



# EMIC

Engineering For Metals & integrated Contracting  
الهندسية للمعادن و المقاولات المتكاملة







Engineering For Metals & integrated Contracting  
الهندسية للمعادن و المقاولات المتكاملة

## WHO WE ARE

**EMIC** as an electromechanical Contractor is offer an extensive range of electromechanical solutions such as designing, engineering, project management, installation, testing and commissioning of the booming commercial, industrial, construction

In this rapidly evolving and fast-growing EGY economy where businesses are involved in a cut-throat competition, we understand the impact of saving a minute on a project will have on the sales figures. That's why we have a fully trained workforce equipped with smart working practices to ensure services are delivered on time without compromising on customer satisfaction and quality. Our years of experience and expertise in the field of electromechanical services have made us the most preferred choice among infrastructure contractors, government and semi-government organizations.

Our work scope systems are varied and specialized. We are experts in electromechanical systems including water and waste water treatment plants, RO (reverse osmosis), IWWT (industrial waste water treatments), HVAC Heating Ventilation & air conditioning systems, Fire Fighting, Irrigation & plumbing systems in addition to Boilers, steam pipe lines and compressed air pipe lines installations.

**VISSION** to establish ourselves as the most preferred electromechanical services provider offering cost effective solutions, applying leading edge technologies and following the best business practices that enable clients to drive maximum value for their investment.

**MISSION** stands for consistent delivery of top-quality electromechanical services to our customers, with a sense of pride and passion, keeping innovation & excellence as the hallmark of their services, to build customer loyalty through high caliber service, exquisite solutions, innovation and a 'Can Do' attitude.

## VALUES

- Continuous learning.
- Commitments to Customers.
- Integrity.
- We practice win-win partnerships with our clients.
- Sustaining nature.

## OUR MAIN STRENGTH POINTS

Our technical team since 1998 Implements tenth of electromechanical projects in Egyptian market.



# OUR ACTIVITIES

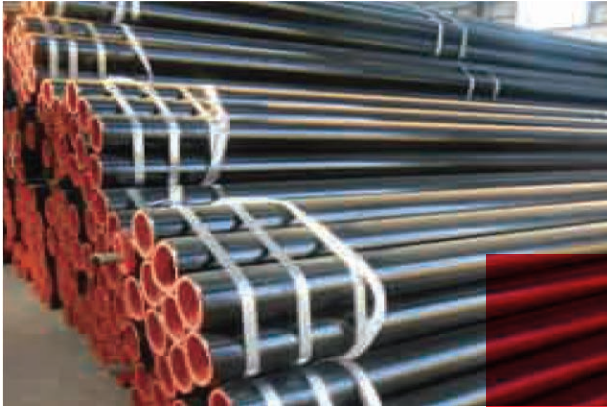
**EMIC**





# PIPES AND FITTING

# SEAMLESS STEEL PIPE



## LINE PIPE

**Standard :** GB/T2011-9711 , AOI 5L , ISO2007-3183

**Uses :** Conveying Of Gas, water and Oil In Petroleum and Natural Gas Industries



### Specifications of Seamless Steel Pipe

DN	NPS	OD	ANSI/ASME B36.10M												
MM	INCH	MM	SCH10	SCH20	SCH30	STD	SCH40	SCH60	XS	SCH80	SCH100	SCH120	SCH140	SCH160	XXS
6	1/8"	10.3				1.73	1.73		2.41	2.41					
8	1/4"	13.7				2.24	2.24		3.02	3.02					
10	3/8"	17.1				2.31	2.31		3.2	3.2					
15	1/2"	21.3	2.11		2.41	2.77	2.77		3.73	3.73				4.78	7.47
20	3/4"	26.7	2.11		2.41	2.87	2.87		3.91	3.91				5.56	7.82
25	1"	33.4	2.77		2.9	3.38	3.38		4.55	4.55				6.35	9.09
32	1-1/4"	42.2	2.77		2.97	3.56	3.56		4.85	4.85				6.35	9.7
40	1-1/2"	48.3	2.77		3.18	3.68	3.68		5.08	5.08				7.14	10.15
50	2"	60.3	2.77		3.18	3.91	3.91		5.54	5.54				8.74	11.07
65	2-1/2"	73	3.05		4.78	5.16	5.16		7.01	7.01				9.53	14.02
80	3"	88.9	3.05		4.78	5.49	5.49		7.62	7.62				11.13	15.25
90	3-1/2"	101.6	3.05		4.78	5.74	5.74		8.08	8.08					
100	4"	114.3	3.05		4.78	6.02	6.02		8.56	8.56		11.13		13.49	17.12
125	5"	141.3	3.4			6.55	6.55		9.53	9.53		12.7		15.88	19.05
150	6"	168.3	3.4			7.11	7.11		10.97	10.97		14.27		18.26	21.95
200	8"	219.1	3.76	6.35	7.04	8.18	8.18	10.31	12.7	12.7	15.09	18.26	20.62	23.01	22.23
250	10"	273	4.19	6.35	7.8	9.27	9.27	12.7	12.7	15.09	18.26	21.44	25.4	28.58	25.4
300	12"	323.8	4.57	6.35	8.38	9.53	10.31	14.27	12.7	17.48	21.44	25.4	28.58	33.32	25.4
350	14"	355.6	6.35	7.92	9.53	9.53	11.13	15.09	12.7	19.05	23.83	27.79	31.75	35.71	
400	16"	406.4	6.35	7.92	9.53	9.53	12.7	16.66	12.7	21.44	26.19	30.96	36.53	40.19	
450	18"	457.2	6.35	7.92	11.13	9.53	14.27	19.05	12.7	23.83	39.36	34.93	39.67	45.24	
500	20"	508	6.35	9.53	12.7	9.53	15.09	20.62	12.7	26.19	32.54	38.1	44.45	50.01	
550	22"	558.8	6.35	9.53	12.7	9.53		22.23	12.7	28.58	34.93	41.28	47.63	53.98	
600	24"	609.6	6.35	9.53	14.27	9.53	17.48	24.61	12.7	30.96	38.89	46.02	52.37	59.54	
650	26"	660.4	7.92	12.7		9.53			12.7						
700	28"	711.2	7.92	12.7	15.88	9.53			12.7						
750	30"	762	7.92	12.7	15.88	9.53			12.7						
800	32"	812.8	7.92	12.7	15.88	9.53	17.48		12.7						
850	34"	863.6	7.92	12.7	15.88	9.53	17.48		12.7						
900	36"	914.4	7.92	12.7	15.88	9.53	19.05		12.7						
950	38"	965.2				9.53			12.7						
1000	40"	1016				9.53			12.7						
1050	42"	1066.8				9.53			12.7						
1100	44"	1117.6				9.53			12.7						
1150	46"	1168.4				9.53			12.7						
1200	48"	1219.2				9.53			12.7						

### Tolerances on dimensions:

Standard	Outside Diameter Tolerance		Wall Thickness Tolerance
API SPEC 5L	D<60.3 mm	+0.41mm/-0.40mm	+15.0%/-12.5%
	D>60.3 mm	+0.75%/-0.40mm	

