually, some holes in the connecting material may not always be in perfect alignment and small amount of reaming may be required to permit insertion of fasteners. In this operation, the holes are punched, 4 to 6 mm smaller than final size, then after the pieces are assembled, the holes are reamed by electric or pneumatic reamers to the correct diameter, to produce well matched holes.

# 2.5 Fastening Methods

The strength of the entire structure depends upon the proper use of fastening methods. There are three methods of fastening namely bolting, riveting and welding. A few decades back, it was a common practice to assemble components in the workshop using bolts or rivets. Nowadays welding is the most common method of shop fabrication of steel structures. In addition to being simple to fabricate, welded connection considerably reduce the size of the joint and the additional fixtures and plates. However, there is still a demand for structural members to be bolted arising from a requirement to avoid welding because of the service conditions of the member under consideration. These may be low temperature performance criteria, the need to avoid welding stresses and distortion or the requirement for the component to be taken apart during service

e.g. bolts in crane rails or bolted crane rails

### 2.1 Finishing

Structural members whose ends must transmit loads by bearing against one another are usually finished to a smooth even surface. Finishing is performed by sawing, milling or other suitable means. Several types of sawing machines are available, which produce very satisfactory finished cuts. One type of milling machine employs a movable head fitted with one

or more high-speed carbide tipped rotary cutters. The head moves over a bed, which securely holds the work piece in proper alignment during finishing operation. Bridge specifications require that sheared edges of plates over a certain thickness be edge planed. This is done to remove jagged flame cut edges and the residual stresses at the edges. In this operation, the plate is clamped to the bed of milling machine or a planer. The cutting head moves along the edge of the plate, planning it to a neat and smooth finish. The term finish or mill is used on detail drawings to describe any operation that requires steel to be finished to a smooth even surface by milling, planning, sawing or other machines.

#### 2.2 Surface Treatment

Structural steelwork is protected against corrosion by applying metal or paint coating in the shop or at site.

#### 2.2.1 Metal Coatings

The corrosion protection afforded by metallic coating largely depends upon the surface preparation, the choice of coating and its thickness. It is not greatly influenced by the method of application. Commonly used methods of applying metal coating to steel surfaces are hot-dip galvanizing, metal spraying, and electroplating. Electroplating isgenerally used for fittings and other small items. Galvanizing is the most common method of applying a metal coating to structural steelwork. In this method, the cleaned and fluxed steel is dipped in molten zinc at a temperature of about 4500C. The steel reacts with molten zinc to form a series of zinc or iron alloys on its surface. As the steel work piece is removed, a layer of relatively pure zinc is deposited on top of the alloy layers. For most applications galvanized steel does not require painting.

An alternative method of applying metallic coating to structural steelwork is by metal spraying of either zinc or aluminum. The metal, in powder or wire form, is fed through a special spray gun containing a heat source, which can be either an oxy-gas flame or an electric arc. Molten globules of the metal are blown by a compressive jet on to the previously blast cleaned steel surface. No alloying occurs and the coating, which is produced, consists of porous overlapping platelets of metal. The pores are subsequently sealed, either by applying a thin organic coating which soaks into the surface, or by allowing the metal coating to weather, when corrosion products block the pores.

# 2.2.2 Paint Coatings

Painting is the principal method of protecting structural steelwork from corrosion. Paints are usually applied one coat on top of another, each coat having a specific function or use.

The primer is applied directly on to the cleaned steel surface. Its purpose is to wet the surface and to provide good adhesion for subsequently applied coats. Primers for steel surfaces are also usually required to provide corrosion inhibition. They are usually **classified according to the** main corrosion-inhibitive pigments used in their formulation, e.g. zinc phosphate, zinc chromate, red lead, and metallic-zinc. Each of these inhibitive pigments can be incorporated into a range of binder resins e.g. zinc phosphate alkyd primers, zinc phosphate epoxy primers, zinc phosphate chlorinated- rubber primers.

The intermediate coats (or undercoats) are applied to build the total film thickness of the system. This may involve the application of several coats. The finishing coats provide the first-line defense against the environment and also determine the final appearance in terms of gloss, color etc. They also provide UV protection in exposed condition. Intermediate coats and finishing coats are usually classified according to their binders, e.g. vinyl finishes, urethane finishes.

The various superimposed coats within a painting system have, of course, to be compatible with one another. They may be all of the same generic type or may be different, e.g. chlor-rubber base intermediate coats that form a film by solvent evaporation and no oxidative process, may be applied on to an epoxy primer that forms a film by an oxidative process which involves absorption of oxygen from the atmosphere.

However, as a first precaution, all paints within a system should normally be obtained from the same manufacturer. The reader may refer to IS:487(1985) to know more about the surface treatment using paints. Detailed treatment of corrosion protection systems will be found in the Chapter on

'Corrosion, fire protection and fatigue considerations of steel

#### 2.6 Welded connections

Welding is used extensively for joining metals together and there is no doubt that it has been a most significant factor in the phenomenal growth of many industries. The different terminology used in welds are explained in IS:812(1957).

A welded joint is made by fusing (melting) the steel plates or sections along the line of joint. The metal melted from each member of the joint unites in a pool of molten metal, which bridges the interface. As the pool cools, molten metal at the fusion boundary solidifies, forming a solid bond with the parent metal. When solidification completes, there is a continuity of metal through the joint.

There are five welding process regularly employed namely:

- 1. Shielded Metal Arc Welding(SMAW)
- 2. Submerged-Arc Welding (SAW)
- 3. Manual Metal-Arc welding (MMA)
- **4.** Metal-Active Gas welding (MAG)
- 5. Stud welding

All these methods of welding have been described with illustrations, in the chapter on 'Welds. - Static and Fatigue Strength - I'. Nevertheless, for the sake of completeness, these methods are briefly enumerated below.

