

# PREQUALIFICATION STATEMENTS



## FOREWORD

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SeAH Steel Corp. established the local manufacturer at Ras Al Khaimah, UAE and commenced 1st production from March, 2011. It names SeAH Steel UAE LLC.

We, SeAH Steel UAE LLC, have faithfully carried out the projects improving our quality and internal management so far, as one of the member of energy developer.

Above all, we have identified the fundamental characteristics of steel product through the regular technical interchange with the raw material suppliers.

Moreover, we are accelerating the technical development to meet the customer's demands which require high corrosion resistanced product with high intense quality, especially in this region.

Of course, we try to do our best to manufacture the best products with perfect quality, having all NDT testers & inspection equipments that specially required in Sour Serviced or heat treated pipes.

On the basis of accumulated technology and know-how of SeAH Steel Corps (Est. 1960), SeAH Steel UAE has been performing a large number of projects through the cooperation with all global companies in Middle East & Africa area.

We promise to approach the customers with more qualified and well managed system, and will be the honest company respecting your voice forever.

**Managing Director & C.E.O**

SeAH Steel UAE, LLC

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## COMPANY PROFILE



- Brief History
- Address
- Organization Chart
- Personnel Status
- Capital
- Plant Sites
- Bank Reference
- Parent Company
- Global Office & Plant



## BRIEF HISTORY



Year	Month	Contents
1960	10	SeAH Steel Corp. Foundation
2010	4	SeAH Steel UAE LLC Construction
2011	2	SeAH Steel UAE LLC Completion
2011	5	API 5L Monogram / ISO9001 Quality Assurance System Certificate acquirement
2012	5	API 2B Monogram
2013	5	API 5L Monogram J / H
2014	11	OHSAS 18001 / ISO14001
2015	6	C.E Marking Certification
2018	4	ICV Certified UAE Local Manufacturer
2018	11	Approval of Manufacturer DNV
2024	11	ISO/IEC 17025

## ADDRESS

### SeAH Steel UAE Plant

**Address** Al Ghail Industrial Park,  
Ras Al Khaimah, UAE

**PO Box** 14576

**Telephone** +971-7-258-9440~2

**FAX** +971-7-258-9446

**Hoempage** [www.seahuae.com](http://www.seahuae.com)

**E-mail** [ssuae@seah.co.kr](mailto:ssuae@seah.co.kr)

### Sales Office

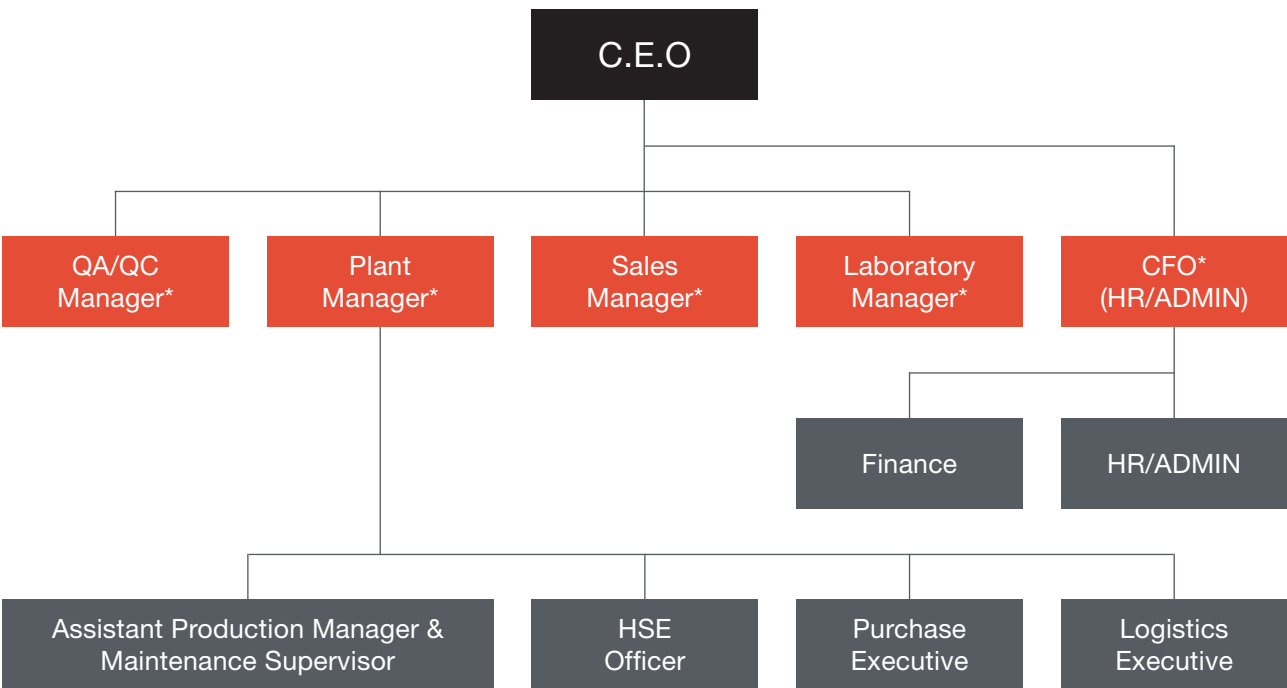
**Address** Office No. 703, JAZFA VIEW 18,  
Jebel Ali, Dubai, UAE

**PO Box** 263476

**Telephone** +971-4-884-1624

**FAX** +971-4-884-1625

# ORGANIZATION CHART



\* key personnel for implementation of QMS

# PERSONNEL STATUS

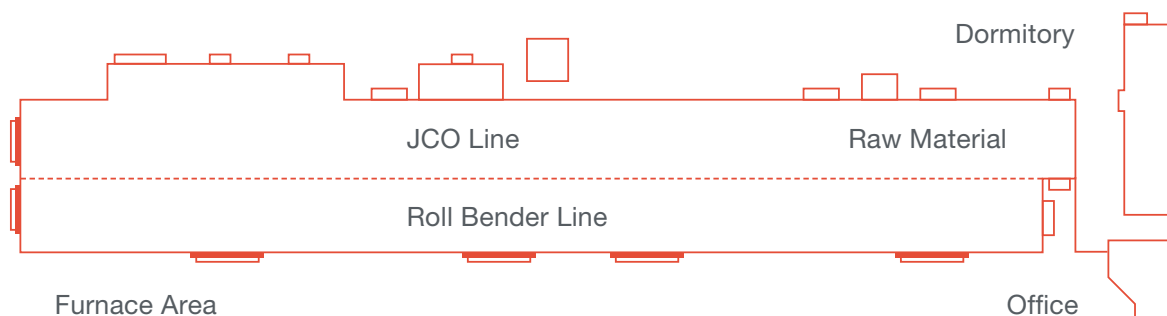
C.E.O	1
ADMINISTRATORS & ENGINEERS	3
- Quality Engineer (Welding & Quality System Control)	11
- Mechanical Engineer (Machine Design and Maintenance)	1
- Electric and Automation Engineer	1
- Welding Engineer	2
- Finance Investment Counselor	2
STAFF	8
SALES	4
TECHNICIAN (Welder / NDT Inspector / Machine Operator)	98
OTHERS	5
<b>TOTAL</b>	<b>136</b>

## CAPITAL



AUTHORIZED CAPITAL	AED 1,000,000
PAID IN CAPITAL	USD 43.8 Million
TOTAL ASSET	USD 44.1 Million

## PLANT SITES



Pipe Storage Area (Storage Capacity = 20,000Ton)

Ras Al Khaimah Factory (Total Area)	127,157m <sup>2</sup>
Factory (Building)	21,200m <sup>2</sup>
Office (Building)	796m <sup>2</sup>

## BANK REFERENCE

### KEB HANA BANK ABU DHABI (AED/USD ACCOUNT)

Address	PO BOX 32932, UNIT M1, MEZZANINE FLOOR, CI TOWER, 32 STREET, AL BATEEN, W10, ABU DHABI, U.A.E
Telephone	+971-2-681-7188
Fax	+971-2-681-7187

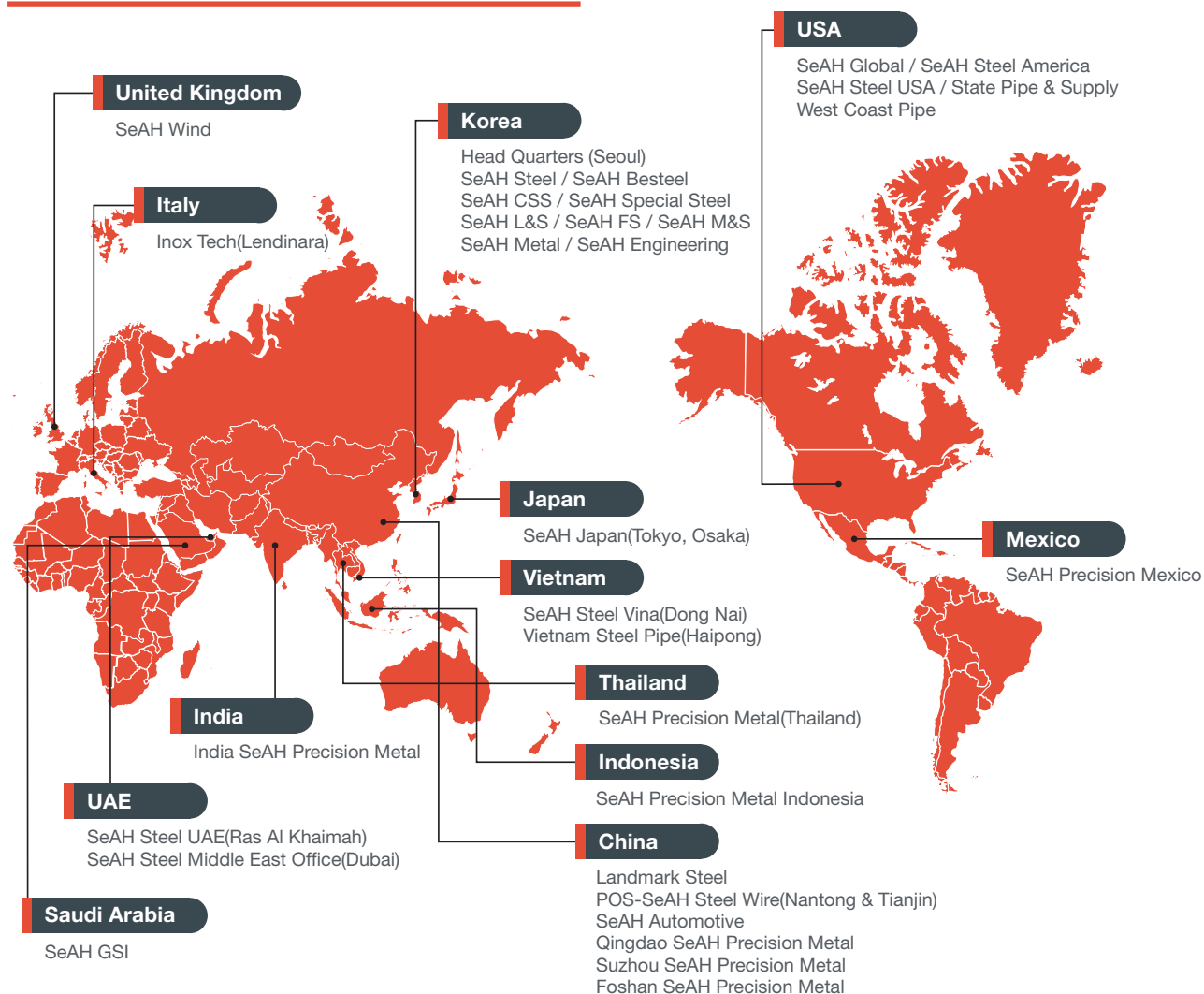
## PARENT COMPANY



### SeAH Steel Corp.

Product	Carbon & Stainless Steel Pipe
Head office	SeAH Tower, 45, Yanghwa-ro, Mapo-gu, Seoul, Korea
Telephone	+82-2-6970-1000
Facsimile	+82-2-6970-1199
PLANT	Pohang Plant (Carbon Steel Pipe) Gunsan Plant (Carbon Steel Pipe) Suncheon Plant (Stainless & Carbon Steel Pipe) Changwon Plant (Stainless Steel Pipe)
Office	Pusan, Gwangju, Daegu