# SEAMLESS STEEL PIPE

## Chemical Composition

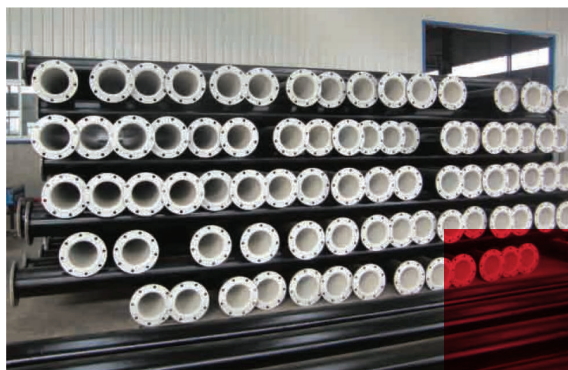
Class	Grade	C≤	Mn≤	P≤	S≤	V≤	Nb≤	Ti≤
PSL1	L245/B	0.28	1.20	0.030	0.030	-	-	-
	L290/X42	0.28	1.30	0.030	0.030	-	-	-
	L320/X46	0.28	1.40	0.030	0.030	-	-	-
	L360/X52	0.28	1.40	0.030	0.030	-	-	-
	L390/X56	0.28	1.40	0.030	0.030	-	-	-
	L415/X60	0.28	1.40	0.030	0.030	-	-	-
	L450/X65	0.28	1.40	0.030	0.030	-	-	-
	L485/X70	0.28	1.40	0.030	0.030	-	-	-
PSL2	L245N/BN	0.24	1.20	0.025	0.015	-	-	0.04
	L290N/X42N	0.24	1.30	0.025	0.015	0.06	0.05	0.04
	L320N/X46N	0.24	1.40	0.025	0.015	0.07	0.05	0.04
	L360N/X52N	0.24	1.40	0.025	0.015	0.10	0.05	0.04
	L390N/X56N	0.24	1.40	0.025	0.015	0.10	0.05	0.04
	L415N/X60N	0.24	1.40	0.025	0.015	0.10	0.05	0.04
	L450Q/X65Q	0.18	1.70	0.025	0.015	-	-	-
	L485Q/X70Q	0.18	1.80	0.025	0.015	-	-	-

## Mechanical Properties

Standard	Grade	Yield strength (Mpa)		Tensile strength(Mpa)		Elongation(%)
		min	max	min	max	min
GB/T9711 API 5L ISO3183	PSL1					
	L245/B	245		415		$A_f = c \frac{A_{XC}^{0.2}}{U^{0.9}}$
	L290/X42	290		415		
	L320/X46	320		435		
	L360/X52	360		460		
	L390/X56	390		490		
	L415/X60	415		520		
	L450/X65	450		535		
	PLS2					
	L245N/BN	245	450	415	760	$A_f = c \frac{A_{XC}^{0.2}}{U^{0.9}}$
	L290N/X42N	290	495	415	760	
	L320N/X46N	320	525	435	760	
	L360N/X52N	360	530	460	760	
	L390N/X56N	390	545	490	760	
L415N/X60N	415	565	520	760		
L450Q/X65Q	450	600	535	760		



# ERW PIPE



ERW Pipe Welded With Flanges, Epoxy Coated

## ERW PIPE

**ERW Pipe** : Electric Resistance Welded Steel Tube In oil Drilling And Machinery Manufacturing, etc.

**Steel Grade** : Q235, Q345, S235JR, S275JR, S355JR, S355J2H, GR.A, GR.B, GR.CGR.D, STK400, StK500, A, B, X42, X46, X52, X56, X60, X65, X70.

**Standard** : GB/T2001-3091 , BS1985-1387, DIN EN10025 , EN10219 , JIS G2004;3444, ASTM A53, API 5L



Welded Pipe

BS1387:1985 ERW PIPE

DN	A			B			C		
	Outer Diameter		Wall Thickness	Outer Diameter		Wall Thickness	Outer Diameter		Wall Thickness
	Max	Min		Max	Min		Max	Min	
15	21.4	21.0	2.0	21.7	21.1	2.6	21.7	21.1	3.2
20	26.9	26.4	2.3	27.2	26.6	2.6	27.2	26.6	3.2
25	33.8	33.2	2.6	34.2	33.4	3.2	34.2	33.4	4.0
32	42.5	41.9	2.6	42.9	42.1	3.2	42.9	42.1	4.0
40	48.4	47.8	2.9	48.8	48.0	3.2	48.8	18.0	4.0
50	60.2	59.6	2.9	60.8	59.8	3.6	60.8	59.8	4.5
65	76.0	75.2	3.2	76.6	75.4	3.6	76.6	75.4	4.5
80	88.7	87.9	3.2	89.5	88.1	4.0	89.5	88.1	5.0
100	113.9	113.0	3.6	114.9	113.1	4.5	114.9	113.3	5.4
125				140.6	138.7	5.0	140.6	138.7	5.4
150				166.1	164.1	5.0	166.1	164.1	5.4

JISG3444:2004 STK 500/400 STRUCTURAL CARBON STEEL PIPE

Outer Diameter (mm)	Wall Thickness (mm)	Outer Diameter (mm)	Wall Thickness (mm)	Outer Diameter (mm)	Wall Thickness (mm)
21.7	2.0	60.5	2.3-4.0	139.8	3.6-6.0
27.2	2.0-2.3	76.3	2.8-4.0	165.2	4.5-7.1
34.0	2.3	89.1	2.8-3.2	190.7	4.5-8.2
42.7	2.3-2.5	101.6	3.2-5.0		
48.6	2.3-3.2	114.3	3.2-4.5		

# GALVANIZED STEEL PIPE



HOT DIPPED GALVANIZED PIPE



PRE-GALVANIZED PIPE

## HOT DIPPED GALVANIZED PIPE /PRE-GALVANIZED PIPE

**Steel Grade :** Q195,Q235, Q345, S235JR, S275JR,S355JR,GR.A,GR.B,GR.C,GR.D, STK400,StK500 .

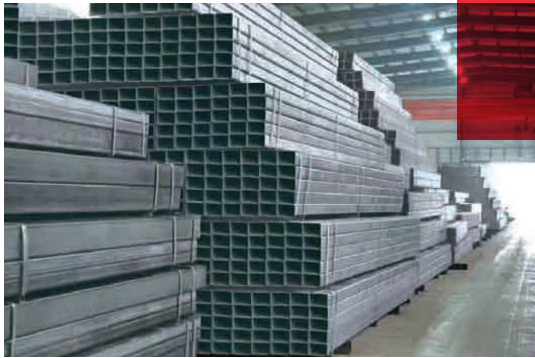
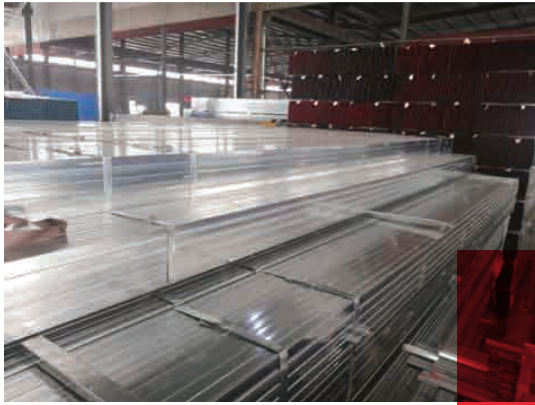
**Standard :** GB/T3091-2001 , BS1387-1985, DIN EN10025 , EN10219 , JIS G3444;2004, ASTM A53, BS-EN10255-2004.