#### 2.6.1 Methods of welding

# (1) Shielded Metal Arc Welding (SMAW)

This is basically a semi-automated or fully automated welding procedure. The type of welding electrode used would decide the weld properties. Since this welding is carried out under controlled condition, the weld quality is normally good.

# (2) Submerged-Arc welding (SAW)

This is fully mechanized process in which the welding head is moved along the joint by a gantry, boom or tractor. The electrode is a bare wire, which is advanced by a motor. Here again, since the welding is carried out in controlled conditions, better quality welds are obtained.

# (3) Manual Metal-Arc welding(MMA)

This is the most widely used arc welding process and appears to be advantageous for labor intensive Indian construction practices. As it is manually operated it requires considerable skill to produce good quality welds. Hence in the case of MMA, stringent quality control and quality assurance procedures are needed.

In India, the Welding Research Institute, BHEL, Trichy, Tamil Nadu, conducts periodical courses for welders and weld inspection personnel. Welders who are employed in actual

#### (4) Metal-Active Gas welding (MAG)

This process is sometimes referred to as Metal-Inert Gas (MIG) welding. It is also manually operated. A gas that does not react with molten steel shields the arc and the welding pool. This protection ensures that a sound weld is produced free from contamination-induced cracks and porosity. Nevertheless, this procedure also depends on the skills of the welder.

#### (5) Stud welding

This is an arc welding process and is extensively used for fixing stud shear connectors to beam in the composite construction. The equipment consists of gun hand tool, D.C. power source, auxiliary contractor and controller. The stud is mounted into the chuck of the hand tool and conical tip of the stud is held in contact with the work piece by the pressure of a spring on the chuck. As soon as the current is switched on, the stud is moved away automatically to establish an arc. When a welding pool has been formed and the end of the stud is melted the latter is automatically forced into the steel plate and the current is switched off. The molten metal, which is expelled from the interface, is formed into a fillet by a ceramic collar or ferrule, which is placed around the stud at the beginning of the operation. The ferrule also provides sufficient protection against atmospheric contamination.

This process offers an accurate and fast method for attaching shear connectors, etc with the minimum distortion. While it requires some skill to set up the weld parameters (voltage, current, arc time and force), the operation of equipment i relatively straight forward.

### 3.0 RESIDUAL WELDING STRESSES ANDDISTORTION

# 3.1 Residual welding stresses

When a weld such as a butt weld is completed and begins to cool the hot weld and parent metal contracts longitudinally. The surrounding cold parent metal resists this contraction so that the weld is subjected to a tensile stress. This is balanced by the compressive stresses induced in the cold regions of the parent plate. These self-equilibrating forces introduce residual stresses both in the longitudinal and transverse direction. These stresses can even reach yield stress. Hence, the fabricator should adopt good fabrication practices that reduce the detrimental effect of residual stresses.

# 3.2 Residual distortions due to welding

#### 3.2.1 Butt welds

Fig. 2 shows a typical angular rotation of the plates due to a single V butt weld. This occurs because the major part of the weld is to one side of the neutral axis of the plate. This induces greater contractile stresses on that side. A double V or double U butt weld preparation reduces this distortion.



Fig 2: Angular distortion of butt weld

The welding sequence for double preparation has an important influence on the resultant distortion. If a few weld runs are first made on one side, and the plate turned over and then the same number of runs are made on the second side (i.e., sequential welding), a 'balanced' weld will be produced with little distortion. This will not, of course, be possible in situations where rotation of the plate is impracticable such as a plate, which is part of a large fabrication.

One aspect of butt-welding that should be noted is where back gouging is necessary to produce a full penetration weld. This can lead to distortion because the back gouging will produce bigger weld on the second side about the neutral axis of the plate. Such distortion can be reduced using an unsymmetrical weld section. Single V butt welds may produce cusping as shown in Fig.3 if the overall plate is restrained. This can be reduced by using a double V butt weld.



Fig 3: Cupping due to transverse butt weld

#### 3.2.2 Fillet welds

In single and double fillets, shrinkage across the throat area can lead to distortion as shown in

Fig.4. The distortion caused by a double fillet weld is important in box or plate girder webs where stiffeners are attached to only one side of the web. The use of a thicker plate can reduce the fillet weld angular distortion due to increased stiffness.

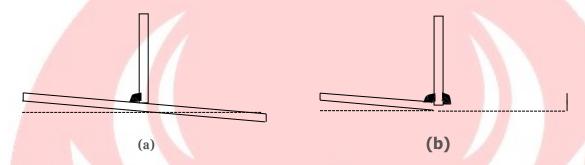
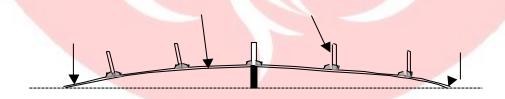
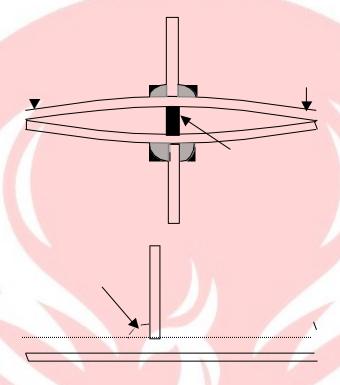


Fig 4: Angular distortion of fillet welds

#### 3.3 Control of distortion

Some distortion from welding is due to transverse and longitudinal contraction of weldments. Adopting suitable methods that can resist contraction can control the distortion. Weld distortion of a flat plate with a series of stiffeners on one side can be countered by elastically pretending the plates. In a similar manner two T sections can be welded, prevent back to back, to prevent final curvature in the web plate. Presetting the flange plate at an angle initially as shown in Fig.5 and Fig.6 may reduce the angular rotation due to a single fillet.