## GLOBAL OFFICE & PLANT



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**SeAH Steel America, Inc. (SSA)**

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Business	Import, Distribute and Wholesale of Pipe and Tube (USD 300 Million) / Year
Address	2100 Main St. Suite 100, Irvine, USA
Telephone	+1-949-655-8000
Facsimile	+1-949-655-8030
Office	Houston Branch

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**State Pipe & Supply Corp.**

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Product	Carbon Steel Pipe and Coating Facility
Address	9615 S. Norwalk Blvd, Suite B, Santa Fe Springs, CA 90670, USA
Telephone	+1-562-695-5555
Facsimile	+1-562-692-1054

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**SeAH Steel USA (SS USA)**

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Product	OCTG Manufacturing & Processing
Address	16952 Leonard Road, Houston, Texas 77049
Telephone	+1-832-734-0080
Facsimile	+1-832-734-0081

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**SeAH JAPAN CO, Ltd.**

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Business	Import, Distribute and Wholesale of Pipe and Tube
Address	Bonhori Man Bldg 7F, 4-8, 3-Chome, Shimbashi, Minato Ku Tokyo 105, Japan
Telephone	+81-3-3501-1347
Facsimile	+81-3-3501-1387

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**VIETNAM PIPE CORP.**

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Product	Carbon Steel Pipe
Address	Km 9, Vat Cash, Hong Bang District1, Haiphong City, Vietnam
Telephone	+84-318-50116
Facsimile	+84-318-50144

### SeAH Steel VINA CORP.

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Product	Carbon Steel Pipe
Address	No. 7 Street 3A, Bien Hoa Industrial zone, Dong Nai Vietnam
Telephone	+84-61-833733
Facsimile	+84-61-833734

### SeAH Steel Beijing Office

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Product	Import, Distribute and Wholesale of Pipe and Tube
Address	Room02A, 12B Layer, Beijing Boya International Center No.1, Lizezhongyi Road, Wangjing Chaoyang District, Beijing, China. 100102
Telephone	+86-10-6474-1881
Fax	+86-10-6474-5882

### SeAH Steel Middle East Office

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Product	Import, Distribute and Wholesale of Pipe and Tube
Address	P.O BOX 263476, 180703, JAFZA VIEW 18&19, Jebel Ali Freezone, Dubai, UAE
Telephone	+971-4-884-1624
Fax	+971-4-884-1625

### INOX TECH

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Product	Stainless Steel Pipe, Duplex and Clad
Address	Via Aldo Moro 10/c, 45026, Lendinara, Italy
Telephone	+39-425-605-400
Fax	+39-425-605-499

### SeAH Wind

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Product	Manufacturing of Monopiles
Address	Middlesbrough, North Yorkshire, United Kingdom
Telephone	+44 1642 130060

### SeAH GSI

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Product	Manufacturing/Distribution of Stainless steel seamless pipes
Address	Al Khobar, Saudi Arabia

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**STATEMENT OF  
SUPPLY EXPERIENCE**



## STATEMENT OF SUPPLY EXPERIENCE



COUNTRY	CLIENT	PROJECT	SPEC/SIZE	DELIVERY
UAE	TAKREER	Ruwais Refinery Expansion PKG #3	A671 Gr.CC65 (CL22/32) 20" ~ 56" A671 Gr.CC65 (CL22/32) 58" ~ 120"	May. 2011~ Mar. 2012
UAE	ADGAS	IGD DAS ISLAND	EN 10225 S355 (G3~G8+N/M) 20" ~ 30"	May.~Jun. 2012
UAE	ENOC	Falcon for Bulk Terminal Jet Fuel Pipeline	API 5L Gr.B (PSL2) 24" ~ 36"	May. 2012
OMAN	OXY	Mukhaizana PKG #2	API 5L Gr.B (PSL1) 24" ~ 34"	Jun.~Dec. 2012
KSA	SEC	Qurayyah Combined Cycle Gas-fired IPP	API 2B ASTM A672 CC70 30", 40"	Aug. 2012
IRAQ	SOC	Water Treatment	API 5L Gr.B (PSL1) 18" ~ 40"	Oct. 2012
KSA	Royal Commission	Expansion of Fuel & Feedstock Pipeline	API 5L Gr.X60 (PSL2) 24"	Jan. 2013
KSA	ARAMCO (McDermott)	Offshore Safaniya Oil Field Phase II	API 2B (2H 50) 24"	Apr. 2013
IRAQ	BP	Rumaila Oil Field Expansion	API 5L Gr.B (PSL2) 36"	May. 2013
KUWAIT	KOC	Wara Pressure Maintenance	API 5L Gr.B (PSL1) 22" ~ 42"	Jun. 2013
UAE	TAKREER	Carbon Black & Delayed Coker	A671 Gr.CC65 (CL22/32) 20" ~ 120" (Inc. Sour 21MT)	May. 2013~
IRAQ	SOC /PETRONAS	Garraf Oil Field Final Development	A671 Gr.CC65 CL22 API 5L Gr.B (PSL1) 18" ~ 40"	Jul. 2013
KSA	SEC	Qurayyah Combined Cycle Gas-fired IPP	ASTM A134 78", 108"	Jul. 2013
NIGERIA	TOTAL	OML 58 Gas Pipeline	A671 Gr.CC65 CL22 30", 48"	Oct. 2013
IRAQ	SOC	Zubair Oil Field	A671 Gr.CC65 CL22 (SOUR Service) 32"	Oct. 2013
QATAR	QEWEC	Ras Abu Fontas Desalination plant	API 5L Gr.B (PSL1) 22", 32"	Oct. 2013
UAE	Dubai Municipal	Business Bay#1 & #2 District Cooling Plants	API 5L Gr.B (PSL1) 28" ~ 64"	Nov. 2013~ Jan. 2014
INDIA	ONGC	C-Series Offshore	API 2B (2H 50Z, DH36) 20" ~ 66"	Dec. 2013
UAE	Dubai Petroleum	Jalilah B Offshore Field Development	API 2B (2H Gr.50) 20" ~ 46"	Apr. 2014
UAE	ADWEA/ AADC	Construction of New Bulk Connection	API 5L Gr.B (PSL2) 24", 32"	Jun. 2014
IRAQ	Oil Pipeline Company	Tank Farm	API 5L Gr.X60/B (PSL2) (SOUR Service) 28" ~ 36"	Jun.~Jul. 2014
QATAR	Qatar Government	Khalifa Stadium Expansion	EN 10219-1 18" ~ 44"	Jan. 2015
UAE	RTA	Nas Arena Stadium	EN 10210 20" ~ 32"	Feb. 2015
UAE	Dubai Petroleum	Rashid C Offshore Platform	API 2B (2H-50) 36"	Feb. 2015

COUNTRY	CLIENT	PROJECT	SPEC/SIZE	DELIVERY
Trukmenistan	Government	Gas Pipeline	API 5L Gr.B (PSL2) 30"	Mar. 2015
KSA	KSA CHEVRON	WAFRA	API 5L Gr.B (PSL1) 26"	Apr. 2015
UAE	Port of Fujairah	VTTI Terminal	API 5L Gr.B (PSL1) 20" ~ 38"	May. 2015
UAE	Port of Fujairah	VLCC Jetty	API 5L Gr.B (PSL2) 24" ~ 40"	May. 2015
IRAQ	SOC	Rehabilitation Of Iraq South Gas	API 5L Gr.B (PSL1) 30" ~ 36"	Jun. 2015
QATAR	ISF	Development of ISF Camp	API 5L Gr.B (PSL1) 20" ~ 36"	Jul. 2015
KSA	AIR PRODUCT	JAZAN IGCC	API 5L Gr.B (PSL1) A671 Gr.CC60 (CL22) 18" ~ 120"	Oct. 2016
U.K.	SCOTTISH POWER	EAST ANGLIA ONE (OFFSHORE WIND FARM)	BS EN 10225/10025 32" ~ 64"	May. 2017
UAE	INVESTMENT CORP. OF DUBAI (ICD)	ICD TOWER PJT	BS EN 10210-1 S355J2H 20" ~ 46"	Jun. 2017
UAE	EMAAR	DUBAI HILLS	API 5L GR.B (PSL1)" 32" ~ 48"	Sep. 2017
UAE	EMAAR	DUBAI CREEK HARBOUR	API 5L GR.B (PSL1) 18" ~ 56"	Oct. 2017
KSA	KAFD	KAFD	EN10210-1 26"	Dec. 2017
UAE	ADNOC	EURO MECHANICAL	A671 CC65 CL22 30" ~ 48"	Jun. 2018
Kazakhstan	InoxTech	KPC gas	A671 CC60 CL22 20" ~ 24"	Sep. 2018
UAE	ADNOC	BU HASEER FIELD DEVELOPMENT	API 2B 18" ~ 54"	Oct. 2018
KSA	SEC	SEC processing plant	A671 CC65 CL22 18" ~ 36"	Nov. 2018
UAE	ADNOC	BIFP Project	A672 C65 CL22 28" ~ 42"	Jul. 2019
UAE	ADNOC	EURO MECHANICAL	A671 CC65 CL22 30" ~ 48"	Jun. 2018
UAE	ADNOC	CFP	A671 CC65 (CL-22/32) 32" ~ 64"	Jan. 2019
U.K.	MOWEL	Moray Firth Offshore Wind Farm	EN10225/EN10025 22" ~ 65"	Jun. 2019~ Mar. 2020
U.K.	Seaway 7	Seagreen Offshore Wind Farm	EN10225/EN10025 770 ~ 1620mm	Aug. 2020~ May. 2021
UAE	ADNOC	M	A671 CC65 A672 C65 CL32 26" ~ 48"	Aug. 2021
UAE	BOROUGE	CCW PP Upgrade B3 Plant Project – BOROUGE	A671 CC65 CL32 API 5L Gr.B PSL1 20" ~ 108"	Aug. 2021
UAE	ADNOC	MOL 1.2 & 3.5 Piping Bulk A	A671 CC65 CL22 A672 C65 CL22 30" ~ 48"	Nov. 2021
UAE	ADNOC	BELBAZEM development	API 2B 20" ~ 1,287mm	Dec. 2021