**Surface Finish :** Hot Dipped Galvanized, Electro Galvanized,Black,Painted,Threaded, Socket, Engraved,Groove.

**Pre-galvanized Pipe :** Outer diameter;19mm-100mm; thickness 1mm-2.3mm;zinc coating : 80-120g/m<sup>2</sup>

Outer Diameter		Wall Thickness	Length
Inch	mm	mm	m
1/2"	21.3	0.6-3.0	0.3-12
3/4"	26.9	0.6-3.0	0.3-12
1' "	33.4	1.0-3.0	0.3-12
1-1/4"	42.3	1.0-4.0	0.3-12
1-1/2"	48.3	1.0-4.0	0.3-12
2"	60.3	1.5-4.0	0.3-12
2-1/2"	76.1	1.5-4.0	0.3-12
3"	88.9	1.5-9.5	0.3-12
4' "	114.3	2.0-9.5	0.3-12
5' "	141.3	3.0-9.5	0.3-12
6' "	168.3	3.0-12.0	1.0-12
8' "	219.1	3.2-12.0	1.0-12
10' "	273	3.2-12.0	1.0-12
12' "	323.8	6.0-15.0	1.0-12
14' "	355.6	8.0-15.0	1.0-12
16' "	406.4	8.0-20.0	1.0-12

# HOLLOW SECTION



## SQUARE/RECTANGULAR TUBE (HOLLOW SECTION)

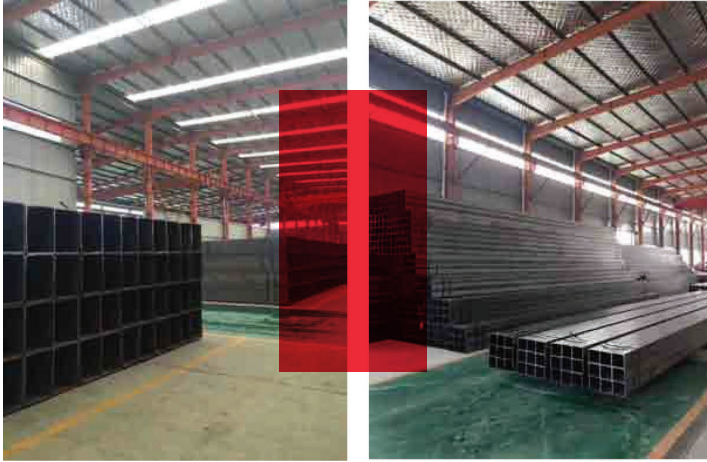
Square/Rectangular Tube Is applicable to frame for civil construction, furniture and etc. we can supply the products according to following standards: GB/T6728-2002, ASTM A500, JIS G3466, EN10210, EN10219

PRE-GALVANIZED HOLLOW SECTION

Size (mm)	Thickness (mm)	Length (m)	Size (mm)	Thickness (mm)	Length (m)
12.7x12.7	0.7-1.2	5-12	19x25	0.7-2.0	5-12
16x16	0.7-1.2	5-12	20x40	0.7-1.6	5-12
19x19	0.7-1.2	5-12	27x47	0.7-1.6	5-12
20x20	0.7-1.5	5-12	30x40	0.7-1.6	5-12
22x22	0.7-1.5	5-12	25x50	0.7-1.8	5-12
25x25	0.7-1.5	5-12	30x50	0.7-2.0	5-12
29x29	0.7-1.7	5-12	37x57	0.7-2.0	5-12
30x30	0.7-1.7	5-12	37x77	0.7-2.0	5-12
32x32	0.7-1.7	5-12	38x75	0.7-2.0	5-12
35x35	0.7-1.7	5-12	40x60	0.7-2.0	5-12
37x37	0.7-1.7	5-12	50x75	0.7-2.0	5-12
38x38	0.7-1.7	5-12	40x80	0.7-2.0	5-12
40x40	0.7-1.7	5-12	50x100	0.85-2.0	5-12
45x45	0.7-1.7	5-12	25x75	0.9-2.0	5-12
50x50	0.7-2.0	5-12	50x150	1.3-2.2	5-12
60x60	0.7-2.0	5-12	80x80	0.7-2.0	5-12
75x75	0.7-2.0	5-12	100x100	0.7-2.0	5-12



# HOLLOW SECTION



## SQUARE TUBE

Size (mm)	Thickness (mm)	Size (mm)	Thickness (mm)
20x20	1.5-2.75	75x75	1.5-5.75
20x30	1.5-2.75	80x80	1.5-5.75
25x25	1.5-2.75	50x100	1.5-5.75
30x30	1.5-3.0	60x100	1.5-5.75
20x40	1.5-3.0	80x100	1.5-5.75
30x40	1.5-3.0	60x120	1.5-5.75
25x50	1.5-4.0	40x100	1.5-5.75
30x60	1.5-4.0	80x120	1.7-6.0
30x50	1.5-4.75	100x100	1.7-6.0
40x40	1.5-4.75	80x140	2.5-6.0
40x50	1.5-4.75	120x120	2.5-6.0
40x60	1.5-4.75	80x160	2.5-6.0
50x50	1.5-4.75	75x150	2.5-6.0
40x80	1.5-5.75	100x150	2.5-6.0
50x70	1.5-5.75	150x150	2.5-6.0
50x80	1.5-5.75	140x140	2.5-6.0
60x80	1.5-5.75	200x100	2.5-6.0
60x90	1.5-5.75	200x200	3.5-10.0
60x60	1.5-5.75	200x300	4.5-11.75
70x70	1.5-5.75	200x400	4.5-11.75

## Pre-galvanized round pipe

Size (mm)	Thickness (mm)
16	0.7-1.2
20	0.8-2.2
22	0.8-2.2
25	0.8-2.2
25.4	0.8-2.2
32	0.8-2.2
33.4	0.8-2.2
38	1.0-2.2
40	1.0-2.2
42	1.0-2.3
47	1.0-2.3
48	1.0-2.3
59	1.0-2.3
60.3	1.0-2.3
75	1.0-2.3
87	1.0-2.3
112	1.0-2.3



# WELDED STEEL PIPE

## LSAW STEEL PIPE

**Standard:** ASTM A139(Grade-A-E) ASTM A252(Grade 1-3) JIS G3444(STK290-540) GB/T3091(Q215-345)

**OD:** 508-1422MM

**WT:** 6-40MM

**Length:** 6-12M

**Uses:** as low-pressure liquid transportation pipes and different types of load bearing structure units as well as other purposes. We can also supply with other sizes according to clients requirements.



