章和機械工程有限公司
SYNCHONG HOE ENGINEERING SDN. BHD.



COMPANY PROFILE

YOUR CHALLENGE TAKES US FORWARD

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Chapter 1.

INTRODUCTION

Established in 1982, Synchong Hoe Engineering Sdn. Bhd. (SCHE) stands as a premier supplier of steel products in Malaysia's water and wastewater industry. With expertise in fabricating products compliant with major international codes and specifications, we specialize in carbon steel and stainless steel materials.

Originating as providers of steel pipes and pipe specials in Butterworth, Penang, our journey has led to our evolution into a versatile company with a strong emphasis on water infrastructure. Today, SCHE is a diversified entity proficient in manufacturing pressure vessels, process skids, and other vital solutions for the water and wastewater sector.

Supported by our experienced team and a vast workshop spanning 31,000 square meters equipped with cutting-edge technologies, we are dedicated to achieving uncompromising precision and top quality.

VISION

Create Growth To Our Community Through Steel.

MISSION

To design and manufacture top quality products that **CUSTOMERS** select as business partners; **CONSULTANTS** prefer for their client; **EMPLOYEES** are proud of; while delivering sustainable growth and values to our organization and employees.



Chapter 2.

REGISTRATION & CERTIFICATES

1) SIJIL PENGIKTIRAFAN JKKP
2) CIDB
3) ISO 9001:2015



4) SPAN (FLANGE ADAPTOR, FLEXIBLE COUPLING & STEEL PIPE SPECIALS)
5) ANQAS (FLANGE ADAPTOR, FLEXIBLE COUPLING & STEEL PIPE SPECIALS)
6) JANS (FLANGE ADAPTOR, FLEXIBLE COUPLING & STEEL PIPE SPECIALS)
7) SWA (FLANGE ADAPTOR, FLEXIBLE COUPLING & STEEL PIPE SPECIALS)





8) ASME “U” STAMP
9) NATIONAL BOARD “R” STAMP
10) NATIONAL BOARD “NB” STAMP



Chapter 3.

QUALITY ASSURANCE

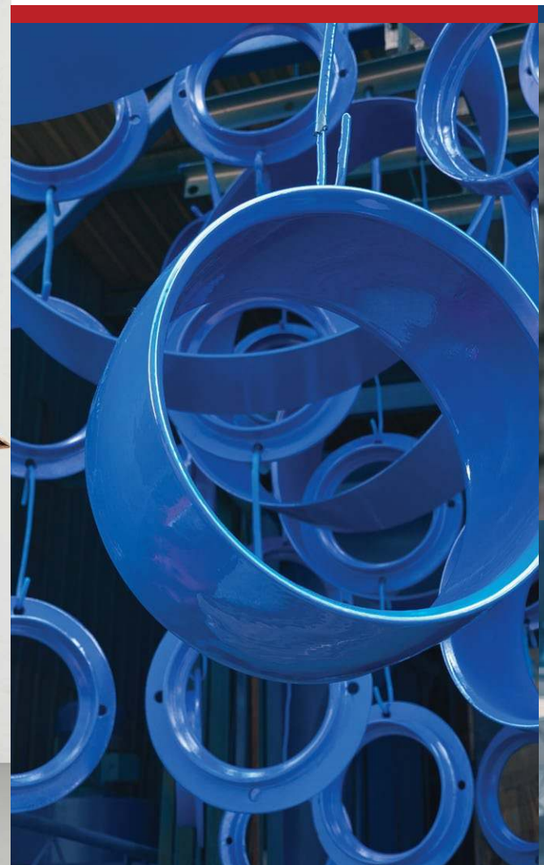
YOUR CHALLENGE TAKES US FORWARD

Quality assurance is a fundamental component in our commercial success.

The reputation of SCHE products for reliability is the result of Synchong Hoe Engineering Sdn. Bhd.'s passion for quality and focus on customer's expectation. At each stage of fabrication process, we take every step to ensure highest quality is secured.

Awarded with ISO 9001:2015 certifications for our Quality System Procedure (QSP), we prove our technical capabilities and in-depth knowledge as well as our well-structured risk management strategy and framework in our manufacturing and fabrication processes.

Accredited by the Council of the American Society of Mechanical Engineers (ASME), we strive for continuous improvement as one of the leading intergrated manufacturer in the industry.







Chapter 4.

SCHE MACHINERY, EQUIPMENT & FACILITY

CNC OXY CUTTING MACHINE

CNC FIBRE LASER CUTTING MACHINE



CNC VERTICAL LATHE MACHINE

CNC DRILLING MACHINE



CNC BENDING MACHINE

ROLLING MACHINE



BLASTING MACHINE

FBEP COATING FACILITY











WELDING

Experience superior steel welding expertise at Synchong Hoe. Our certified welders, equipped with comprehensive documentation of WPS and WQT, ensure precision and reliability in every project. Trust us for unparalleled quality and craftsmanship in steel fabrication and repair.