Sometimes both presetting and pre-bending may be required, e.g. in plate girder fabrication where the web to flange welds are made automatically. When the welds are made manually, it is customary to put the stiffeners into the girder before the web/flange welds are made; in this way the square profile of the web to flange is maintained. Where automatic welding is employed the stiffeners cannot be put first since they would impede the progress of the automatic machine; in this presetting of the flange plates may be required. Welding should preferably be started at the Centre of the fabrication and all succeeding welds from the Centre outwards. This allows contraction to occur in the free condition. If the welding sequence is not chosen correctly, locked up stresses at either end of a welded portion can lead to uncorrectable distortions.

Restraint procedure to reduce the effect of weld distortion should be carefully planned otherwise it can lead to solidification cracking.

# 3.4 Methods of correcting distortion

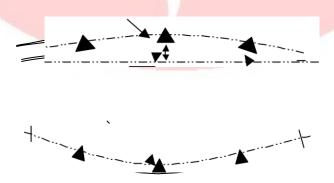
In general, there are two methods available to correct distortion namely:

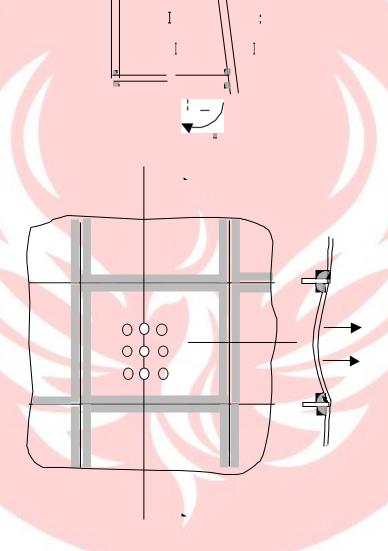
2. Heating Light sections can be corrected by applying force such as by hydraulic presses and local jacking or wedging.

While heavier structures will require heating to apply stresses to reduce or eliminate the distortion. The effect of heating is similar to that of welding in which distortion results from the induced stresses. An area of steelwork will expand when heated but this expansion will be constrained by the surrounding cold unheated area, causing a plastic upset. On cooling, the area contracts and the element then become shorter, this principle can be used to correct or induce any curvature. The heat must be evenly applied right through the material, if not, unwanted curvature may occur in the plan of the section.

Fig.7 shows some of the methods to induce and correct distortion. Fig.7(c) shows how it can be applied to a H section in which a camber is required. Rectangular heating across the bottom flange will shorten it compared with the top flange and hence induce camber. Since the shortening of the flange in the heated areas may tend to buckle the web adjacent to the flange, the heat is also applied to the web in a triangular manner such that the most affected part of the web contracts with the flange.

In a similar manner a cambered plate may be straightened by applying triangular heating with the bases of the triangles parallel to the plate edges to be shortened. When the plate cools the heated edge will shorten and so reduce the camber. For panels in box girder webs, spot heating as shown in Fig.7(d) may be employed to reduce the concavity produced by the welding around the panel perimeter. Each spot contracts on cooling and induces a local plate shrinkage within the panel boundary and so reduces the dish. If the heat applied and the web panel thickness are such that there is a large temperature difference between the surfaces of the plate at each spot heat, then the resultant contraction on the hotter surface will produce a greater correction of the dish.





Defects in welds

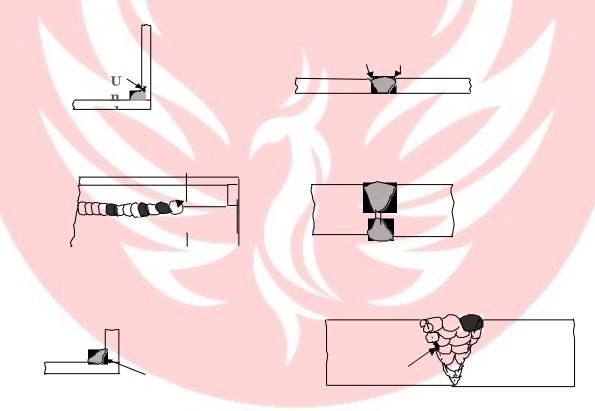
Faulty welding procedure can lead to defects in the welds, thereby reducing the strength of the weld. Fig. 8 shows some of the common defects in welds. Some of these are:

- Undercut
- Porosity
- Incomplete Penetration
- Lack Of Side Wall Fusion
- Slag Inclusions

All these weld defects are discussed in the chapter on 'Weld – Static and Fatigue strength– I'. It should be emphasized that a 'theoretical 100% error free' weld is not achievable in practice. While good quality welds are the priority of welders and weld inspectors, minor defects do normally creep in. Hence these defects are assessed during a weld inspection.

If the defects are within acceptable limits, they are accepted. If not, alternative measures of rectification may have to be carried out.

Fig8: shows nature of some of the defects and their acceptability limits.



### 4.0 QUALITY CONTROL INFABRICATION

Quality assurance during fabrication assumes utmost importance in ensuring that the completed structure behaves in the manner envisaged during design stage. Any deviation from these design considerations as reflected in detail drawings may introduce additional stresses to the structure and affect its strength and durability. This section discusses the relevant aspects in fabrication and erection, which need to be considered to achieve the

#### 4.1 Fabrication

A fabricator's work starts from the point of procurement of raw materials including fasteners and ends with the dispatch of the fabricated items to site for erection.

To ensure that the fabrication can be carried out in accordance with the drawings, it is necessary that inspection and checking is carried out in accordance with an agreed Quality Assurance Plan (QAP). The plan should elaborate on checks and inspections of the raw materials and also of the components as they are fabricated, joined etc. During the last two decades, fabrication activities have increased steadily in yards adjacent to work. In the absence of a controlled environment (as in an organized workshop), the quality of workmanship of such fabrication is likely to suffer.