COUNTRY	CLIENT	PROJECT	SPEC/SIZE	DELIVERY
UAE	FOT	Fujairah Oil Terminal	API 5L Gr.BM (PSL2) 24" ~ 48"	Feb. 2022
IRAQ	MARUBENI	IRAQ OCTG	API 5L GR.X52(PSL1) 30"	Jul. 2022
KSA	SWCC	Jubail to Eastern Province Water Transmission System	API 5L X42M (PSL2) 100"	Aug. 2022
TURKIYE	STEEL TRADE	KUZEY MARMARA	A671 CC5 CL32 18" ~ 24"	Sep. 2022
BAHRAIN	PERMA PIPE	BBUP	API 5L GR.B (PSL1) 24" ~ 40"	Nov. 2022
OMAN	OQ	RICH & LEAN GAS SEGREGATION	A671 CC65 CL22 30" ~ 36"	Nov. 2022
UAE	ADNOC	DALMA DEVELOPMENT	API 2B 24" ~ 60"	Nov. 2022
UAE	ADNOC	UMM SHAIK	API 2B 26" ~ 56"	Dec. 2022
EGYPT	MRC GLOBAL	494-AHN-2022 Egypt	API 2B 590mm ~ 1,500mm	Jan. 2023
INDIA	GCPL	Permanent Piles of GCPL	API 2B 1500mm	Jan. 2023
KSA	SWCC	Abdullah Ibrahim Al Zamil	API 5L GR.B (PSL1) 32" ~ 60"	Apr. 2023
VENEZUELA	PETSA	PROCESSING PLANT	API 5L GR.B (PSL1) A671 CC65 CL13 & 23 18" ~ 48"	May. 2023
UAE	ADNOC	NMGL	API 2B 20" ~ 60"	Aug. 2023
OMAN	PDO	PDO PROJECT	ASTM A671 A672 CC65 CL22 28" ~ 32"	Sep. 2023
KSA	ARANER	DCP	API 5L GR.B (PSL1) 44" ~ 52"	Dec. 2023
IRAQ	SOC	WEST QURNA	API 2B 24" ~ 60"	Mar. 2024
UAE	ADNOC	HAIL & GHASHA SUBSEA	API 2B 20" ~ 60"	Sep. 2024
UAE	ADNOC	WEP	API 5L GR.X65MS (PSL2) 48"	Nov. 2024
UAE	ADNOC	MOL	API 5L GR.X60MS (PSL2) 36"	Jul. 2025



## PLANT DESCRIPTIONS



- Pipe Manufacturing Equipment
- Product List
- Size Availability

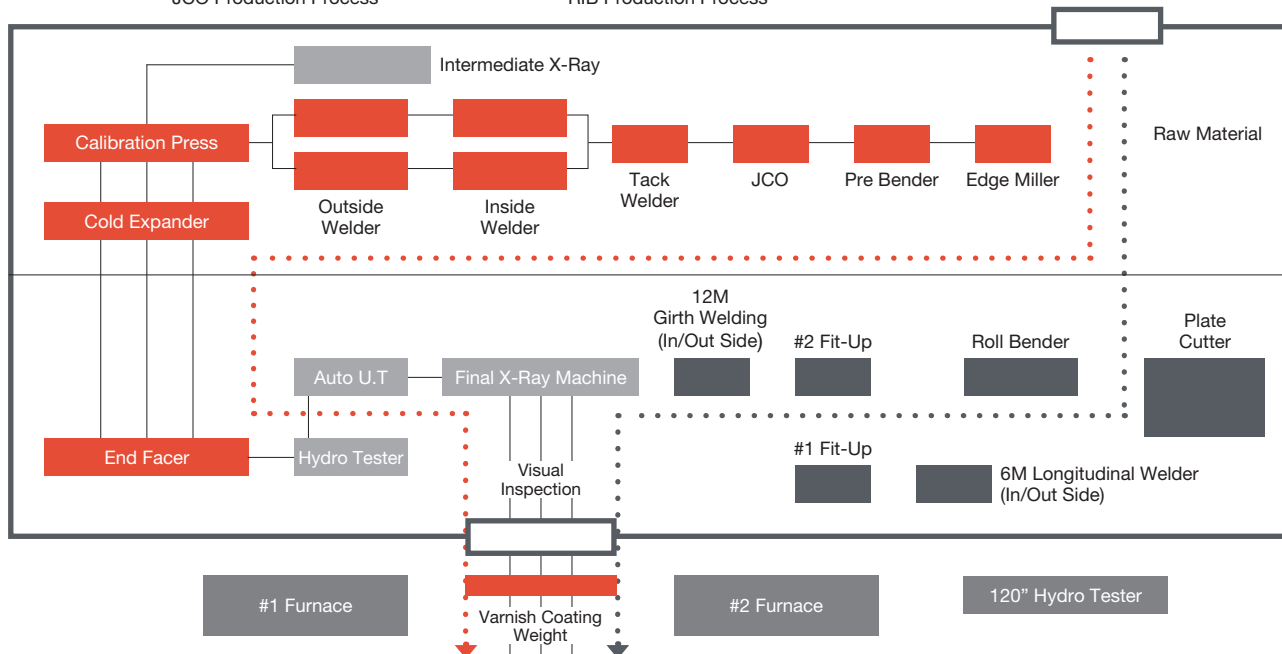


# PIPE MANUFACTURING EQUIPMENT






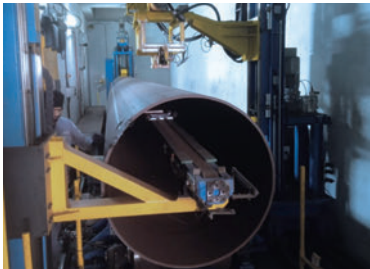

## ● Illustration Manufacturing Facility Layout

..... JCO Production Process      ..... RIB Production Process



## ● JCOE Line Process

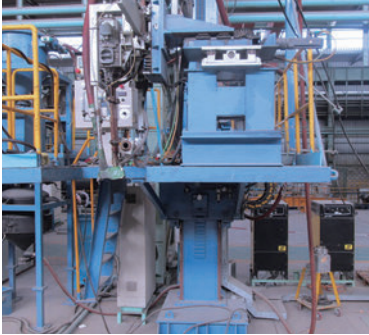


Process Step	Process Detail	Key Equipment
EDGE MILLER	<ul style="list-style-type: none"> <li>- Prepare edge for the welding process with two rotate head</li> <li>- Root face = 3mm ~ 5mm</li> <li>- Outside angle = 27°</li> <li>- Inside angle = 32°</li> </ul>	<ul style="list-style-type: none"> <li>- Double head type</li> <li>- Edge shape : X.Y</li> <li>- Length : 6.0 ~ 12.8 m</li> <li>- Thickness : Max. 60mm</li> <li>- Width : 1,200 ~ 5,300mm</li> <li>- Weight : 26 Ton</li> <li>- Maker : SEOKWANG (KOREA)</li> </ul>
PRE BENDER	<ul style="list-style-type: none"> <li>- Put into the place between top tool and bottom tool will bend the plate under designed diameter</li> <li>- All of process is controlled by CNC with electro- Hydraulic servo bending system</li> </ul>	<ul style="list-style-type: none"> <li>- Forming Type : Edge bending (both side)</li> <li>- Capacity : 12,500KN</li> <li>- Length : 6.0 ~ 12.8 m</li> <li>- Width : 1,566 ~ 4,264mm</li> <li>- Thickness : Max. 60mm</li> <li>- Maker : YSD (CHINA)</li> </ul>
PRESS BENDER	<ul style="list-style-type: none"> <li>- The die width and tool (Upper) press length is resultant of the diameter and coil strength</li> <li>- All of process is controlled by CNC with electro- Hydraulic servo bending system</li> </ul>	<ul style="list-style-type: none"> <li>- Forming Type : JCO air bent pressing type</li> <li>- Capacity : 65,000 KN</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Thickness : Max. 60mm</li> <li>- Out diameter : 18" ~ 64"</li> <li>- Maker : YSD (CHINA)</li> </ul>

	Process Step	Process Detail	Key Equipment
TACK WELDER		<ul style="list-style-type: none"> <li>- Guide Roller in tack welding machine make attached meeting point for welding with set the position and feed pipe continuously</li> <li>- GMAW Welding with CO2 or Argon gas to shield the welding area</li> </ul>	<ul style="list-style-type: none"> <li>- Type : 5 Rolls Guide Type</li> <li>- Capacity : DC Max. 45V , AC Max. 500A</li> <li>- Capacity : 25 Ton</li> <li>- O.D : 18" ~ 64"</li> <li>- Length : 6.0m ~ 12.8m</li> <li>- Thickness : Max. 60mm</li> <li>- Maker : SEOKWANG (KOREA)</li> </ul>
INSIDE WELDER		<ul style="list-style-type: none"> <li>- The pipe is carried on movable Carts per two line and advance along entire length of boom</li> <li>- Two wires (D.C and A.C) and utilizes laser for seam tracking</li> <li>- All of welding consumable control according to specification or customer request</li> </ul>	<ul style="list-style-type: none"> <li>- Capacity : DC Max. 1650A (2 Set)</li> <li>- AC Max. 1250 (2 Set)</li> <li>- O.D : 18" ~ 64"</li> <li>- Length : 6.0m ~ 12.8m</li> <li>- Weight : 30 ton</li> <li>- Thickness : Max. 60mm</li> <li>- Maker : ESAB (KOREA)</li> </ul>
OUTSIDE WELDER		<ul style="list-style-type: none"> <li>- The pipe is carried on movable carts per two line and weld the seam at set welding station</li> <li>- Two wires (D.C and A.C) and utilizes laser for seam tracking</li> <li>- All of welding consumable control according to specification or customer request</li> </ul>	<ul style="list-style-type: none"> <li>- Capacity : DC Max -1650A (2 set)</li> <li>- AC Max-1250A (2 set)</li> <li>- O.D : 18" ~ 64"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Weight : 30 ton</li> <li>- Thickness : Max. 60mm</li> <li>- Maker : ESAB (KOREA)</li> </ul>
INTERMEDIATE X-RAY		<ul style="list-style-type: none"> <li>- X-Ray test machine tests the pipe welding seam with x-ray source</li> <li>- Sensitivity is achieved using the ASTM wire "A" or "B" wire type image quality indicator</li> <li>- All of acceptance image are saved digitally into a hard disk</li> </ul>	<ul style="list-style-type: none"> <li>- Type : Real time image (Digital X-RAY System)</li> <li>- Capacity : 325Kvp, 45 A</li> <li>- Thickness : Max 50mm</li> <li>- O.D : 18" ~ 64"</li> <li>- Length : 6.0~12.8m</li> <li>- Weight : 30 Ton</li> <li>- Welding seam Test : Long Seam</li> </ul>
CALIBRATION PRESS		<ul style="list-style-type: none"> <li>- All of pipes are calibrated with O type press tool for exactly diameter.</li> <li>- The calibration press is used to expert pressure to long pipe to rectify.</li> <li>- Also can be used to rectify the straightness of the pipes</li> </ul>	<ul style="list-style-type: none"> <li>- Forming Type : Mold shape type</li> <li>- Capacity : Max. 12500KN</li> <li>- O.D : 18" ~ 64"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Weight : 21 ton</li> <li>- Thickness : 8 ~ 60mm</li> <li>- Maker : TSD (CHINA)</li> </ul>