* Semi-Automated Submerged Arc Welding (SAW)
* Shielded Metal Arc Welding (SMAW)
* Gas Tungsten Arc Welding (GTAW)
* Flux Cored Arc Welding (FCAW)

NDT

Rest assured, every steel product from Synchong Hoe undergoes rigorous non-destructive testing (NDT) protocols. Our commitment to quality ensures that each item meets the highest standards of integrity and performance. Trust in our dedication to providing you with steel products of unmatched reliability and durability.

* Hydrostatic Testing
* Radiography Testing, RT
* Magnetic Particle Inspection, MPI
* Ultrasonic Testing, UT
* Dye Penetrant Inspection, DPI
* Holiday Testing
* Positive Material Identification, PMI

Chapter 5.

FABRICATION CAPACITY

CNC OXY / LASER / FIBRE LASER CUTTING

Capability of CNC Oxy, Laser & Fibre Laser Cutting Machine

MATERIAL	RANGE AND TYPE OF CUTTING		SHEET SIZE HANDLING CAPABILITY	
	METHOD	CUTTING THICKNESS	WIDTH	LENGTH
Mild Steel	Oxygen	6mm to 200mm	2438mm	9144mm
Stainless Steel	Laser	1mm to 15mm	2000mm	6250mm
Mild Steel		1mm to 20mm		
Stainless Steel	Fibre Laser	2mm to 50mm	2438mm	9144mm
Mild Steel				

ROLLING & FORMING

PERFORMANCE	
Max. Plate Width	3050 mm
Min. Bending Diameter (Ferrule Diameter)	600 mm
Max. Bending Thickness (Full Length)	50 mm
Max. Prebending Thickness (Full Length)	38 mm
Min. Bending Diameter (Ferrule Diameter)	300 mm
Max. Bending Thickness (Full Length)	19 mm
Max. Prebending Thickness (Full Length)	15 mm

CNC DRILLING & MILLING MACHINE

Max. Thickness	300 mm
Max. Hole Diamater	62 mm
Max. Length x Width	2500 mm



CNC LATHE MACHINERY

SCHE provides a series of machining and drilling job with the range of milling machines, lathe machines, and drilling machines available capable to work on piece up to 3200 mm in diameter.









ABRASIVE BLASTING & PAINTING

SCHE offers the benefit of:

1. Increase the effectiveness of protective and anti-corrosive coatings.
2. Eliminate problem of bleed through from chemical cleaning and rust.
3. Achieve SA 3.0 to meet paint specification requirements.
4. High production with less labor cost.
5. Clean and safe environment.

MECHANICAL COUPLING & FLANGE ADAPTOR

SCHE manufactures Mechanical Coupling & Flange Adaptor to any pipe OD and working pressure.

RANGE OF NOMINAL SIZE(DN)	DN80-DN3200
STANDARD SPECIFICATION	BS EN 1092-1 / BS 512 BS EN 10224 / BS EN 10311 BS EN 10220 BS EN 1452-1 TO BS EN 1452-5
PN DESIGNATION	PN2.5, PN6, PN10, PN16, PN25, PN40
FLANGE / BODY MATERIAL	Mild Steel & Stainless Steel 304 & 316
BOLTS / STUDS / NUTS / WASHERS	Mild Steel & Stainless Steel 304 & 316
COATINGS	Fusion Bonded Epoxy Powder Cold Applied Epoxy Painting
APPROVALS / CERTIFICATES	ANQAS SPAN ISO 9001

SYNCHONG HOE
COMPANY PROFILE



MILD STEEL PIPES & PIPE SPECIALS



SCHE is capable to supply Mild Steel Externally Bitumen Wrapped & Internally Cement Lined Pipes from size range of DN100 to DN3900. Other coating such as Epoxy Powder Coating, Hot Dipped Galvanizing and etc. are also available. These components are available with various type of end such as Plain End, Spigot/Socket End, Flange End and etc. SCHE also fabricate special fittings to complement the pipes as per following:

- **SHORT PIECE**
- **GUSSETED BEND & DUCK FOOT BEND**
- **CONCENTRIC TEE & LEVEL INVERT TEE**
- **CONCENTRIC & ECCENTRIC TAPER / REDUCER**
- **WYE PIECE & CROSS PIECE**
- **OTHER CUSTOM SPECIALS TO SUIT PROJECT REQUIREMENT**

Chapter 6. SCHE PRODUCTS

PRESSURE VESSEL & HEAT EXCHANGER



SCHE obtains JKKP approval to manufacture pressure vessels for use in Malaysia in 2012. In 2014, SCHE obtained authority to use ASME certification mark with the designator "U". Certifications were also obtained from the National Board of Boiler and Pressure Vessel Inspectors of USA to apply the "NB" and "R" Stamps.