It has, therefore, become all the more important to motivate the fabricators to appreciate the usefulness of Quality Assurance Plans and introduce the system in all their works and at site as well.

#### 4.1.1 Imperfections in Fabrication

Structural steelwork cannot be fabricated to exact dimensions and some degree of imperfection is bound to occur during fabrication process. The limits of various imperfections are spelt out in the specifications. In the design, these are accounted for by adopting a factor of safety for material. However, in some components an increase of imperfection beyond these limits may lead to reduction in the strength and durability of the structure e.g., imperfections on the straightness of the individual flanges of a rolled beam or a fabricated girder results in the reduction of strength of the girder due to lateral torsional buckling which may cause an overall bow in the girder. This, in turn, may generate twisting moments at the supports.

As a rule, all columns and struts should be checked for straightness on completion of fabrication. Also, all rolled and fabricated girders should be checked over a distance in the longitudinal direction equal to the depth of the section in the region and points of concentrated load.

### 4.1.2 Making holes

Excessive cold working of structural steel can cause reduction in ductility, embrittlement and cracking. Punching holes is a cold-working operation and can, therefore, cause brittle fracture. This becomes critical for the durability of structures subjected to fluctuation of stresses such as railway bridges and crane girders. Under cyclic loading fatigue cracks can initiate from such punched holes. In such cases, holes for bolts may be formed either by drilling or by punching

it reduces the chances of brittle fracture. Studies show that punching may produce short cracks extending radially from the hole, thereby enhancing the possibility of initiating brittle fracture at the hole when the member is loaded. Even in statically loaded structures the maximum thickness of plates in which holes can be punched is restricted.

#### 4.1.3 Shop assembly and camber check

For important structures, particularly for bridges, it is necessary to have the fabricated units temporarily assembled at the place of fabrication before these are dispatched to site for erection. During this operation, the overall dimensions of the structure including alignment, squareness, camber etc. should be confirmed. Inadequate or erroneous camber, in fact, introduces huge secondary stresses in the members instead of eliminating these as originally desired. Shop assembly also ensures that the open holes drilled in various units are within tolerable limits.

#### 4.1.4 Welded joints

As presented in the previous sections, welded joints are very important as far as the quality control of the joints is concerned. It is well known that joints are the last straw of strength in structural steelwork. Any poor quality weld would detrimentally affect the joint and in turn affect the performance of the whole structure itself. Hence welded joints need thorough inspection during and after the fabrication. Different methods of Non- Destructive Testing (NDT) and evaluation of welds are available. The NDT procedures are elaborated in the chapter on 'Welds Static and Fatigue Strength – I'. Depending upon the severity of service loading, the QAP may call

for the level of NDT to be used. Guidance could be obtained fromIS:822(1970) for the inspection of the welded joints

#### 5.0 ERECTION

#### 5.1 General

Erection of steel structures is the process by which the fabricated structural members are assembled together to form the skeletal structure. The erection is normally carried out by the erection contractor. Generally, the steps that are involved in the erection of steel structures are shown in below. The erection process requires considerable planning in terms of material delivery, material handling, member assembly and member connection. Proper planning of material delivery would minimise storage requirement and additional handling from the site storage, particularly heavy items. Erection of structural steel work could be made safe and

accurate if temporary support, false work, staging etc. are erected. Before erection the fabricated materials should be verified at site with respect to mark numbers, key plan and shipping list. The structural components received for erection should be stacked in such a way that erection sequence is not affected due to improper storing. Care also should be taken so that steel structural components should not encounter earth or accumulated water. Stacking of the structures should be done in such a way that erection marks and mark numbers on the components are visible easily and handling do not become difficult. From the earlier discussion it should emphasised that safe transportation of fabricated items to the site, their proper storage and subsequent handling are the pivotal processes for the success of fabrication of structural steel work.

#### **Sequence of Activities during Erection**

- Receiving material from the shop and temporarily stacking them, if necessary.
- Lifting and placing the member and temporarily holding in place.
- Temporarily bracing the system to ensure stability during erection.
- Aligning and permanently connecting the members by bolting or welding.
- Connecting cladding to the steel structural skeleton.
- Application of a final coat of painting.

Guidance for handling and storage for material shall be obtained from IS: 7969(1975). The fabrication at shop or site should be so planned that units to be handled weigh nearly the same. The erection drawing should reach the site of construction well in advance to plan the erection sequence and material handling. Erection should be carried out with the help of maximum possible mechanization. Normally anyone or more of the material handling systems, such as tower crane; crane mounted on rails, crawling crane, pneumatic tire mounted crane, and derrick crane may be used for handling the material. Details of the above said erection equipment can be found in any standard textbooks on construction equipment.

A variety of methods can be employed for the erection of a structure. Normally, the selection of the method is influenced by the type of the structure, site conditions, equipment, quality of skilled labour, etc. available to the erector.

However, regardless of the method adopted the main aim during erection is the safety and preservation of the stability of the structure at all times. Most structures which collapse do so during erection and these failures are very often due to a lack of understanding on someone's

satisfy the provision of IS: 800(1984). For the guidance on general fabrication and erection of structural steel work, Chapter 11 of IS:800 (1984) must be followed. As far as safety is concerned guidance could be obtained from Indian safety code for structural steelwork IS:7205(1974).

Before the commencement of the erection, all the erection equipment tools, shackles, ropes etc. should be tested for their load carrying capacity. Such tests if needed may be repeated at intermediate stages also.

#### 5.2 Bracings

During the entire erection period, the steelwork should be securely bolted or otherwise fastened and braced to take care of the stresses from erection equipment or the loads carried during erection.

In addition to this, adequate provisions to resist lateral forces and wind loads during erection should also be made according to local conditions.