Process Step	Process Detail	Key Equipment
COLD EXPANDER		<ul style="list-style-type: none"> <li>- Longitudinal boom with hydraulic expand tool with pipe move on the conveyer to adjust diameter and straightness</li> <li>- Pipe expander process makes the welding of the pipe line of filed, even cut the pipe section much easier</li> </ul> <ul style="list-style-type: none"> <li>- O.D : 18" ~ 56"</li> <li>- Length : 6.0m ~ 12.0m</li> <li>- Weight : 24MT/PC</li> <li>- Thickness : Max. 60mm</li> <li>- Maker : Fontijine Grotness</li> </ul>
END FACER		<ul style="list-style-type: none"> <li>- Pipe ends will be plain end Bevels or special customer requirements with rotate cutting wheel</li> </ul> <ul style="list-style-type: none"> <li>- Type :Spindle rotary type (2 head)</li> <li>- Capacity : 20 Ton</li> <li>- O.D : 18" ~ 56"</li> <li>- Length : 6.0 ~ 12.8 m</li> <li>- Thickness : Max. 60mm</li> <li>- Cutting speed : Max. 10mm/Sec.</li> <li>- Maker : TSD (CHINA)</li> </ul>
HYDRO TESTER		<ul style="list-style-type: none"> <li>- To test integrity of parents metal and weld seam, Hydrostatics test is performed</li> <li>- The pipe ends are sealed by rubber sealing plate each of pipe end</li> <li>- High pressure water is applied and as internal water pressure achieves required pressure, pressure held 10 sec. or more</li> </ul> <ul style="list-style-type: none"> <li>- Type : Sealing plate type</li> <li>- Capacity : 21 ton</li> <li>- Size : Max 64"</li> <li>- Length : 6.0 ~ 12.8 m</li> <li>- Thickness : Max. 60mm</li> <li>- Pressure : Max 60Mpa</li> <li>- Maker : TSD (CHINA)</li> </ul>
AUTO U.T.		<ul style="list-style-type: none"> <li>- Auto U.T test machine tests the Welding bead and HAZ with designed probe.</li> <li>- Inspection can be performed according to API, Shell and other customer requirements</li> </ul> <ul style="list-style-type: none"> <li>- Size : 18" ~ 56"</li> <li>- Length : 5m ~ 12.8m</li> <li>- Thickness : 8 ~ 60mm</li> <li>- Weld seam width : 20 ~ 50mm</li> <li>- Inspection velocity : 50 ~ 60m/min</li> <li>- Inspection method : Pulse – echo method</li> <li>- Maker : GEIT</li> </ul>
X-RAY		<ul style="list-style-type: none"> <li>- X-Ray test machine tests the pipe welding seam with x-ray source</li> <li>- Sensitivity is achieved by the ASTM wire "A", "B" or "C" wire type image quality indicator</li> <li>- All of acceptance image are saved digitally into a hard disk</li> </ul> <ul style="list-style-type: none"> <li>- Type : TV screen (real time image )</li> <li>- Capacity : 325Kvp, 45 A</li> <li>- Thickness : Max. 50mm</li> <li>- O.D : 18" ~ 120"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Weight : 30 Ton</li> <li>- Welding seam Test : Long Seam &amp; Girth Seam</li> </ul>

## ● Roll Bender Line Process

Process Step	Process Detail	Key Equipment
PLATE GAS CUTTER	 <ul style="list-style-type: none"> <li>- Cut the plate according to request with gas cutter</li> <li>- Make the bevel to weld the longitudinal welding seam (X-Groove)</li> </ul>	<ul style="list-style-type: none"> <li>- Cutting method : Gas cutting type O2+ LPG</li> <li>- Capacity : 15 Ton</li> <li>- O.D : 18" ~ 120"</li> <li>- Length : 3m ~ 6m</li> <li>- Thickness : Max. 50mm</li> <li>- Maker : SeShine (KOREA)</li> </ul>
ROLL BENDER	 <ul style="list-style-type: none"> <li>- Form the pipe with rolling the plate</li> <li>- Upper Roll press the plate when rolling pipe to make designed diameter</li> <li>- Re rolling to calibrate the diameter after finished welding</li> </ul>	<ul style="list-style-type: none"> <li>- Type : 3 Roll bending</li> <li>- O.D : 40" ~ 120"</li> <li>- Length : 3.0m ~ 6.0m</li> <li>- Thickness : Max. 50mm</li> <li>- Weight : 23 Ton</li> <li>- Maker : SEOKWANG (KOREA)</li> </ul>
6M WELDER (IN/OUT-6M LSEAM)	  <ul style="list-style-type: none"> <li>- The pipe is carried on movable carts and advance along entire length of boom and outside welding station</li> <li>- Two wires (D.C and A.C) and utilizes laser for seam tracking advance control system to monitor arc characteristics</li> <li>- All of welding consumable control according to specification or customer request</li> </ul>	<ul style="list-style-type: none"> <li>- Welding method type : Submerged arc welding</li> <li>- Capacity : DC Max. 1600A (2 Set) : AC Max. 1500A (2 Set)</li> <li>- O.D : 40" ~ 120"</li> <li>- Length : Max 6.0m</li> <li>- Weight : 22.5 ton</li> <li>- Thickness : Max. 50mm</li> <li>- Moving type : wagon type</li> <li>- Maker : ESAB (KOREA)</li> </ul>
FIT UP	 <ul style="list-style-type: none"> <li>- Join the each pipe with bottom tuning roller</li> <li>- Adjust the each pipe height with roller width setting</li> <li>- After adjusting, tack welding on the girth seam before SAW welding</li> </ul>	<ul style="list-style-type: none"> <li>- Type : Turning roll type</li> <li>- Capacity : 30 Ton</li> <li>- O.D : 40" ~ 120"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Thickness : Max. 50mm</li> <li>- Loading Capa : Max 22.5 ton</li> </ul>
GIRTH WELDER (INSIDE)	 <ul style="list-style-type: none"> <li>- The pipe is carried on movable carts and advance along entire length of boom to welding girth</li> <li>- Two wires (D.C and A.C) and utilizes laser for seam tracking advance control system to monitor arc characteristics</li> <li>- All of welding consumable control according to specification or customer request</li> </ul>	<ul style="list-style-type: none"> <li>- Capacity : DC Max -1650A (2 set) : AC- Max-1250A (2 set)</li> <li>- O.D : 18" ~ 56"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Weight : 30 ton</li> <li>- Thickness : Max. 50mm</li> <li>- Maker : ESAB (KOREA)</li> </ul>

Process Step	Process Detail	Key Equipment
OUTSIDE WELDER	 <ul style="list-style-type: none"> <li>- The pipe is carried on movable carts and weld the girth seam set welding station</li> <li>- Two wires (D.C and A.C) and utilizes laser for seam tracking advance control system to monitor arc characteristics</li> <li>- All of welding consumable control according to specification or customer request</li> </ul>	<ul style="list-style-type: none"> <li>- Capacity : DC Max. 1650A (2 Set) : AC Max. 1250A (2 Set)</li> <li>- O.D : 18" ~ 56"</li> <li>- Length : 6.0 ~ 12.8m</li> <li>- Weight : 30 ton</li> <li>- Thickness : Max. 50mm</li> <li>- Maker : ESAB (KOREA)</li> </ul>
HEAT FURNACER	 <ul style="list-style-type: none"> <li>- To release the stress, heat up the pipe until designed temperature and raise rate.</li> <li>- After finished the heat treatment cooling down in room temperature</li> <li>- Two carriage move the pipe Inside furnace</li> </ul>	<ul style="list-style-type: none"> <li>- Type : Gas furnace (2 furnace)</li> <li>- Capacity : Max 150 Ton (1 charge)</li> <li>- O.D : 18" ~ 120"</li> <li>- Length : Max 12.8 m</li> <li>- Temperature : Max. 970°C</li> <li>- Moving type : Wagon car</li> <li>- Maker : DONGSUNG (KOREA)</li> </ul>
HYDRO TESTER	 <ul style="list-style-type: none"> <li>- To test integrity of parents Metal and weld seam, Hydrostatics test is performed</li> <li>- The pipe ends are sealed by rubber sealing plate each of pipe end</li> <li>- High pressure water is applied and as internal water pressure achieves required pressure, pressure held 10 sec. or more</li> </ul>	<ul style="list-style-type: none"> <li>- Type : Sealing plate type</li> <li>- Capacity : 30T</li> <li>- Size : Max 120"</li> <li>- Length : 6.0 ~ 12.8 m</li> <li>- Thickness : Max. 50mm</li> <li>- Pressure : Max. 250bar</li> <li>- Maker : SEOKWANG (KOREA)</li> </ul>

## PRODUCT LIST

<ul style="list-style-type: none"> <li>- British Standards</li> <li>- Deutsche Industrie Normen</li> <li>- American Petroleum Institute Standards</li> </ul>		- American Society for Testing & Material Standards
Carbon Steel Pipes For Ordinary Piping	<ul style="list-style-type: none"> <li>- Pipes For Water Piping</li> <li>- Pipes for General Ordinary Piping</li> </ul>	BS ASTM ISO DIN
Line Pipe		API 5L
Carbon Steel Pipes for Pressure Service	<ul style="list-style-type: none"> <li>- Pipes for Pressure Service</li> </ul>	DIN
Carbon Steel Pipes for Structural Purpose	<ul style="list-style-type: none"> <li>- Offshore Structural Tubular</li> <li>- Steel Pipe Pile</li> </ul>	ASTM API 2B DIN

## SIZE AVAILABILITY



Line	Diameter (Inch)	Thickness (mm)	Length (m)	Capacity (Ton/Year)
JCOE	18 ~ 60	Max. 60	Max. 12.8	200,000
Roll Bender	40 ~ 120	Max. 40	Max. 18	50,000

Normal Size	WT OD	Pipe Thisckenss (mm)																																
		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66		
18	457.2																																	X100 Grade
20	508.0																																	X80 Grade
22	559.0																																	X70 Grade
24	609.6																																	X60 Grade
26	660.0																																	X52 Grade
28	711.2																																	~X46 Grade
30	762.0																																	
32	812.8																																	
34	864.0																																	
36	914.4																																	
38	965.0																																	
40	1016.0																																	
42	1066.8																																	
44	1117.6																																	
46	1168.0																																	
48	1219.2																																	
50	1270.0																																	
52	1320.0																																	
54	1371.6																																	
56	1524.0																																	
58	1473.2																																	
60	1524.0																																	
62	1575.0																																	
64	1625.6																																	
66	1676.4																																	
72	1828.8																																	
76	1930.4																																	
80	2032.0																																	
88	2235.2																																	
96	2438.4																																	
104	2641.1																																	
112	2844.8																																	
120	3048.0																																	

Press BenderLine

50~60mm  
Max. Length  
= 6M

Roll Bender Line  
API X52~X70 Grade

API X46 ↓

Two Seam Pipe  
- Dia: 40" ~ 64"  
- Thickness : 9.5mm~12.7mm

Area will be need to discuss before requested order

# 4



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## MANUFACTURING & INSPECTION PROCESS



- Manufacturing and Inspection Process
- Manufacturing Process Chart (JCOE Line)
- Manufacturing Process Chart (Roll Bender Line)