Standard	Grade	Chemical Composition(max)%					Mechanical Properties	
		C	Si	Mn	S	P	Yield Strength(Mpa)	Tensile strength(Mpa)
GB/T 700-2006	A	0.22	1.4	0.35	0.050	0.045	235	370
	B	0.20	1.4	0.35	0.045	0.045	235	370
	C	0.17	1.4	0.35	0.040	0.04	235	370
	D	0.17	1.4	0.35	0.035	0.035	235	370
GB/T 1591-2009	A	0.20	1.7	0.5	0.035	0.035	345	470
	B	0.20	1.7	0.5	0.030	0.03	345	470
	C	0.20	1.7	0.5	0.030	0.03	345	470
BS EN10025	S235JR	0.17	1.4	-	0.035	0.035	235	360
	S275JR	0.21	1.5	-	0.035	0.035	275	410
	S355JR	0.24	1.6	-	0.035	0.035	355	470
DIN 17100	ST37-2	0.20	-	-	0.050	0.050	225	340
	ST44-2	0.21	-	-	0.050	0.050	365	410
	ST52-3	0.20	1.6	0.55	0.040	0.040	345	490
JIS G3101	SS400	-	-	-	0.500	0.500	235	400
	SS490	-	-	-	0.500	0.500	275	490
API 5L PSL1	A	0.22	0.9	-	0.030	0.03	210	335
	B	0.26	1.2	-	0.030	0.03	245	415
	X42	0.26	1.3	-	0.030	0.03	290	415
	X46	0.26	1.4	-	0.030	0.03	310	435
	X52	0.26	1.4	-	0.030	0.03	360	460
	X56	0.26	1.1	-	0.030	0.03	390	460
	X60	0.26	1.4	-	0.030	0.03	415	520
	X65	0.26	1.45	-	0.030	0.03	450	535
	X70	0.26	1.65	-	0.030	0.03	585	570

# WELDED STEEL PIPE

## SSAW STEEL PIPE

Spiral Welded Pipe is widely applied to the transportation for various of liquid and powdery solid, such as petroleum, natural gas, chemical, heat supply, gas supply, bittern, ore pulp, coal powder and etc. It also can be used as structural tube, engineering tube and the piling tube.

Standard	Grade
GB/T9711.1	L175, L210, L245, L290, L320, L360, L390, L415, L450, L485, L555
GB/T9711.2	L245NB, L245MB, L290NB, L290MB, L360NB, L360MB, L360QB, L415NB, L415MB, L415QB, L450MB, L450QB, L485MB, L485QB, L555MB, L555QB
SY/T5037	Q235B, Q345B
SY/T5040	Q235B, Q345B
API5L	A, B, X42, X46, X52, X56, X60, X65, X70, X80



Outer Diameter (mm)	Wall Thickness (mm)	Length (m)	Outer Diameter (mm)	Wall Thickness (mm)	Length (m)
219	6 - 8	1 - 12	1016	8 - 23	1 - 12
273	6 - 10	1 - 12	1020	8 - 23	1 - 12
325	6 - 14	1 - 12	1220	8 - 23	1 - 12
377	6 - 14	1 - 12	1420	10 - 23	1 - 12
426	6 - 16	1 - 12	1620	10 - 23	1 - 12
478	6 - 16	1 - 12	1820	10 - 25.4	1 - 12
508	6 - 18	1 - 12	2020	10 - 25.4	1 - 12
529	6 - 18	1 - 12	2200	10 - 25.4	1 - 12
610	6 - 19	1 - 12	2420	10 - 25.4	1 - 12
630	6 - 19	1 - 12	2620	10 - 25.4	1 - 12
720	6 - 22	1 - 12	2820	10 - 25.4	1 - 12
820	7 - 22	1 - 12	3000	10 - 25.4	1 - 12
920	8 - 23	1 - 12			



# ANTI-CORROSION OF STEEL PIPE

## ANTI-CORROSION PROCESSING ABOUT PIPELINE 3PE/PP

**STANDARD:** External coating refer to NF A49-71 0,DIN30670,CAN CSA21,CAN CSA20,SY/T0143,SY/T0315 and other country's external anti-corrosion standards;Internal coating refer to NF A49-709,API RP 5L2,SY/T0457 and other country's external anti-corrosion standards.

### **APPLICATION:**

The external coating is mainly used for anti-corrosion protection for liquid pipes before burying, and internal drag-reducing coating is mainly used for reduce the investment and maintenance costs.



### **Inner corrosion protection of steel pipes**

We offer inside corrosion protection for ON 100-700mm steel pipes. We coat inner wall of treated steel pipe with red oxide anticorrosive paint, bicomponent liquid epoxy paint or other paint designated by clients by means of centrifugal coating.

### **Outer corrosion protection of steel pipes**

#### **1. ( FBE ) Single-layer FBE coating**

Characterized by excellent corrosion-proof performance, insulatibity and relatively long service life, epoxy powder coating is one of the most advanced outer anticorrosive coating of pipeline, there are normal type and strengthened type, thickness: normal type:300-400 $\mu$ m;strengthened type:400-500 $\mu$ m.

#### **2. ( 2FBE ) Two-layer FBE coating**

Two-layer epoxy powder coating is a compound coating structure composed of anticorrosive epoxy powder floor layer and mechanical damage resistant epoxy powder surface layer. There are normal type and strengthened type. Thickness: total thickness of normal type: ~620 $\mu$ m;total thickness of strengthened type: ~800 $\mu$ m.

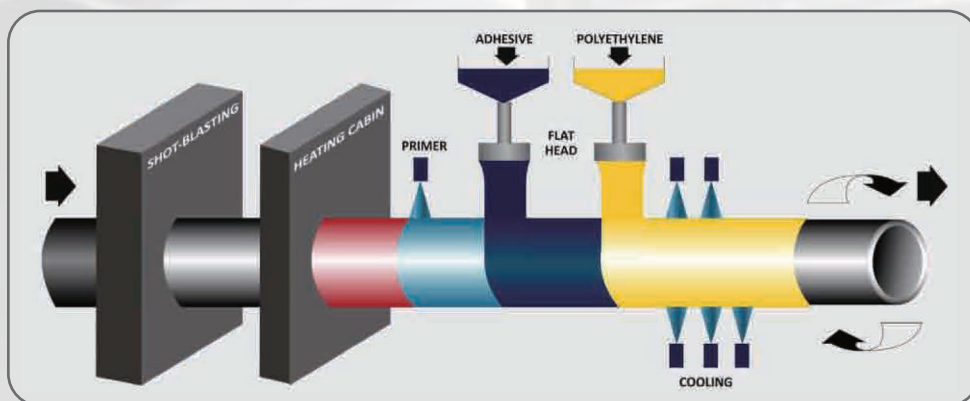
#### **3. ( 2PE/2PP ) Two-layer PE/PP cocating**

Two-layer PE/PP coating is characterized by excellent corrosion-proof performance,insulatibity, relatively long service life and mechanical damage resistance. There are normal type and strengthened type. The thickness varies with the specification shift of steel pipe; Min thickness of normal type: 1.8mm, min thickness of strengthened type:2.5mm.