Normally bracings are built into all types of structures to give them a capability to withstand horizontal forces produced by wind, temperature and the movements of cranes and other plant in and on the building. Bracings can be permanent or temporary.

Temporary bracings required at some stages of the work must have properly designed connections and should be specifically referred to in the erection method statement.

The decision on sequence of erection such as which member should be erected first for providing initial stability to the structure or whether temporary bracings should be used for this purpose should be taken at an early stage of planning of the erection process.

Fig.9 illustrates this point. As permanent bracings have been provided in AB, bay erection should logically start from AB bay to give stability and ensure proper alignment of the erected structure.

In case, for some reason erection has to start from DE bay, it would be necessary to provide temporary bracings in this bay. The bracing system should be retained till the permanent bracings are fixed in the AB bay.

Any miss-alignment at initial stage will impair the performance, of the structure when completed. Early or unauthorized removal of temporary bracings is a common cause of collapse in a partially completed frame.

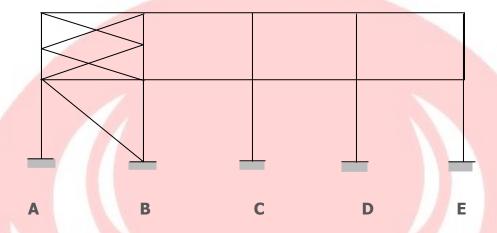


Fig 9. Bracing System

Having considered the need for installing temporary bracings and the need to postpone fixing permanent bracings, consideration should be given to the overall economy of retaining the temporary bracings and perhaps leaving out the permanent bracings. It is a costly and potentially dangerous business to go back into a structure solely in order to take out temporary members, or to insert components that had to be left out temporarily.

# **5.3 Maintaining tolerances**

The best way of erecting a structure within the acceptable tolerance limits is to make sure that accuracy is achieved from the very beginning of the job.

TABLE 4: MAXIMUM PERMISSIBLE TOLERANCE IN ERECTED STEEL STRUCTURES

S. No	Description	Tolerance (mm)
1.	Columns Out of plumpness of column Axis from true vertical axis Heights up to 30 m Heights over 30 m	I/1000 or 25 whichever is less I /1200 or 35 whichever is less
2	<b>Trusses:</b> Lateral shift in location of truss From its true vertical position	10
3	<b>Crane girders and ribs:</b> Shift in plane of alignment with Respect to true axis of crane rail.	5
4	<b>Chimney and towers:</b> Out of plumpness (Vertically from true vertical axis)	1/1000 of the height of the chimney or tower

Thus, quality control must start from the setting out of the foundations and the holding down bolts. This operation is often done at a stage when site conditions are disorderly and most untidy and the environment appears to be incongruous to accuracy.

However, inaccuracies in marking the centerlines and the levels of foundations allowed at this stage are likely to cause misfit in the connections and misalignment of the structure leading to secondary stresses in the members. In such areas corrective measures must be taken by way of locally modifying some of the components so as to eliminate the mismatch.

Table 4 shows some typical tolerances that are accepted in structural steel work.

### 5.4 Joints

Most steel structures are fabricated by either bolting or welding in the shop and bolting or welding in the field. The durability of a structure largely depends on the quality of the joints made at site.

In bolted connections, care should be taken to ensure that all parts intended to be bolted together should be in contact over the whole surface and the surfaces should be thoroughly cleaned and painted with specified primer paint and the two matching plates or sections secured together while the paint is still wet by service bolts. After erection, the joint should be made by filling not less than 50% of the holes with bolts.

The service bolts are to be tightened. The holes that need enlargement to admit bolts or rivets should be reamed only after carefully examining the extent of the inaccuracy and the effect on the soundness of the structure.

Such holes must not be formed by gas cutting process. The contact surfaces in HSFG connection if painted will develop lesser friction and this should have been accounted for in design. The fundamentals of HSFG connections are elaborated in the chapter on Bolted connections.

For connections to be done by welding, the components should be securely held in position to ensure alignment, camber etc., before welding is commenced.

In the case of field assembly using bolts the number of washers for the permanent bolts should not be more than two (and not less than one) for the nuts and one for the bolt head. It is desirable to use wooden rams and mallet to force the members in position so as to protect steelwork from injury and shock. It should also be ensured that the bolts project through the nut by at least one thread.

In the case of field assembly by welding almost all the precautions needed for shop welding may be followed. In the case of High Strength Friction Grip (HSFG) bolts the material surfaces should be absolutely free from grease, lubricant, dust, rust etc. and shall be thoroughly cleaned before assembling. The nuts should be pretension by a torque—wrench or by the turn of the nut method with the help of pneumatic wrench/lever. After tightening the bolt heads, nuts and edges of the mating, surfaces should be sealed with a coat of paint to obviate entry of moisture. In the case of connections such as base plate they must be aligned and levelled using wedges/ shims and subsequently filled by grouting.

### **6.0 SUMMARY**

In this chapter the importance of fabrication and erection in structural steelwork is underlined. The various tasks involved in fabrication are discussed. The joints, which are important components in structural steelwork are explained, with a special emphasis on welded joints. Some aspects of erection of steel structures are also presented. Thus, an overall view of the fabrication and erection of structural steelwork is covered in this chapter.

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### LABORATORY FACILITIES & QUALITYCONTROL (QC)

With so many treatments such as flame cutting, hole drilling, welding, sharing, etc. steel undergoes lots of stresses. Furthermore, after each process is complete, it develops residual stresses. The aim is always to minimize these stresses and that largely depend on monitoring quality of works. Other reasons why monitoring is necessary is due to there being finished products and just like any other industry with manufactured goods, accuracy of the finished product to that asked for by the client/designer must be checked. All this monitoring and checking is done via the realm of inspection & QC.