SCHE is now able to meet customer requirement for the following:

1. Pressure Vessel Design and Construction to ASME Boiler & Pressure Vessel Code, Section VIII, Division 1
2. Registration with National Board of USA of Pressure Vessel for permanent record
3. Repair of Pressure Vessel & Boiler to ASME Boiler and Pressure Vessel Codes
4. Certify Pressure Vessel to European Pressure Equipment Directive (PED) with ASME BPVC as the manufacturing code.

Our Pressure Vessel crew consist of personnel with a combined experience of 50 years. The type of Pressure Vessel and Process Equipment for the oil and gas, power generationand general process industries, in carbon and high-alloy steel are include but is not limited to the following:

* PRESSURE VESSELS
* SURGE VESSELS
* AIR RECEIVER TANKS
* MMF & ACF TANKS
* HEAT EXCHANGERS AND ETC





PROCESS MODULE & SKID SYSTEM FABRICATION





Our company, SCHE, specializes in custom integrated process skid fabrication. We design and assemble mechanical and electrical skid-mounted process systems tailored to meet the unique requirements of each customer's project. Fabrication takes place in controlled conditions within our facilities, ensuring precision and quality. The systems are mounted on structural steel bases designed for safe and efficient transport to the end-user's facility. Drawing on our extensive experience in global projects and local regulations, our clients trust us to deliver comprehensive services including technical specifications, fabrication, scheduling, quality assurance, and commissioning.

SCHE has the experience and serves the following industries:

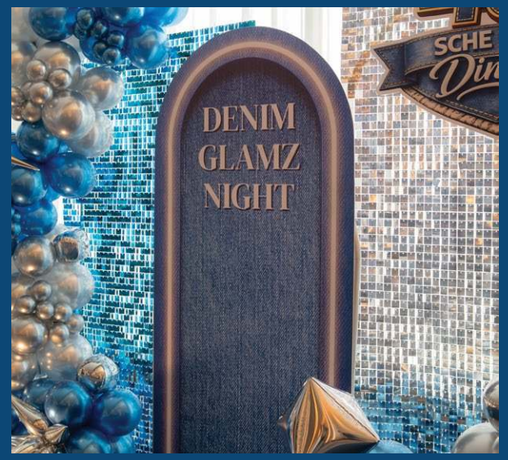
* PETROCHEMICAL
* CHEMICAL
* REFINING
* OIL & GAS
* ENERGY
* POWER GENERATION
* AIR SEPARATION
* WATER TREATMENT
* ENVIRONMENT



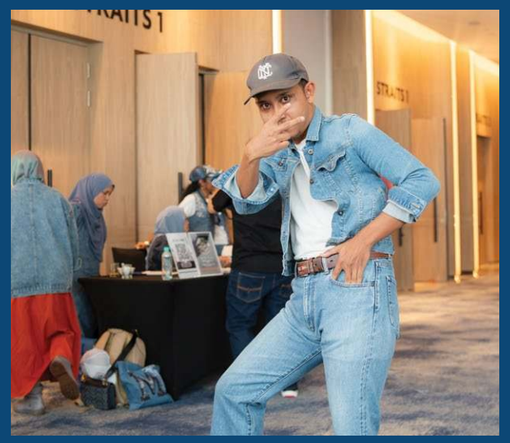
Chapter 7.

SCHE CORPORATE MOMENTS











Chapter 8.

ASME PIPE SCHEDULE SI-UNITS (METRIC)

FOR 5S, 10S, 40S, 80S; FIGURES BASED ON STAINLESS STEEL

WALL THICKNESS: MM
WEIGHT: KG/M
(PLAIN END MASS)