#### **4. ( 3PE/3PP ) Three-layer PE/PP cocating**

Three-layer PE/PP coating is characterized by excellent corrosion-proof performance, ,insulatibity, relatively long service life and mechanical damage resistance.it is widely used in coating for all kinds of major pipeline engineering. There are normal type and strengthened type. The thickness varies with the specification shift of steel pipe: Min thickness of normal type: 1.8mm, min thickness of strengthened type:2.5mm.

# ANTI-CORROSION OF STEEL PIPE



## ♦ Thickness of 2PE/2PP/3PE/3PP External Coating

Nominal Diameter DN	Epoxy Coating/ $\mu\text{m}$	Adhesive Coating/ $\mu\text{m}$	Minimum Thickness of PE/PP Coating/mm	
			Common	Enhanced
DN $\leq$ 100	$\geq 120$	$\geq 170$	1.80	2.50
100<DN $\leq$ 250			2.00	2.70
250<DN<500			2.20	2.90
500 $\leq$ DN<800			2.50	3.20
DN $\geq$ 800			3.00	3.70

## ♦ Thickness of Two-Layer External FBE Coating

Coating Level	The Minimum Thickness/ $\mu\text{m}$	
	Bottom Layer	Enhanced
Normal Level	250	370
Reinforce Level	300	500

## ♦ Thickness of Single-Layer External FBE Coating

Coating Level	The Minimum Thickness/ $\mu\text{m}$
Normal Level	300
Reinforce Level	400

## ♦ Thickness of Internal FBE Coating

Pipe Operation Requirements	The Minimum Thickness/ $\mu\text{m}$	
Drap Reduction Pipeline	$\geq 50$	
Anti-corrosion Pipeline	Normal Level	$\geq 250$
	Reinforce Level	$\geq 350$

## ♦ Thickness of Liquid Epoxy Internal Coating

Anti-corrosion Level	Thickness of Dry Film/ $\mu\text{m}$
Normal Level	$\geq 200$
Reinforce Level	$\geq 300$
Extra-reinforce Level	$\geq 450$

# FLANGES AND PIPE FITTINGS

## FLANGES



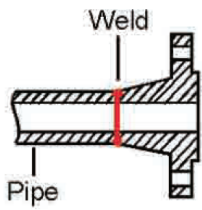
<b>Specification:</b>	GB/T 9112, GB/T 9125, GB/T 13402, ASME B 16.5, ASME B 16.47, ASME B 16.48, ASME B 16.36, API 590, API 605, EN 1092, EN 1759, BS 1560, BS 4504, ISO 7005, JIS B 2220.
<b>Steel Grade:</b>	20#, 25#, 35#, 16Mn, 20MnMo, 20MnMoNb, 15CrMo, 35CrMo, 12Cr1MoV, 14Cr1MoV, 12Cr2Mo, 11Cr5Mo, A105, A181, A350, A727, A182, A522, A707, A694.
<b>Outer Diameter:</b>	IF Flange: 3/8"~80"; BW Flange: 3/8"~160"; SO Flange: 3/8"~40"; PL Flange: 3/8"~80"; TH Flange: 3/8"~40"; SW Flange: 3/8"~30"; BL Flange: 3/8"~80".
<b>Nominal Pressure:</b>	IF Flange: PN2.5bar~ PN400bar, CLASS150~CLASS2500; BW Flange: PN2.5bar~ PN400bar, CLASS150~CLASS2500; SO Flange: PN6bar~ PN100bar, CLASS150~CLASS1500; PL Flange: PN2.5bar~ PN100bar; TH Flange: PN6bar~ PN100bar, CLASS150~CLASS1500; SW Flange: PN210bar~ PN100bar, CLASS150~CLASS1500; BL Flange: PN2.5bar~ PN100bar, CLASS150~CLASS1500.
<b>Connection Type:</b>	IF, SO, WN, PL, TH, SW, BL, BL(S), PJ/SE, PJ/PR
<b>Surface Type:</b>	IF Flange: FF, RF, MFM, TG, RJ; BW Flange: FF, RF, MFM, TG, RJ; SO Flange: FF, RF, MFM, TG, RJ; PL Flange: FF, RF; TH Flange: FF, RF; SW Flange: RF, MFM, TG, RJ; BL Flange: FF, RF, MFM, TG, RJ

## TYPE OF FLANGES

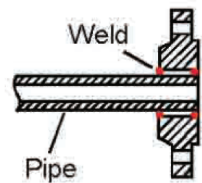




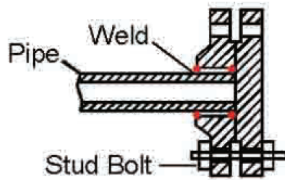
# FLANGES AND PIPE FITTINGS



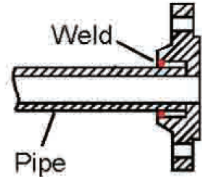
Weld Neck



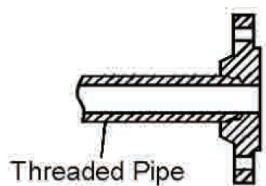
Slip On



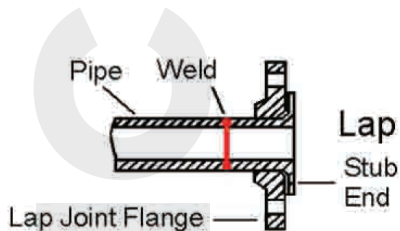
Blind



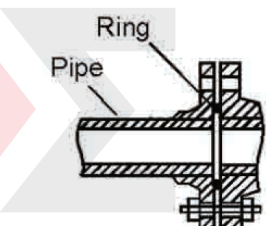
Socket Weld



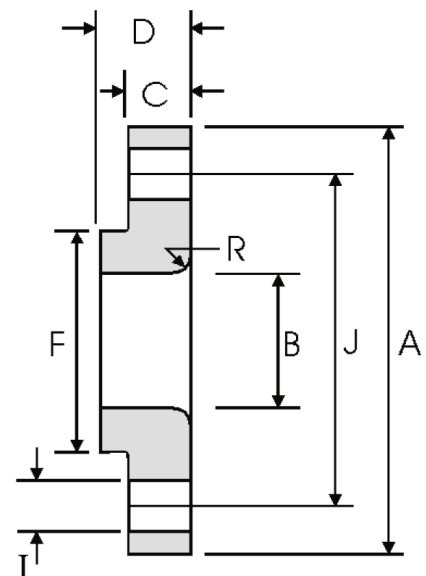
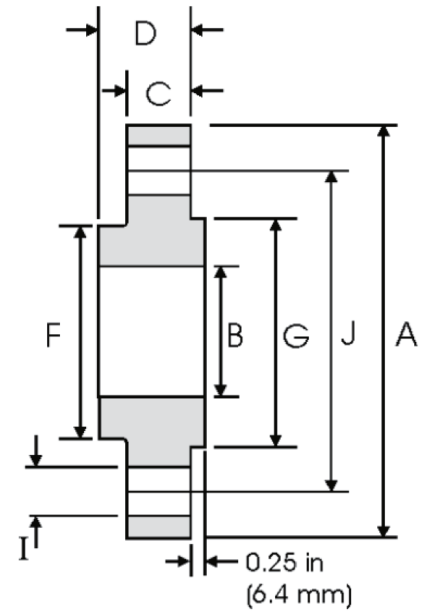
Threaded