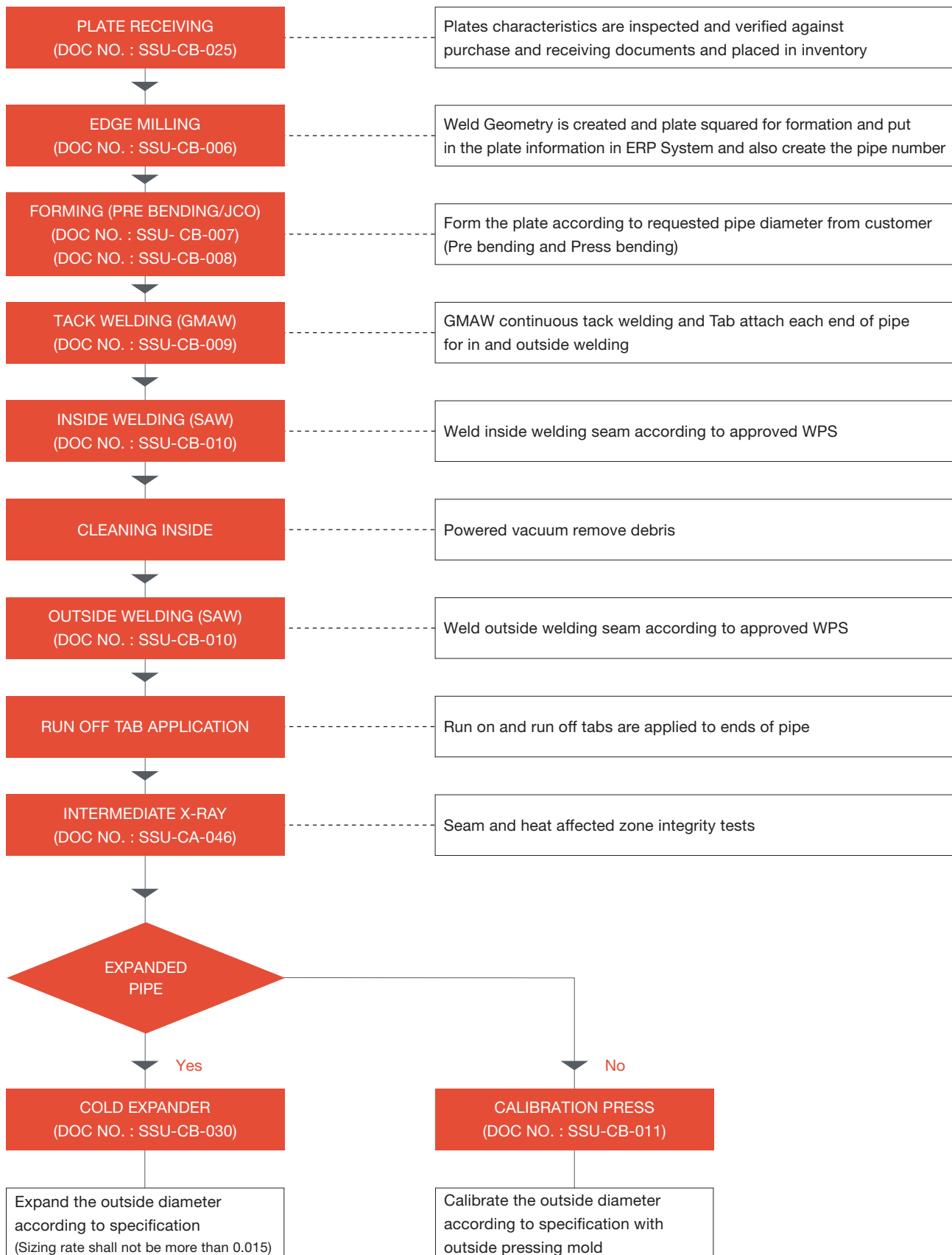


# MANUFACTURING AND INSPECTION PROCESS



MANUFACTURING PROCESS				QUALITY RELATED ACTIVITY		FREQUENCY
NO	PROCESS	JCOE	R/B	ACTIVITY	CHARACTERISTICS	
1	RAW MATERIAL ORDERING	●	●	-.SS UAE PO	-.SS UAE PO	EACH ORDER
2	INCOMING INSPECTION	●	●	PLATE AND WELD METAL -.DIMENSION -.CHEMICAL PROPERTY -.MECAHNICAL PROPERTIES	-.WIDTH,THICKNESS LENGTH -.TENSILE,IMPACT -.CHEMICAL COMPOSITION	EACH HEAT & PLATE
3	EDGE MILLING	●	—	-.DIMENSION	-.BEVEL ANGLE	EACH PLATE
	GAS CUTTING	—	●	-.CHECK FOR TRACEABILITY	-.HEAT NO,PLATE NO	
4	PRE BENDING	●	—	-.EDGE ROUNDNESS	-.SPECIFIED VALUE	EACH PIPE
5	PRESS BENDING	●	—	-.DIMENSION	-.ROUNDNESS	EACH PIPE
	ROLL BENDING	—	●		-.OPEN GAB -.OVALITY	
6	TACK WELDING	●	●	-.WELDING CONDITION -.DIMENSION	-.A, V, SPEED -.OFF SET	EACH PIPE
7	SAW WELDING (LONGITUDINAL)	●	●	-.WELDING CONDITION -.DIMENSION	-.A, V, SPEED -.REINFORCEMENT	EACH PIPE
8	FIT UP	—	●	-.DIMENSION	-.ROUNDNESS -.STRAIGHTNESS	EACH PIPE
9	SAW WELDING (GIRTH)	—	●	-.DIMENSION	-.BEVEL ANGLE -.ROOT FACE	EACH PIPE
10	INTERMEDIATE X-RAY TEST	●	—	-.WELD SEAM SOUNDNESS	-.TEMP -.HOLDING TIME	EACH PIPE
11	CALIBRATION / COLD EXPANDING	●	—	-.CHECK FOR LEAKAGE	-.PRESSURE -.HOLDING TIME	EACH PIPE
12	END FACING	●	●	-.DIMENSION	-.BEVEL ANGLE -.ROOT FACE	EACH PIPE
13	HEAT TREATMENT (IF REQUIRED)	●	●	-.HEAT TREATMENT CONDITION	-.TEMP -.HOLDING TIME	EACH LOT
14	HYDRO TEST	●	●	-.CHECK FOR LEAKAGE	-.PRESSURE -.HOLDING TIME	EACH PIPE
15	NDT (RT/UT/MT)	●	●	-.WELD SEAM SOUNDNESS -.RESIDUAL MAGNETISM	-.ACC TO SPEC	EACH PIPE
16	LAB TEST	●	●	-.CHEMICAL -.MECHANICAL	-.CHEMICAL PROPERTY -.TENSILE,GUIDED BEND -.IMPACT,HARDNESS -.MACRO, -.SSCC & HIC -.DWTT	EACH HEAT & LOT
17	FINAL INSPECTION (VI/DI)	●	●	-.DIMENSION	-.LENGTH,THICKNESS -.ROUNDNESS, -.STRAIGHTNESS -.SURFACE CHECK	EACH PIPE
18	PACKING	●	●	-.PACKING CONDITION	-.PROTECTION OF PIPE	EACH PIPE
19	SHIPPING	●	●	-.LOADING CONDITION	-.NO DAMAGE -.HANDLING	EACH PIPE

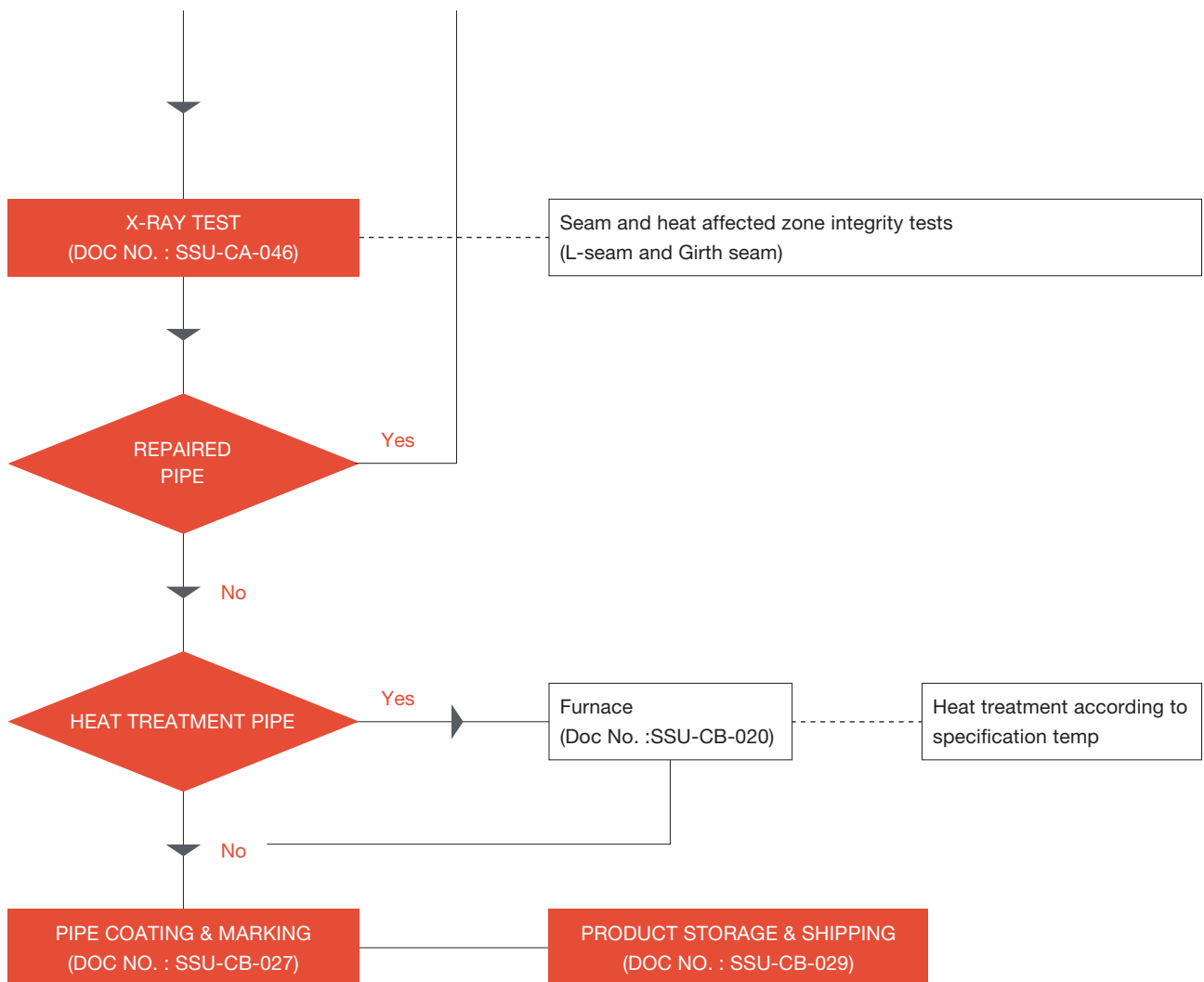
## MANUFACTURING PROCESS CHART (JCOE LINE)