### 1. VISUAL INSPECTION

Visual inspection is the most powerful tool that can be employed to ensure weld quality. Prior to any welding the materials should be visually inspected to see that they are clean, aligned correctly, machine settings, filter selection checked, etc. As a first stage of inspection of all completed welds, visual inspected under good lighting is carried out. A magnifying glass and straight edge is often used as part of this process. Visual inspection examines each step of the welding process well before the weld is completed, it can be used to mitigate or avoid situations that could cause weld quality problems. Cracks, lake of fusion, lack of penetration, undercutting can be detected with the naked eye and (provided there is access to the reverse side) excess penetration can often visually detected.

### 2. LIQUID PENETRATION

Penetrant solution is applied to the surface of a pre-cleaned component. The liquid is pulled into surface breaking defects by capillary action. Excess penetrant material is carefully cleaned from the surface. A developer is applied to pull the trapped penetrant back to surface where it is spread out and forms an indication.

The indication is much easier to see than the actual defect. Liquid penetration testing is used to locate cracks, porosity, and other defects that break the surface of a material. It is also used to inspect large areas very efficiently and will work on most nonporous materials. Part with complex geometry are routinely inspected. Subsurface crack cannot be determined by this method.

### 3. MAGNETIC PARTICLE NDICATOR(MPI)

A magnetic field is established in a component made from ferromagnetic material. The magnetic line of force travel through the material, exit and reenter the materials at the poles. Defects such as crack or voids cannot support as much flux and force some of the flus outside of the part. Magnetic particles distributed over the component will be attracted to areas of flux leakage and produce a visible indication. MPI is used to inspect ferromagnetic materials (Those that can be magnetized) for defects that result in a transition in the magnetic permeability of a material. Magnetic particle inspection can detect surface and near surface defects. But it cannot determine the internal cracks.

### 4. ULTRASONIC TESTING (UT)

High frequency sound waves are sent into a material by use of a transducer. The sound waves travel through the material and are received by the same transducer or a second transducer. The amount of energy transmitted or received and the time the energy is received are analyzed to determine the presence of flaws. Changes in material thickness and changes in material properties can also be measured. UT is used to locate surface and subsurface defects in many materials. Ultrasonic inspection is also used to measure the thickness of materials and otherwise characterize properties of material based on sound velocity and attenuation measurements. The actual location, angle of crack, profile of crack etc. can also be determined by method.

### 5. RADIOGRAPHIC TEST

X-rays are used to produce images of objects using film or other detector that is sensitive to radiation. The test object is place between the radiation source and detector. The thickness and the density of the material that X-rays must penetrate after the amount of radiation reaching the detector. This variation in radiation produces an image on the detector that often shows internal features of the test object. Radiographic test are used to inspect almost any material for surface and sub-surface defects. X-rays can also be used to locate and measures internal features, confirm the location of hidden parts in an assembly and to measure thickness of materials. But this not commonly used here, as there is some possibility of radiation hazard of personnel and relatively expensive equipment investment is required.

### 6. DIMENSIONAL CHECKING

So far, all the above processes described were some forms of NDT, i.e. Non-Destructive Testing. Dimensional checking is not an NDT test but more of a product specification check to see if it matches the design or client's requirements. These entire dimensions are thoroughly checked after final fitting by our qualified QC engineers and if any discrepancy found, necessary actions are taken. Tolerance criteria are followed to GIS standards.

Straightness checking forms a part of dimensional checking. After welding and final fitting the beam straightness is checked and all the bended beams are straightened by using post-heating or by using hydraulic straightening machine until they come into tolerance criteria are limit.

Dry Film Thickness (DFT) checking on paint is done after primer and final painting to check whether prime coat is adequate. If they are not up to the mark, then all the materials are painted again.

#### 7. TESTING OF MATERIAL

Testing of material is done as per client requirement for example Destructive testing, Tensile test, Chemical test, Properties/mechanical Test etc. Quality materials can be insured in this stage. If quality any material is not found up to satisfactory margin, the material is rejected/rectified immediately.

### **SUMMARY OF LABORATORY FACILITIES AVAILABLE**

Name of test	Where to be Checked	Done By	What to be Checked	Remarks	
Visual Test	At Factory	In-House Team	To locate Crack, lack of Fusion, lack of penetration, Weld length		
Liquid Penetration Test	At Factory	3rd Party	To locate Crack, Porosity and other defects	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
MPI Test	At Factory	3rd Party	To locate surface or near surface defects	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
Ultrasonic Testing	At Factory	3rd Party	Location/Angle of crack Thickness of materials etc.	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
Radiographic Testing	At Factory	3rd Party	Location of crack, fusion, incomplete penetration etc.	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
DFT testing of Painting	At Factory	In-House Team	Dry film thickness of paint checking		
Tensile test of Material	BUET	3rd Party	Tensile strength, Yield strength, Ultimate strength of materials etc.	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
Chemical composition Test of Material	BUET	3rd Party	Ingredient test of Materials	Radiant Engineering Training Service and Inspection Ltd. Do this test frequently as per client	
WFT testing of Painting	At Factory	In-House Team	Wet film thickness of paint checking		



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类 型 有限责任公司(外商合资)

法定代表人 SAKM SHAHIDUZZAMAN WARASI SUJAN

经 营 范 围 批发业(具体经营项目请登录广州市商事主体信息公示平 台查询、网址: http://cri.gz.gov.cn/、涉及国家规定少 施准人特别管理措施的外商投资企业、经营范围以审批机 关核定的分准。依法需经批准的项目、经相关部门批准后 方可开展经营活动。) 注册资本壹拾万元(美元)