Lap Joint



Ring Type Joint



# FLANGES AND PIPE FITTINGS

## PIPE FITTINGS



Pipe Fittings	Butt Welding Fittings	Forged Fittings
<b>Specification:</b>	GB/T 12459, GB/T 13401, GB/T 10752, ASME B 16.9, ASME B 16.49, ASME B 16.25, EN 10253, DIN 2605, DIN 2615, DIN 2616, DIN 2617, BS 1640, BS 1965, GOST 17375, GOST 17376, GOST 17378, GOST 17379, ISO 3419, ISO 5251, JIS B 2311, JIS B 2312, JIS B 2313	GB/T 14383, GB/T 19326, ASME B 16.11, BS 3799, JIS B 2316
<b>Steel Grade:</b>	10#, 20#, 20G, 20MnG, 09MnV, Q295, Q245R, Q195, Q215, Q235, Q275, Q345, Q345R, Q370R, 16Mn, 12CrMo, 15CrMo, 1Cr5Mo, 12Cr2Mo, 12CrMoG, 15CrMoG, 12Cr2MoG, 12Cr1MoVG, 15MoG, 20MoG, 18MnMoNbR, 13MnNiMoR, 15CrMoR, 14Cr1MoR, 12Cr2Mo1R, 12Cr1MoVR, A234 WPB, A234 WPC, A234 WP, A420 WPL, A860 WPHY, A758	20#, 25#, 35#, 16Mn, 20MnMo, 20MnMoNb, 15CrMo, 35CrMo, 12Cr1MoV, 14Cr1MoV, 12Cr2Mo, 11Cr5Mo, A105, A181, A350, A727, A182, A522, A707, A694
<b>Outer Diameter:</b>	Elbow: 1/2"~60"; Bend: 1/2~60"; Tee/Cross: 1/2"~60"; Reducer: 1/2"~60"; Cap/Lap: 1/2"~60"	Forged Elbow: 1/8"~4"; Forged Tee/Cross: 1/8"~4"; Forged Coupling/Cap: 1/8"~4"; Forged Nipolet: socket weldolet: 1/8"~4"; threadolet: 1/8"~4"; Weldolet: 1/8"~24"
<b>Wall Thickness/ Nominal Pressure:</b>	Elbow/Bend/Tee/Cross/Reducer /Cap/Lap: 4mm~200mm	Forged Elbow: socket welding-CLASS 3000, CLASS 6000, CLASS 9000, thread-CLASS 2000, CLASS 3000, CLASS 6000; Forged Tee/Cross: socket welding-CLASS 3000, CLASS 6000, CLASS 9000, thread-CLASS 2000, CLASS 3000, CLASS 6000; Forged Coupling/Cap: socket welding-CLASS 3000, CLASS 6000, CLASS 9000, thread-CLASS 3000, CLASS 6000; Forged Nipolet: socket weldolet-CLASS 3000, CLASS 6000; threadolet-CLASS 3000, CLASS 6000; weldolet-SCH XS, SCH 160
<b>Type:</b>	Elbow Bending Radius: R=1D~10D; Elbow Angle: 30°, 45°, 60°, 90°, 180°; Bend Bending Radius: R=3D~10D; Bend Angle: 0°~180°; Tee: straight tee/reducing tee; Reducer: concentric/eccentric	Angle of Forged Elbow: 45°, 90°






# PUDDLE PIPES AND SPECIAL FITTING





# OUR PROJECTS

NO	COMPANY NAME	PROJECT NAME	CAPACITY	PROJECT TYPE	SCOPE	
1	Metito	El Mahsama	1,000,000 m <sup>3</sup> /day	WWTP	Supply of Seamless Carbon Steel Pipes, Fittings, Rods & Bolts	
2	Hassan Allam	El Galala	15,000 m <sup>3</sup> /day	Irrigation	Supply of Carbon Steel Pipes & Fittings	
		TOUSKA	Infrastructure for project	Irrigation	Supply of Carbon Steel Pipes & Fittings	
		Assuit West	Infrastructure West Assuit	WTP	Supply of Carbon Steel Pipes & Fittings	
3	OC/HAC JV	East Port Saied	Infrastructure East Port Saied	Infrastructure	Supply of HDG Flanges & Bolts	
4	SDMO	El Mahala	70,000 m <sup>3</sup> /day	WWTP	Supply of Fuel Tanks	
		RailWay Station	From Banisuif to Alex.	Rail Way	Supply of Fuel Tanks	
5	Orascom	Port saied	250,000 m <sup>3</sup> /day	RO	Supply of SST. Pipes & Fittings 316L	
6	NGO's	El Sahrkia	30 m <sup>3</sup> /Day	PO	Supply, Install, Startup, Testing & commetioning	NGO's

# OUR TEAM

## PREVIUOS EXPERINCES

NO	COMPANY NAME	PROJECT NAME	CAPACITY	PROJECT TYPE	
1	Metito	October	400,000 m <sup>3</sup> /day	WTP	
		Gezeret El Dahab	150,000 m <sup>3</sup> /day	WTP	
		Subra El Kima	150,000 m <sup>3</sup> /day	WTP	
		Embaba	200,000 m <sup>3</sup> /day	WTP	
		El Tebbin	100,000 m <sup>3</sup> /day	WTP	
		Kissir Barage	150,000 m <sup>3</sup> /day	WTP	
		Ezbet El Tabout	20,000 m <sup>3</sup> /day	WWTP	
		El Fostat	200,000 m <sup>3</sup> /day	WTP	
		El Nubaria power station	25,000 m <sup>3</sup> /day	Potable, DIMI water, Potable water & WWTP	
2	CONCORD	El Galala	4 Pumping stations & Stratigic Bulk Storage	Pumping Stations	
3	BMW	October Factory	CKD & Production lines	Installation & supplying supports	
4	P&G	October Factory	Pampers ELITE production lines FF & HVAC	project mangment & site supervision	
5	PEPSICO	October Factory	Convaying systems	supply & install convayours for prodution lines	
6	SIEMENS	Zewail College	Infrastructure for college	Supply all fittings for infrastructure	



# WATER TREATMENTS



# OUR VENDORS

## PUMPS



## MEMBRANES



## CONTROL HEAD



## PRESSURE VESSEL



## ACTIVATED CARBON



## RESIN & MIXED BED



## BIRM & MANGANESE GREENSAND



## SPECIAL CHEMICALS



## UV SYSTEMS



# OUR PRODUCTS

**Design, supply, installation & maintenance of the following:**

- 1- Drinking BWRO or SWRO Water Treatment Systems
- 2- Industrial Wastewater Treatment Plants
- 3- Immediate Separation System for STP
- 4- Oil/Water Separation System DAF
- 5- Electrocoagulation/Oxidation System
- 6- Electro-Dialysis Systems
- 7- Water Softening Systems, Iron & Manganese Removal Systems
- 8- Chemical Processing Systems for (Boilers, Chillers & Cooling Towers)
- 9- Water Injection Systems for Oil & Gas reservoir
- 10- Water Sterilization Systems for bacteria, viruses, fungi and algae using UV or OZONE
- 11- Odor Control Systems