## MANUFACTURING PROCESS CHART (ROLL BENDER LINE)





# 5

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## Quality Management



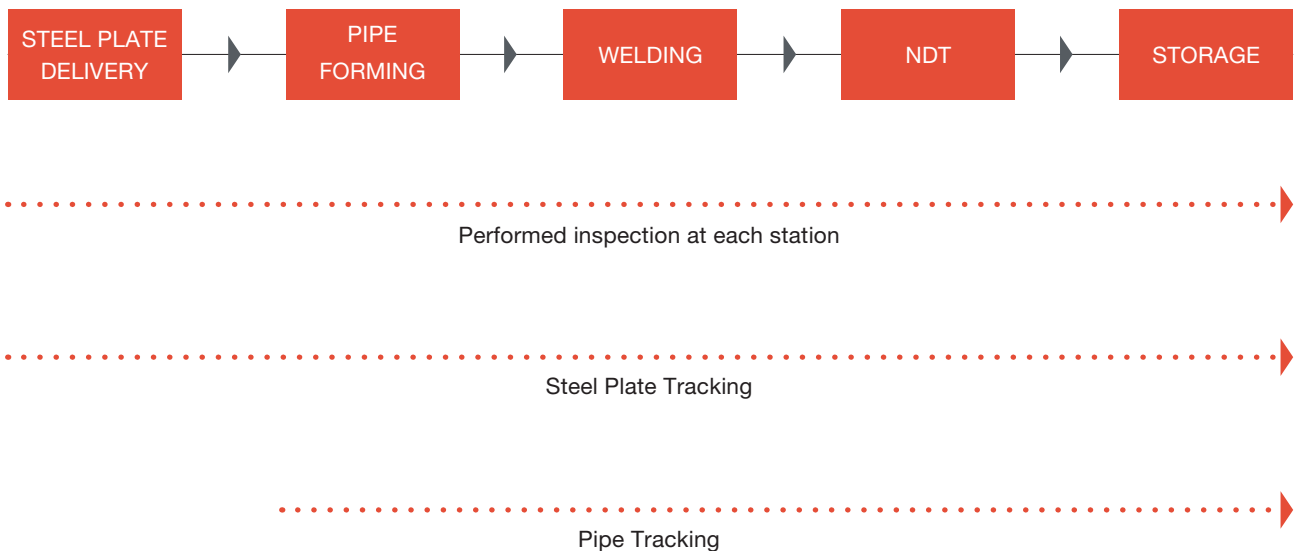
- High Quality Production Process
- Product Quality Management
- PQR and WPS Process
- Statistical Process Control



## HIGH QUALITY PRODUCTION PROCESS



### Integrated Quality Control and Tracking system



SeAH Steel UAE's commitment to quality commences with its raw material sourcing strategy. The Company's key manufacturing input is steel plate, which is reliably sourced under an existing supply agreement. Other input materials, such as welding consumable (Wire and Flux) and other related pipes are all sourced from industry - leading company

Steel plate and all other procured input materials are inspected upon delivery before being processed. The benefit of such quality control process is reflected in the average API and non-API production yields experienced by SeAH Steel UAE, which have approached world class levels since commencement of operation. Production yield is an important determinant in maintaining a cost competitive operating base and make SeAH Steel UAE rigorously grow market share in longitudinal welded pipe segment.

Similarly, quality is a critical competitive advantage given the importance of defect-free pipes in the oil and gas transmission or related market. From 2010, SeAH Steel UAE has had minimal customer claims against its products on the basis of quality or defects, which further establishes the Company as a high quality supplier of choice within the SAWL pipe segment.

The company employs industry-leading quality control technique in manufacturing and work directly with its customer to develop a manufacturing procedure specification and quality assurance plan before production commences on any of its orders. Depending on customer specifications, first day production trials are carried

out on the initial production batch to help ensure that the customer's specifications are met. In addition to SeAH Steel UAE's ordinary, process-integrated inspections post-forming and welding as well as non-destructive testing (hydrostatic, ultrasonic and x-ray, the Company can perform destructive testing). This testing is also an integrated procedure for the ongoing operations, for which SeAH Steel UAE has a full range of laboratory testing equipment (include HIC, SSCC Lab) to assess the chemical and various mechanical properties of the pipe.

## **PRODUCT QUALITY MANAGEMENT**

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Given the customers' strict order specifications and quality expectations, SeAH Steel UAE, LLC is strongly focused on quality control and undergoes a rigorous quality assurance and control program that is API, C.E and other certification. Furthermore, the Company integrates the customer directly into this process. Once a request for quote is received from a customer, SeAH Steel UAE reviews the specification to determine the project viability. If an internal review indicates that SeAH Steel UAE can take the order on, the Company will negotiate the technical details with the customer that will ultimately be reflected in the final order award. Part of the negotiation will be the Manufacturing Procedure Specification ("MPS") and the Inspection and Test Plan ("ITP"), along with other pertinent quality and operations documents. The final step in the order award process is a pre-production meeting between the customer and SeAH Steel UAE to come to a technical agreement. Before commencing full scale production of the order, a trial production run is conducted to set the mill process parameters. The trial production includes testing per customer specifications to verify the production process parameters.

## SAFETY & QUALITY MANAGEMENT DOCUMENTS

## Inspection Test Plan

MANUFACTURER NAME: Saudi Safeway LLC		PURCHASE / ORDER NO: PO0001307020		ITP No. SWP/SP/CA-0305/00 ID (Document No.)		AR A1-A2 B-A-SP2 B		Approved/Required Actual Inspection Where Inspection Operation Surveillance		
DESCRIPTION: AP28 C33AR5 PPS		SUB-SUPPLIER : N/A		SUB-ORDER NO. : N/A		R T/C H M P		100% Review Test Certificate Required Shall First Marking      * 1: 100% Inspection Perform		
						*2: 10% Sampling Inspection				
Vendor Location: Ras Al Khaima in UAE								HOLD POINTS, ETC.		
ACTION	QUALITY RELATED ACTIVITY	REFERENCE DOCUMENT	CHARACTERISTICS TO BE VERIFIED	ACCEPTANCE CRITERIA (Frequency)	VERIFYING DOCUMENT	SEAB	ETC	NCCP/ Toolbox	ARMA/ TFA	Remark
1	FEH (10.08.2015)	Customer Requirement A02-0-26-A-0- 0100	Client Agenda	MO/M	MO/M	H	H	H	H	
	Review of Manufacturing Procedure & Other test Procedure (PPS/PPR, PPSIT Procedure, TQT Procedure etc.)	AP28 Customer PO	N/A	AP28 Customer P.O	ITP	R	AR	AR		
3	Raw material inspection		As Below	As Below	As Below					
3.1	Chemical Composition check	BS EN 10225 3.1552.02 & GB	Chemical Composition (First & Product Analysis)	BS EN 10221 3.1515.02 & GB	MR certificate EN 10204 3.2	H	-	R	R	
3.2	Mechanical Property check		Mechanical Property	BS EN 10221 3.1582.04 & 3.1512.05	MR certificate EN 10204 3.2	H	-	R	R	

SSU-DA-011\_Rev.1

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## MTC

[illegible]

## SEAH STEEL UAE PIPE TRACKING SYSTEM

Quality Control Specification			
Item No.	401000000-008		
Product Name	FMB - QATAR PETROLEUM PROJECT		
File Size	API 2B Pipe		
Customer	FMB - QATAR PETROLEUM PROJECT		
Order No.	A20150704001		
Order Date	2015-07-04		
Order Description	API 2B Pipe		
Start	Original Size	Manufacture Size	Remark
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
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92	92	92	92
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95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

SJ1570001 : API 2B Pipe 914.00 X 25.00T X 12.000M BBE

**SJ1570001**

Save and close Cancel

☒ End working

Pipe type: [Blank]

Direction No.: A20150704001 1 015-07-04 00:00:00

Order No.: AEB150625001 008

Project: FMB - QATAR PETROLEUM PROJECT

Deadline: 2015-07-10 00:00:00

Customer: [Blank]

Staff: SEUNG HYUN CHO

Direction Qty/Wgt: 2 13,154

Report qty/Remaining: 2 0

Special specification: [Blank]

Plate No: KA63402

Quality: ABS EH36-TM

Standard: 25 3050 12

HEAT NO: 38160

Category	Standard value (min/max)	Actual value
Cutting angle of Edge	32	32
Before processin	2818	2805
After processing	2788	2788
Thick	23.5 / 26.5	25
Length	12 / 12.05	12
Apperance	State	Good

SJ1570004 : API 5L GrB PSL1 965.00 X 12.700 X 12.000M BBE

**SJ1570004**

Save and close Cancel

☒ End working

Pipe type: [Blank]

Direction No.: A20150705002 1 015-07-05 00:00:00

Order No.: A20150705001 002

Project: FMB - QATAR PETROLEUM PROJECT

Deadline: 2015-07-12 00:00:00

Customer: [Blank]

Staff: [Blank]

Direction Qty/Wgt: 1 3,579

Report qty/Remaining: 1 0

Special specification: [Blank]

Plate No: PB4386202

Quality: API 5L-B (PSL1)

Standard: 12.4 3313 12.0

HEAT NO: 3878002

1. Marking Size

Normal Thick Length WT(Kg/M) hydrostatic(ps)

38" 12.70mm 12.000M 298.243 561

2. Marking

Seah logo/Seah steel UAE LLC/Spec-BL-0855/API monogram/GrB PSL1/SA/LAM/YYY/965.00MMX12.70MMX12.000M/298.24kg/M/29k no./Pipe no.