成 立 日 期 2019年12月10日

营业期限2019年12月10日至2049年12月10日

所 广州市荔湾区黄沙大道粤南大街26、 27、28、29号荔河商贸中心二楼F55 房

登记机关

国家企业信用信息公示系统网址: http://www.gsxt.gov.en

国家市场监督管理总局监制

113151

缴款後,請沿虛線剪下並將有效的商業/分行登記證展示在營業地點。

Please cut along the dotted line after making payment and display the valid business/branch registration certificate at business address. 表格 2 FORM 2 [第5條] 正 本 (商業登記條例) (第310章) [regulation 5] BUSINESS REGISTRATION ORDINANCE (Chapter 310) ORIGINAL 〈商業登記規例〉 BUSINESS REGISTRATION REGULATIONS XXXXXXXXX 商業 XXXX登記證 Business XXXXXX Registration Certificate XXXXXXXXX 業務 / 法厕所用名稱 BRIDGE ASIA IMPEX (HK) LIMITED Corporation

業務 / 分行名稱 Business Branch Name

\*\*\*\*\* \*\*\*\*\*\*\*\*

地址 Address 香港灣仔灣仔道165-171號 樂基中心15樓1506室

Nature of Business

POWER PLANT MACHINERY & EQUIPMENTS, HEAVY CONSTRUCTION

法律地位

BODY CORPORATE

Status

牛效日期 Date of Commencement 屆滿日期 Date of Expiry

登記證號碼 Certificate No.

登記費及徵費 Fee and Levy \$250

31/10/2019

30/10/2020

70023076-000-10-19-7

(登記費 FEE = \$ 0) (徴費 LEVY = \$250)

#### 請注意下列 (商業登記條例) 的規定:

Please note the following requirements of the Business Registration Ordinance:

- 1. 第 6(6)條規定任何業務獲發商業登記證或 分行登記證,並不表示該業務或經營該業 務的人或受僱於該業務的僱員已遵從有關 的任何法律規定。
- 2. 第 12 條規定各業務須將其有效的商業登記 證或有效的分行登記證於每一營業地點展
- 1. Section 6(6) provides that the issue of a business registration certificate or a branch registration certificate shall not be deemed to imply that the requirements of any law in relation to such business or to the persons carrying on the same or employed therein have been complied with.
- Section 12 provides that valid business registration certificate or valid branch registration certificate shall be displayed at every address where business is carried on.

缴款時請將此商業**XXXX**登記證及缴款通知書完整交出。在付款後,本繳款通知書方成為有效的商業/ XXX登記證。(請參閱背頁繳款辦法所載內容。)

Please produce this certificate and demand note intact at time of payment. This demand note will only become a valid business/MACA registration certificate upon payment. (Please see payment instructions overleaf.)

機印所示登記費及徵費收訖。 RECEIVED FEE AND LEVY HERE STATED IN PRINTED FIGURES.

20201 02/12/19 266LR 000018 CHQ 20201 02/12/19 26GLR 000018 CHD

### ঢাকা উত্তর সিটি কর্পোরেশন

www.dncc.gov.bd



### লাইসেন্স ইস্যুর বিবরণ

ইস্যুর তারিখ :10/10/2023 ইস্যুর সময় :16:16:09



### ই-ট্রেড লাইসেন্স

লাইসেন্স নং : TRAD/DNCC/136456/2022



স্থানীয় সরকার (সিটি কর্পোরেশন) আইন, ২০০৯ (২০০৯ সনের ৬০ নং আইন) এর ধারা ৮৪- তে প্রদন্ত ক্ষমতাবলে সরকার প্রণীত আদর্শ কর তফসিল, ২০১৬ এর ১০ অনুচেছদ অনুযায়ী ব্যবসা, বৃত্তি, পেশা বা শিল্প প্রতিষ্ঠানের উপর আরোপিত কর আদায়ের লক্ষ্যে নিশ্মে বর্ণিত ব্যক্তি/ প্রতিষ্ঠানের আনুকূলে অত্র ট্রেড লাইসেন্সটি ইস্যু করা হলো।

১। ব্যবসা প্রতিষ্ঠানের নাম	: ব্রিজ এশিয়া ইমপের	ম্ব ইন্টারন্যাশনাল				
২। ব্যবসা প্রতিষ্ঠানের মালিকের নাম	্র এস.এ.কে.এম. শহিদুজ্জামান ওয়ারেসী সুজন					
৩। পিতা / স্থামীর নাম	্র এস.এ.কে.এম নুরর্বী ওয়ারেসী : মোছাঃ সাহিদা বানু ওয়ারেসীয়া : অন্যান্য - একক					
৪। মাতার নাম						
৫। ব্যবসার প্রকৃতি						
৬। ব্যবসার ধরণ		্র আমদা <mark>নীকারক,প্রথম শ্রেণীর ঠিকা</mark> দার,সরবরাহকারী (দাহ্য পদার্থ ও ক্যামিকেল ব্যাতিত)				
৭। ব্যবসা প্রতিষ্ঠানের ঠিকানা		বাড়ী-৫৪/৭/এ, রোড-১২, ব্লক-খ, পিসি কালচার হাউজিং সোসাইটি, আদাবর, ঢাকা-১২০৭				
৮। অঞ্চল/ডিএনসিসি'র নিজস্ব মার্কেট	৫ কারওয়ান বাজার	ওয়ার্ড:	90			
৯। এনআইডি/পাসপোর্ট/জন্ম নিবন্ধন নং	: ৪১৬২৫৮৪৯২৬	<mark>টিআইএন</mark> /বিআইএন নং:				
৯। এনআহাড/নাসপোচ/ডাম্ম ানবন্ধন নং মোবাইল নম্বর		টিআইএন/বিআইএন নং: ই-মেইল				
মোবাহল শস্থর	: ০১৭১৩২২৩৭৪২	र-१भरण:				
০। অর্থ বছর	: ২০২৩-২০২৪ নিবায়ন		05/05/2020			
১। মালিকের বর্তমান ঠিকানা		মালিকের স্থায়ী ঠিকানা				
হোল্ডিং নং	: ৫৪/৭/এ	হোল্ডিং নং				
রোড নং	: ১২, ব্লক-খ	রোড নং	-			
গ্রাম / মহল্লা	পিসি কালচার হাউজিং সোসাইটি, ব্লক-খ	গ্রাম / মহল্লা :	বাড়াবিল সরকার পাড়			
পোস্ট কোড	: >২০৭	পোস্ট কোড :	শাহাজাদপুর			
থানা	: আদাবর	খানা :	শাহাজাদপুর			
জেলা	: ঢাকা	জেলা :	সিরাজগঞ্জ			
বিভাগ	: ঢাকা	বিভাগ :	রাজশাহী			
২।আদর্শ কর তফসিল, ২০১৬ এর ক্রমিক ন	:					
৩। ট্রেড লাইসেন্স ফি( নতুন/নবায়ন)						
লাইসেন্স/নবায়ন ফি	; b000	সাইনবোর্ড কর (পরিচিতিমূলক) :	840			
সারচার্জ	: •	ভ্যাট :	১২৭২			
আয়কর / উৎসেকর	: ৩০০০	বই মূল্য :	২৭০			
বকেয়া ()	: •	ফর্মফি :	0.00			
সংশোধনী ফি	: 0.00	অন্যান্য ফি :	600.00			
		সর্বমোট :	১৩৫২২.০০			