## PORTABLE RO SYSTEMS



## OUR PRODUCTS

### COMMERCIAL RO SYSTEMS (10-50 M<sup>3</sup>/ DAY)





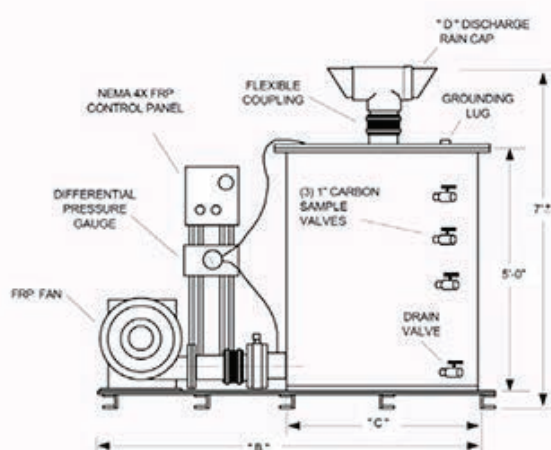
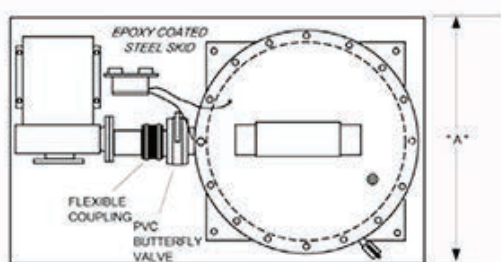
# OUR PRODUCTS

## INDUSTRIAL WATER TREATMENT SYSTEMS (50-2000M3/DAY)



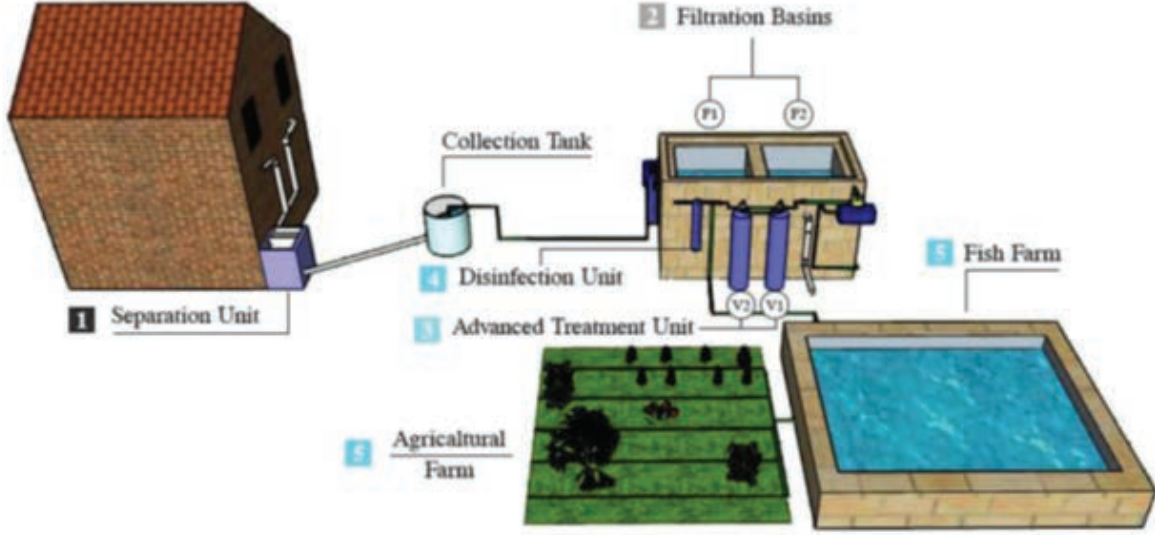
# OUR PRODUCTS

## ODOR CONTROL SYSTEM



## OUR PRODUCTS

### IMMEDIATE SEPARATION SYSTEM FOR STP



نظام المعالجة الفوري يعتمد على وحدة الفصل الفورية السريعة لمعالجة مياه الصرف الصحي للمباني السكنية في المناطق المحرومة من خدمات الصرف الصحي والمواقع الصحراوية لشركات البترول وهو مشروع للتنمية المستدامة من خلال إدارة منظومة معالجة مياه الصرف الصحي الناتج من المباني السكنية الضخمة لتحويل جميع المخلفات إلى عدة منتجات أخرى (مياه يعاد استخدامه لري المسطحات الخضراء أو في إنشاء المزارع السمكية - فيرم كمبوست - غاز حيوي أو (بيوجاز - وقود حيوي جاف



## OUR PRODUCTS

### INDUSTRIAL WASTEWATER & STP SYSTEMS



# OUR PROJECTS

- 1-EMC Badr City Complex (Water Tanks – Welding Gas Refill)
- 2-Tanmia Petroleum Company (Offer for Rental Water Re-Injection Plant)
- 3-Alex West Rehabilitation for Sewage Water Treatment 2400m<sup>3</sup>/day
- 4-Elgamiya Elshariya 22No's of BWRO Plant 24m<sup>3</sup>/day
- 5-Up Town Cairo Odor Control System
- 6-Elnisr Battery Rehabilitation for BWRO Water Treatment 60m<sup>3</sup>/day
- 7-UNI SHAM Rehabilitation for BWRO Water Treatment 24m<sup>3</sup>/day
- 8-High Dam Immediate Separation System
- 9-Venus Hawamdia BWRO Plant
- 10-PEPSICO October Environmental Study for Wastewater Station 3000m<sup>3</sup>/day
- 11-PEPSICO Amreya Environmental Study for Wastewater Station 1950m<sup>3</sup>/day
- 12-PEPSICO Menya Environmental Study for Wastewater Station 1000m<sup>3</sup>/day
- 13-PEPSICO Tanta Environmental Study for Wastewater Station 3600m<sup>3</sup>/day
- 14-CHIPSY Asiut Environmental Study for Wastewater Station 2000m<sup>3</sup>/day
- 15-Fagnoun Immediate STP Separation System 15m<sup>3</sup>/day
- 16-Badrasheen Immediate STP Separation System 15m<sup>3</sup>/day
- 17-Government Services Complex in Menya Immediate STP Separation System 36m<sup>3</sup>/day
- 18-Hydraulics Research Institute Immediate STP Separation System 20m<sup>3</sup>/day
- 19-Mansafees Village in Menya Immediate STP Separation System 40m<sup>3</sup>/day



وزارة الإسكان والمرافق والتنمية العمرانية  
مبنى الخدمات المركزية الجديدة  
جهاز مدينة القدس  
إدارة الطرق والمرافق

السادة / الهيئة القومية لمياه الشرب و الصرف الصحي  
(إدارة الإختبارات)

تحية طيبة وبعد،،،

بالإشارة إلى مشروع أعمال البنية التحتية لتجميع الصرف الصحي غرب أسيوط (مدينة نصر) والمعلقة به شركة أبناء حسن الكريزي، ST137 المشمولة بإسفل التوربوت رقم 101/395-396-397/11 و الواردة من إيفيكال الهندسية للمصنعين و

برجاء من سديكم الكرم بإجراء الإختبارات اللازمة واستصدار شهادات إقبيل لوصفات الحطبات من المسلب

المقاولات المتكاملة.