3. Tag

4. Packing

Bevel Protectors

5. Coating

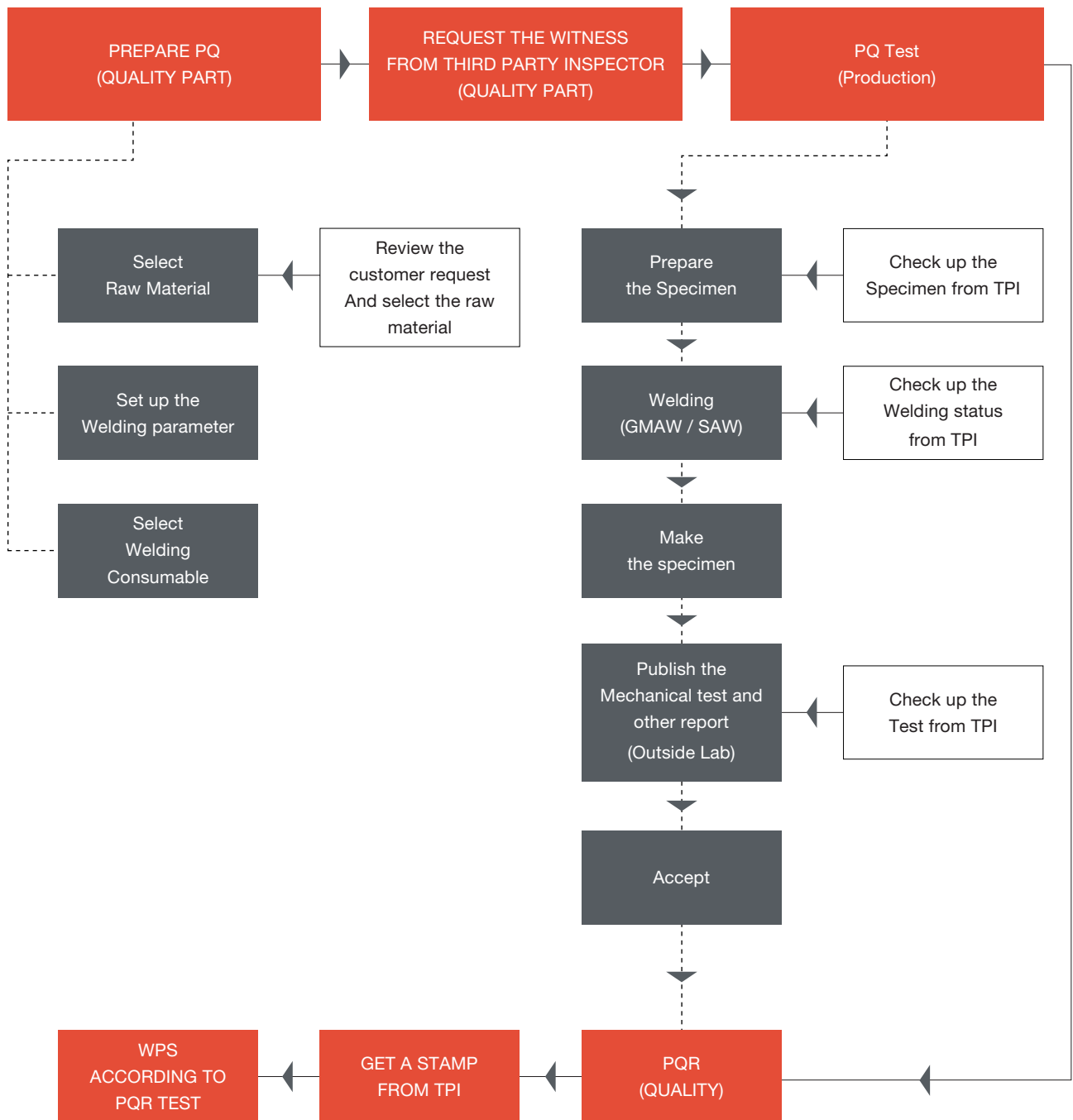
External Varnish Coating

6. Color Line

Direction date	2015-07-02	2015-08-01	Project	Customer
Pipe No.	PLATE NO	Order type	ALL	Direction No.
O.D.	Thick	Length		
Direction No.	Project Name	Order No.	Row	Spec
A20150704001	FMB - QATAR PETROLEUM PROJECT	AEB150625001	008	API 2B Pipe
Pipe No.	CO	Plate	INDI	EM
SJ1570001	9625	9628	9704	9704
SJ1570002	9625	9628	9704	9704
A20150705001	FMB - QATAR PETROLEUM PROJECT	AEB150625001	007	API 2B Pipe
Pipe No.	CO	Plate	INDI	EM
SJ1570003	9625	9628	9704	9704
A20150705002	FMB - QATAR PETROLEUM PROJECT	AEB150625001	002	API 5L GrB PSL1
Pipe No.	CO	Plate	INDI	EM
SJ1570004	9705	9801	9705	9705
A20150705003	PC HO P012783	AEB150625001	004	API 5L GrB PSL1
Pipe No.	CO	Plate	INDI	EM
SJ1570005	9615	9610	9705	9705
SJ1570006	9615	9610	9705	9705
SJ1570007	9615	9610	9705	9705
SJ1570008	9615	9610	9705	9705
SJ1570009	9615	9610	9705	9705
SJ1570010	9615	9610	9705	9705
SJ1570011	9615	9610	9705	9705
SJ1570012	9615	9610	9705	9705
SJ1570013	9615	9610	9705	9705
SJ1570014	9615	9610	9705	9705
SJ1570015	9615	9610	9705	9705
SJ1570016	9615	9610	9705	9705

After pipe forming, all following work stations enter the pipe number in the ERP system. All station-related parameters, such as the date, shift of performance and operator name are recorded in the system. The status of operation is recorded as accepted or non-conforming when the work-in-progress pipe moves to the next manufacturing process or station. In case of non-conformance, pipe is routed to rework stations. After rework is completed, pipe is re-routed through the inspection stations and re-inserted into the workflow. At final pipe inspection, an updated with the pipe's final length is placed at four locations on the pipe, one at each end (inside and outside). The Inside Diameter ("I.D.") and / or Outside Diameter ("O.D.") are stenciled with complete product information per customer specifications.

## PQR AND WPS PROCESS



# STATISTICAL PROCESS CONTROL



SeAH Steel UAE's statistical process control (SPC) is carried out on monthly or order basis for following parameter measured production.

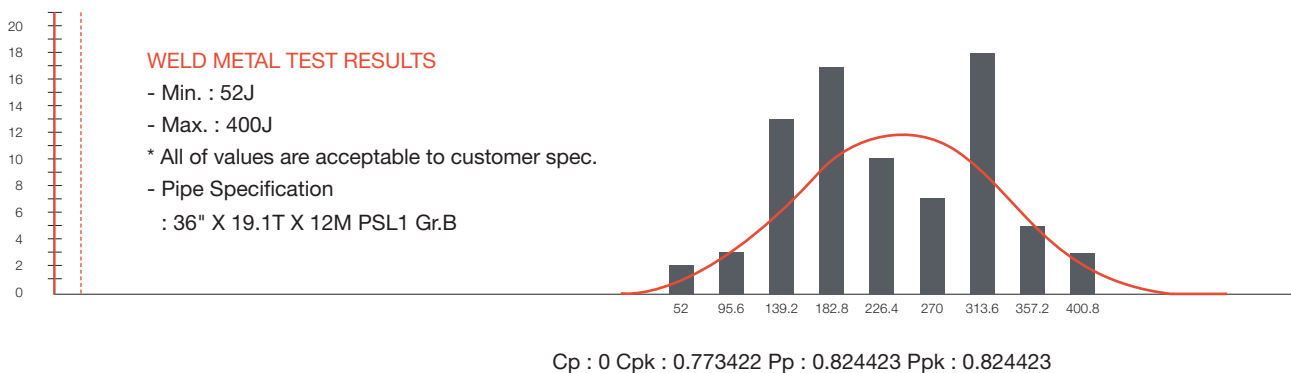
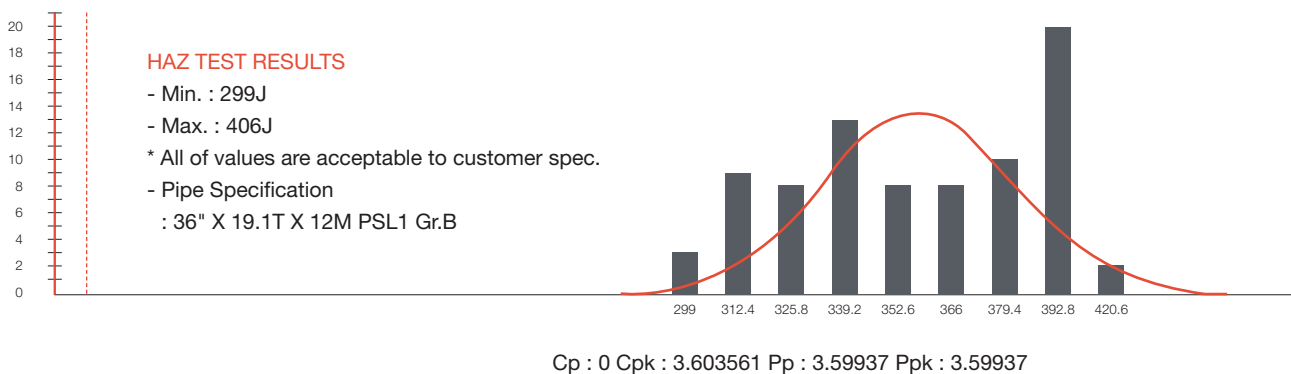
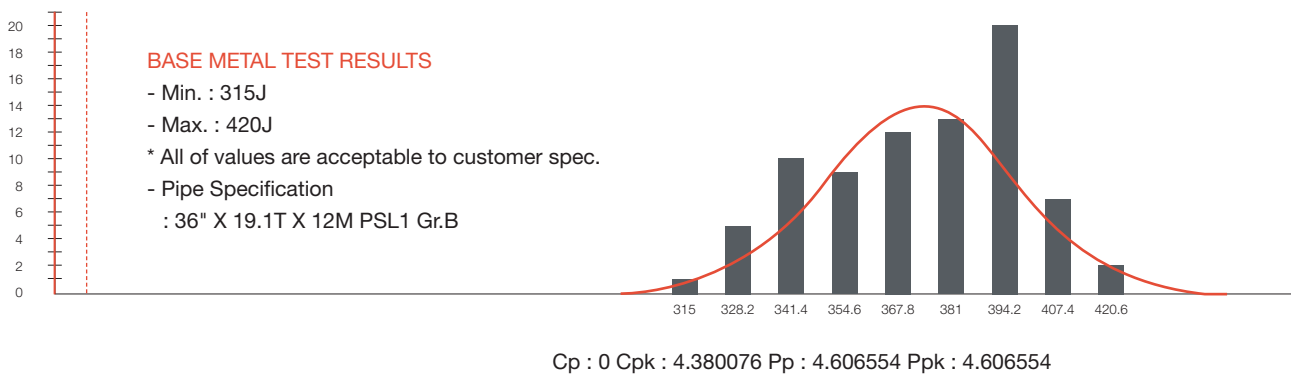
## VISUAL INSPECTION

- 1) Pipe end diameter
- 2) Wall thickness
- 3) Straightness
- 4) Squareness
- 5) Bead height (Inside and outside)