অত্র ট্রেড লাইসেন্স এর মেয়াদ ৩০ শে জুন, ২০২৪ পর্যন্ত

লাইসেম্ব ও বিজ্ঞাপন সুপারভাইজার







## Government of the People's Republic of Bangladesh National Board of Revenue

Mushak-2.3

Customs, Excise and VAT Commissionerate, Dhaka (West)

Mohammadpur Division

### **Value Added Tax Registration Certificate**

This is to certify that the person whose details are given below is registered under Value Added Tax and Supplementary Duty Act, 2012 (Act No. 47 of 2012)

### BIN: 005429999-0402

Name of the Entity : BRIDGE ASIA IMPEX INTERNATIONAL

Trading Brand Name : N/A
Old BIN : N/A

e-TIN : 188399975132

Address : House-54/7/A, Road-12, Block-Kha, PC Culture

HousingSociety, Adabor, Dhaka-1207; Adabor PS;

Dhaka-1207; Bangladesh

Issue Date : 06/03/2023
Effective Date : 03/2023

Type of Ownership : Proprietorship

Major Area of Economic Activity : First Class Construc...



This is a system generated certificate and doesn't require any signature



## Government of the People's Republic of Bangladesh National Board of Revenue

Taxpayer's Identification Number (TIN) Certificate

TIN: 188399975132

This is to Certify that **S.A.K.M. SHAHIDUZZAMAN WARASI** is a Registered Taxpayer of National Board of Revenue under the jurisdiction of **Taxes Circle-283 (Salary)**, Taxes Zone **13, Dhaka**.

#### Taxpayer's Particulars:

1) Name: S.A.K.M. SHAHIDUZZAMAN WARASI

2) Father's Name: S.A.K.M. NURUNNOBI WARASI

3) Mother's Name : MST. SHAHIDA BANU WARASI

4.a) Current Address: HOUSE 32/2, FLAT E 4, ROAD 10, SHEKHERTAK, Adabor, Dhaka, PO: 1207

4.b) Permanent Address: Vill-Barabil, Shahzadpur, Sirajganj, PO: 6770, Bangladesh

5) Previous TIN: Not Applicable

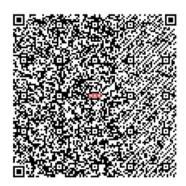
6) Status: Individual

Date: November 22, 2015

#### Please Note:

 A Taxpayer is liable to file the Return of Income under section 75 of the Income Tax Ordinance, 1984.
 Failure to file Return of Income under section 75 is liable to-

(a) Penalty under section 124; and
 (b) Prosecution under section 164 of the Income Tax
 Ordinance, 1984.



**Deputy Commissioner of Taxes** 

Taxes Circle-283 (Salary)
Taxes Zone 13, Dhaka
Address: 15, Purana Paltan, Chowdhury Complex(12th
Floor), Dhaka-1000. Phone: 02-223358617

Last Update : April 12, 2021 10:48:53 PM







### বাংলাদেশ চেম্বার অব ইভাস্ট্রিজ Bangladesh Chamber of Industries

BCIC Bhabon (3rd Floor), 30-31 Dilkhusha C/A, Dhaka-1000, Bangladesh Tel: +88-02-9551669, 9569601, 9565345, Fax: +88-02-9564170 E-mail: bci.bci85@gmail.com, info@bci-bd.org, Web: www.bci-bd.org

BCI/PMC/2023/125

Date: 19 November, 2023

### Membership Certificate

This is to certify that Bridge Asia Impex International Address: 54/7A, Road # 12, PC Culture Housing Society, Shekhertak, Adabar, Dhaka-1207 is a Member of Bangladesh Chamber of Industries (BCI).

Their Membership shall remain valid till the 31st December 2023.

Drahaz Kamrun Nahar Shiuly

Secretary (Acting) KAMRUN NAHAR SHIULY Acting Secretary
Bangladesh Chamber of Industries



parigrades a chamber of Industries (BCI) New Phone: +88-02223381669 02-223389601, 02-223385345 Fax: +88-02223384170 Mob: +8801934327752





# NOTES

# **THANKS**



## 凤凰(广州)电气电子有限公司

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BRIDGE ASIA IMPEX HONG KONG LTD.

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www.bridgeasiaplc.com