وتفضلوا بقبول وافر التقدير والاحترام،

رئيس الجهاز  
المهندس / ياسر عبد الله رمضان  
2017/09/06

البريد الإلكتروني: assit.newurban@yahoo.co

الهاتف: 2210038 - 2210037 - 088/2210034 - 2210037  
فاكس: 2210037 - 2210038 - 088/2210034



ANHUI GUOZHEN GROUP CO., LTD.(GZE)

安徽国祯集团股份有限公司

ANHUI ZHENZHIXIN INTERNATIONAL TRADE CO., LTD.

安徽镇之信国际贸易有限公司

Address: Guozhen Building, No. 91 Kexue Avenue,

Hi-tech District, Hefei City, Anhui, China

Tel: +86 551 6531 1621 Fax: +86 551 6531 1673

## LETTER OF AUTHORIZATION

### 授权书

January 9th, 2020

Engineering for Metals & Integrated Contracting (EMIC)

Mr. Mohammed Nabil

Co-Founder & GM

1226 Central St. 1<sup>st</sup> District, 6<sup>th</sup> of October City, Egypt

Tel/Fax: +202 382899

Cell Phone: +201 006673863

Email: mnabil@emicegypt.com

Dear Sir/Madam,

ANHUI ZHENZHIXIN INTERNATIONAL TRADE CO., LTD. is wholly-owned subsidiary in charge of import and export of projects and equipment under ANHUI GUOZHEN GROUP CO., LTD.(GZE), which is one of Chinese leading and World TOP 40 largest water affairs corporation with full Qualifications and Proprietary Technologies in municipal and industrial wastewater treatment projects.

This is to authorize Engineering for Metals & Integrated Contracting (EMIC) with the registered address and responsible person written in this Letter, is Agent of ANHUI ZHENZHIXIN INTERNATIONAL TRADE CO., LTD. in Egypt for industrial wastewater treatment related issues. This Letter will remain valid for ONE year from the signature date and any issues and decisions made by the Agent in the name of the Authorizer shall get prior consent from the Authorizer/ANHUI ZHENZHIXIN INTERNATIONAL TRADE CO., LTD.) in writing. The Authorizer shall bear no liabilities for the matters without due authorization, and is entitled to cancel or withdraw the Authorization herein in case of lawful right and interests being infringed by the Agent.

Signature & Seals

Representative:

Signing Date:

2020.1.9



Project No.: E18116-03005 East Port Said Industrial Area Infrastructure	Employer: Ministry of Defence and Military Production Army Engineers Authority Military Engineers Department	Request No. MR-BH-IND-MECH-0046-00
Engineer: 15 JUN 2020 Date: 15/6/2020	Contractor: AL BAHAA CONTRACTING	

<b>Submission for Approval of Materials</b>	
1. Material description (one item only on this form) : <b>Hot deep galvanized Steel Flanges</b>	
Area of application :	Valves Chambers
Drawing ref. :	N/A
Specification Ref. :	B.O.Q. Ref. No. : N/A
Standards :	N/A
Attach all relevant technical literature marked to identify relevant description, current Test Certificates, samples as appropriate.	
2. <b>Manufacturer / supplier</b> Company Name : <b>Emic (Engineering for metals &amp; Integrated Contracting)</b> Address : Local Agent :	
3. <b>Delivery :</b> Country of origin : Availability : <input checked="" type="radio"/> Locally Manufactured <input type="radio"/> Overseas	
Delivery :	Ex-works/ total duration : [ ] Estimated time of arrival on site : [ ] Date material required on site : [ ] Latest date for order : [ ]
Program :	

We certify that the above submitted items have been reviewed in detail and are correct and in strict conformity with the contract drawings and specifications except as otherwise stated; also that the material sources indicated above have been reviewed in detail and that they will supply the submitted items in conformity with the above and deliver same timely.

Submitted by Eng / Karim Waidan  
Signature : *[Signature]*  
Eng / Ahmed Shawkly  
Signature : *[Signature]*

4. Engineer's Representative comments:	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved as noted <input type="checkbox"/> Revise and resubmit <input type="checkbox"/> Rejected <input checked="" type="checkbox"/> Sample required <input checked="" type="checkbox"/> Tests required <input checked="" type="checkbox"/> Additional information required <input checked="" type="checkbox"/> Manufacturer's guarantee required
--	--

*\* Refer to attached Comments in A4 Sheet.*

Signature : *[Signature]* Date: 22/6/2020

Approval shall not relieve Contractor of his liabilities under the Contract or constitute authorization of any change to Contract Documents.

SH-SS-02(F26) REV.0

Project No.: E18116-03005 East Port Said Industrial Area Infrastructure	Employer: Ministry of Defence and Military Production Army Engineers Authority Military Engineers Department	Request No. MR-BH-IND-MECH-0047-00
Engineer: 15 JUN 2020 Date: 14/6/2020	Contractor: AL BAHAA CONTRACTING	

<b>Submission for Approval of Materials</b>	
1. Material description (one item only on this form) : <b>Hot deep galvanized Bolts, Nuts and Washers</b>	
Area of application :	Valves Chambers
Drawing ref. :	N/A
Specification Ref. :	B.O.Q. Ref. No. : N/A
Standards :	N/A
Attach all relevant technical literature marked to identify relevant description, current Test Certificates, samples as appropriate.	
2. <b>Manufacturer / supplier</b> Company Name : <b>Emic (Engineering for metals &amp; Integrated Contracting)</b> Address : Local Agent :	
3. <b>Delivery :</b> Country of origin : Availability : <input checked="" type="radio"/> Locally Manufactured <input type="radio"/> Overseas	
Delivery :	Ex-works/ total duration : [ ] Estimated time of arrival on site : [ ] Date material required on site : [ ] Latest date for order : [ ]
Program :	

We certify that the above submitted items have been reviewed in detail and are correct and in strict conformity with the contract drawings and specifications except as otherwise stated; also that the material sources indicated above have been reviewed in detail and that they will supply the submitted items in conformity with the above and deliver same timely.

Submitted by Eng / Karim Waidan  
Signature : *[Signature]*  
Eng / Ahmed Shawkly  
Signature : *[Signature]*

4. Engineer's Representative comments:	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved as noted <input type="checkbox"/> Revise and resubmit <input type="checkbox"/> Rejected <input checked="" type="checkbox"/> Sample required <input checked="" type="checkbox"/> Tests required <input checked="" type="checkbox"/> Additional information required <input checked="" type="checkbox"/> Manufacturer's guarantee required
--	--

*\* Refer to attached Comments in A4 Sheet.*

Signature : *[Signature]* Date: 22/6/2020

Approval shall not relieve Contractor of his liabilities under the Contract or constitute authorization of any change to Contract Documents.

SH-SS-02(F26) REV.0











**Contact us:**



**0100 66 73 863**



**[www.emicegypt.com](http://www.emicegypt.com)**