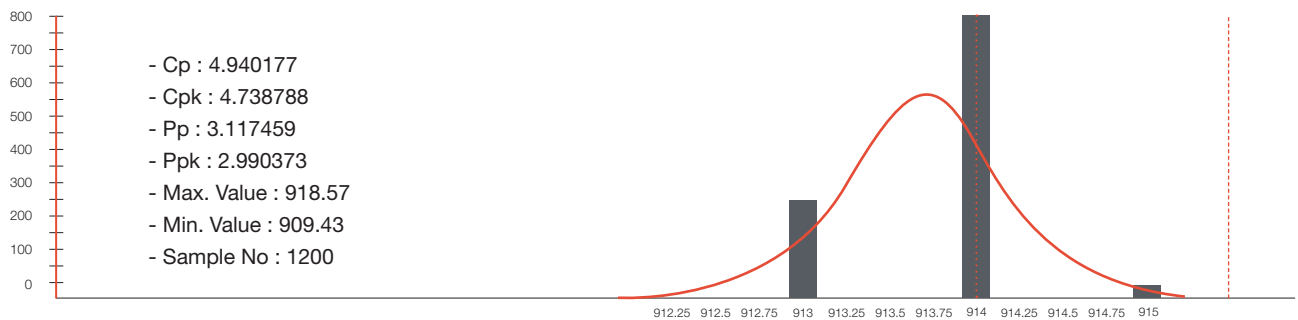
## LAB TEST

- 1) Charpy impact test
- 2) Tensile test
- 3) Customer Request

### ● CHARPY IMPACT TEST

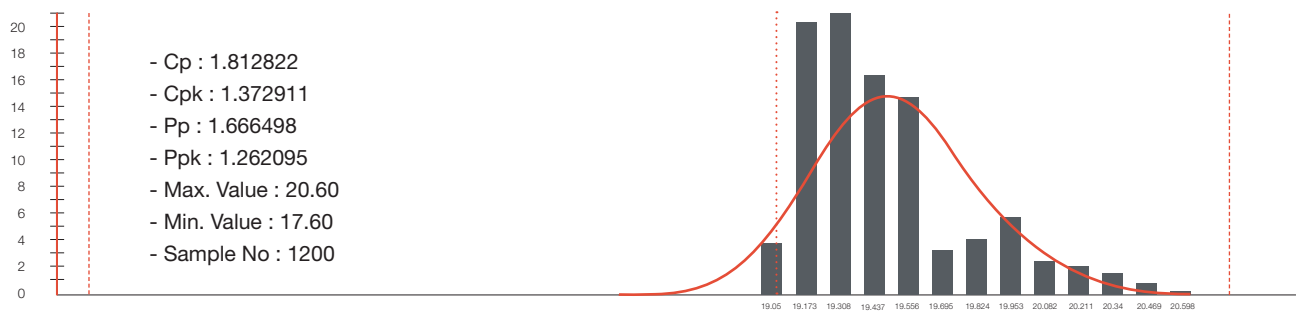


## ● OUTSIDE DIAMETER

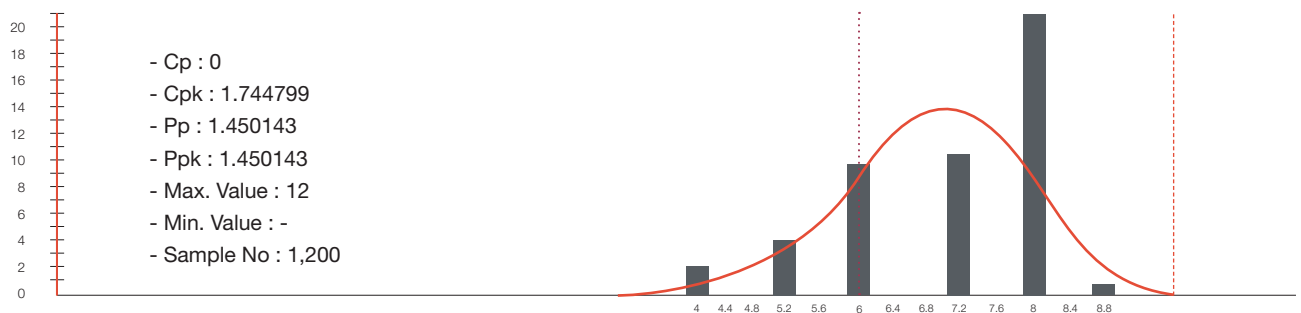


Cp : 0 Cpk : 0.773422 Pp : 0.824423 Ppk : 0.824423

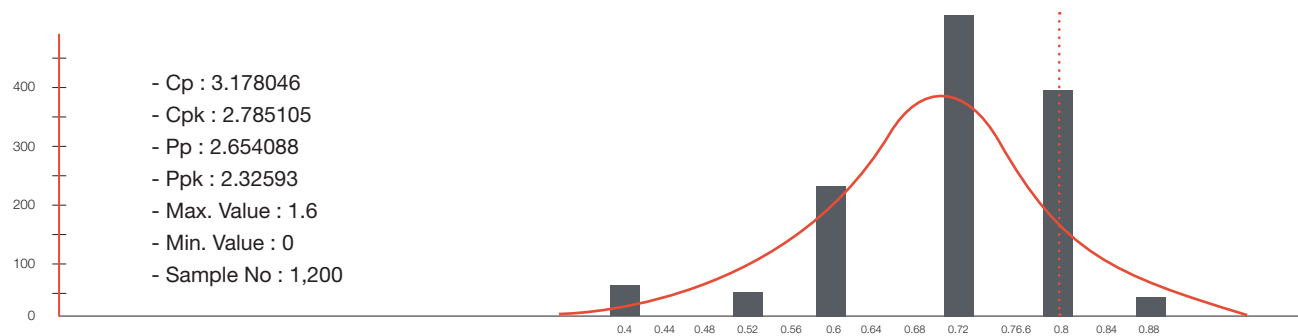
## ● WALL THICKNESS



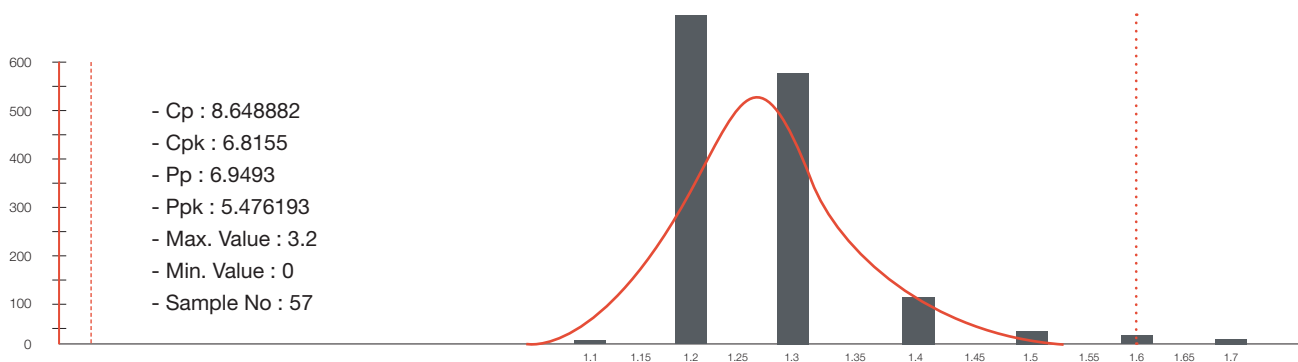
## ● STRAIGHTNESS



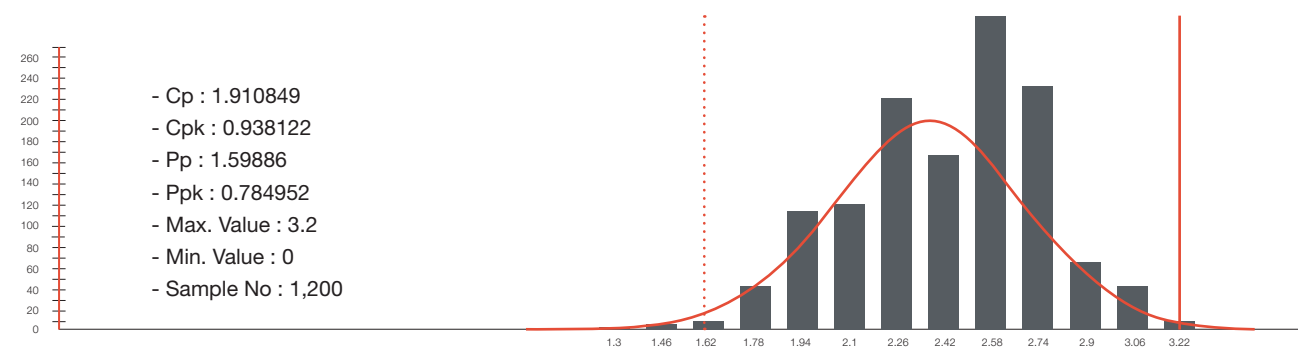
## ● SQUARENESS



## ● BEAD HEIGHT- INSIDE



## ● BEAD HEIGHT- OUTSIDE



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## TESTING & INSPECTING APPARATUS



NO.	DESCRIPTIONS	RANGE	MAKER	COUNT	ORIGIN
1	Universal Testing Machine	1000kN (100tf)	Shimadzu	1	JAPAN
2	Optical Emission Spectrometer	22 CH	Thermo Electron	1	SWISS
3	Automatic Charpy Impact Tester	542J	Tinius Olsen	1	USA
4	Vickers Hardness Tester	HV0.3 to HV30	Wilson-Wolpert	1	USA
5	Inverted Microscope	50x, 10x, 20x, 50x, 1000x	Leica	1	GERMANY
6	Stereo Zoom Microscope	0.67x to 4.5x	Olympus	1	JAPAN
7	Charpy Notch Broaching Machine	10mm (0.394")	Blacks	1	UNITED KINGDOM
8	Ultrasonic Flaw Detector	14m @ 5900 m/s	Krautkramer	1	GERMANY
9	Ultrasonic Flaw Detector (Phased Array Type)	1.8m @ 5900 m/s	GEIT	2	USA
10	Auto Ultrasonic Tester	18" ~ 56" NDT	Eng.	1	KOREA
11	X-Ray Inspect	320KV 22.5mA	XYLON	1	GERMANY
12	Intermediate X-Ray	350 KV 22.5mA	GEIT	1	GERMANY
13	Polishing Machine	8" (203mm) dia. twin wheel	Allied High Tech	1	USA
14	Dead Weight Tester	Pressure 0.5~50MPa	Nagano	1	JAPAN
15	Hydrostatic Tester	18" ~ 56"	TSD	1	CHINA
16	Hydrostatic Tester	58" ~ 120"	Seo Kwang	1	KOREA
17	Hydrogen Induced Cracking Tester (HIC)	18" ~ 120"	Top Tech	1	KOREA
18	Sulfide Stress Corrosion Cracking Tester (SSCC)	18" ~ 120"	Top Tech	1	KOREA
19	Drop Weight Tear Tester (DWTT)	100,000J	Dain Systec	1	KOREA

## ● LAB TEST EQUIPMENTS



Universal Testing Machine



Optical Emission Spectrometer



Charpy Impact Tester



Vickers Hardness Tester



Inverted Microscope



Stereo Zoom Microscope

## LAB TEST EQUIPMENTS



Charpy Notch Broaching Machine



Polishing Machine



Sulfide Stress Corrosion Cracking Tester (SSCC)



Hydrogen Induced Cracking Tester (HIC)



Drop Weight Tear Tester (DWTT)

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APPROVED CERTIFICATES



## ● Certificates

Cert. Description	Production	Monogram
International Standardization Organization	<ul style="list-style-type: none"> <li>- ISO 9001 Quality System (Manufacturing of Longitudinally steel pipe)</li> <li>- ISO 14001 Environment management system</li> <li>- ISO 45001:2018 Health &amp; Safety management System</li> <li>- ISO/IEC 17025:2017 Accreditation Certificate Laboratory</li> </ul>	ISO
American Petroleum Institute	<ul style="list-style-type: none"> <li>- API Q1 (Manufacturing of Longitudinally steel pipe)</li> <li>- API 5L Line Pipe</li> <li>- API 2B Structural Pipe</li> </ul>	API
EN Standard	- CE Marking (regulation 305/2011/EU) (Carbon Steel Pipe)	CE
DNV Standard	- Approval of Manufacturer	DNV

## ● Approved Vender List

No	Company	Reg. No	PG Description	Date
1	ANDOC	20008813	160528-PIPES (CS), API 5L LSAW SOUR (LINE PIPES)	31-MAY-2029
			160529-PIPES (CS), API 5L LSAW, NON-SOUR (LINE PIPES)	
			160508 - PIPES - CS - API 5L - SAW	
			160593 - PIPES - ALL TYPES - SUPPLIERS	
			148580 - STRUCTURAL TUBULAR WELDED	

20008813	Solex Steel UAE LLC	United Arab Emirates										
Manage		Agency Type	Certificate No.	Issue Date	Expiry Date	Product Groups				- Collapse		
Representation (R)		0001078	03/10/2017	03/10/2024								
Manage	Product Community	Product Community Code	Product Group		Pre-qualification Status	Request Reassessment						
	10 - PIPES & FITTINGS	1000 - PIPES	10000-PIPES (CS, API 5L, LSAW Sour LINE PIPES)		PQ - Pre-qualified							
	10 - PIPES & FITTINGS	1000 - PIPES	10000-PIPES (CS, API 5L, LSAW Non-Sour LINE PIPES)		PQ - Pre-qualified							
	10 - PIPES & FITTINGS	1000 - PIPES	10000-PIPES - CS - API 5L - SAW		PQ - Pre-qualified							
	10 - PIPES & FITTINGS	1000 - PIPES	10000-PIPES ALL TYPES - SUPPLIERS									
	14 - MECHANICAL	1400 - FASTENERS & STRUCTURAL MATERIALS	14000-STRUCTURAL TUBULAR WELDED									

ISO 9001



API Q1



ICV cert.



API 5L



API 2B



ISO 14001



ISO 45001



ISO/IEC 17025



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