DN	NPS	OD (mm)	ASME B36.19				ASME B36.10												
			5s	10s	40s	80s	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS
6	1/8	10.3		1.24 0.28	1.73 0.36	2.41 0.48	1.24 0.28		1.45 0.32	1.73 0.37	1.73 0.37		2.41 0.47	2.41 0.47					
8	1/4	13.7		1.65 0.51	2.24 0.64	3.02 0.80	1.65 0.49		1.85 0.54	2.24 0.63	2.24 0.63		3.02 0.80	3.02 0.80					
10	3/8	17.1		1.65 0.64	2.31 0.86	3.20 1.12	1.65 0.63		1.85 0.70	2.31 0.84	2.31 0.84		3.20 1.10	3.20 1.10					
15	1/2	21.3	1.65 0.82	2.11 1.01	2.77 1.30	3.73 1.65	2.11 1.00		2.41 1.12	2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55
20	3/4	26.7	1.65 1.04	2.11 1.31	2.87 1.71	3.91 2.24	2.11 1.28		2.41 1.44	2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64
25	1	33.4	1.65 1.33	2.77 2.13	3.38 2.55	4.55 3.29	2.77 2.09		2.90 2.18	3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45
32	1 1/4	42.2	1.65 1.68	2.77 2.76	3.56 3.46	4.85 4.56	2.77 2.69		2.97 2.87	3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77
40	1 1/2	48.3	1.65 1.95	2.77 3.11	3.68 4.13	5.08 5.51	2.77 3.11		3.18 3.53	3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.56
50	2	60.3	1.65 2.44	2.77 4.01	3.91 5.54	5.54 7.63	2.77 3.93		3.18 4.48	3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44
65	2 1/2	73.0	2.11 3.77	3.05 5.36	5.16 8.81	7.01 11.64	3.05 5.26		4.78 8.04	5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39
80	3	88.9	2.11 4.60	3.05 6.59	5.49 11.52	7.62 15.59	3.05 6.46		4.78 9.92	5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68
90	3 1/2	101.6	2.11 5.29	3.05 7.55	5.74 13.57	8.08 19.01	3.05 7.41		4.78 11.41	5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63				- -	- -
100	4	114.3	2.11 5.96	3.05 8.52	6.02 16.40	8.56 22.77	3.05 8.37		4.78 12.91	6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32		11.13 28.32		13.49 33.54	17.12 41.03
125	5	141.3	2.11 9.67	3.40 11.82	6.55 22.20	9.53 31.59	3.40 11.56			6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97		12.70 40.28		15.88 49.11	19.05 57.43
150	6	168.3	2.11 11.55	3.40 14.13	7.11 28.83	10.97 43.42	3.40 13.83			7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56		14.27 54.20		18.26 67.56	21.95 79.22
200	8	219.1	2.11 15.09	3.76 20.37	8.18 43.39	12.70 65.95	3.76 19.97	6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92
250	10	273.1	3.40 23.08	4.19 28.34	9.27 61.52	12.70 83.19	4.19 27.78	6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	53.08 81.55	12.70 81.55	15.09 96.01	18.26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	25.40 155.15
300	12	323.9	3.96 31.89	4.57 36.73	9.53 75.32	12.70 99.43	4.57 35.98	6.35 49.73	8.38 65.20	9.53 73.88	10.31 79.73	14.27 108.96	12.70 97.46	17.48 132.08	21.44 159.91	25.40 186.97	28.58 208.14	33.32 238.76	25.40 186.97
350	14	355.6	3.96 35.06	4.78 42.14	9.53 81.33	12.70 107.40	6.35 54.69	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.70	12.70 107.39	19.05 158.10	23.83 194.96	27.79 224.65	31.75 253.56	35.71 281.70	
400	16	406.4	4.19 42.41	4.78 48.26	9.53 93.27	12.70 123.31	6.35 62.64	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35	
450	18	457.2	4.19 47.77	4.78 54.36	9.53 108.37	12.70 140.62	6.35 70.57	7.92 87.71	11.13 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 139.15	23.83 254.57	29.36 309.62	34.93 363.56	39.67 408.26	45.24 459.37	
500	20	508.0	4.78 60.46	5.54 70.00	9.53 117.15	12.70 155.13	6.35 78.55	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.83	12.70 155.12	26.19 311.17	32.54 381.53	38.10 441.49	44.45 508.11	50.01 564.81	
550	22	558.8	4.78 66.57	5.54 77.06	- -	- -	6.35 86.54	9.53 129.13	12.70 171.09	9.53 129.13	- -	22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26	
600	24	609.6	5.54 64.16	6.35 96.37	9.53 141.12	12.70 187.07	6.35 94.53	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	59.54 808.22	
650	26	660.4					7.92 127.36	12.70 202.72	- -	9.53 152.87	- -		12.70 202.72						
700	28	711.2					7.92 137.32	12.70 218.69	15.88 271.21	9.53 164.85	- -		12.70 218.69						
750	30	762.0	6.35 120.72	7.92 150.36			7.92 147.28	12.70 234.67	15.88 292.18	9.53 176.84	- -		12.70 234.67						
800	32	812.8					7.92 157.24	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64						
850	34	863.6					7.92 167.20	12.70 266.61	15.88 332.12	9.53 200.31	9.53 364.90		12.70 266.61						
900	36	914.4					7.92 176.96	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27						
950	38	965.2								9.53 224.54			12.70 298.24						
1000	40	1016.0								9.53 236.53			12.70 314.22						
1050	42	1066.8								9.53 248,52			12.70 330,19						
1100	44	1117.8								9.53 260.50			12.70 346.16						
1150	46	1168.4								9.53 272.25			12.70 351.82						
1200	48	1219.2								9.53 284.24			12.70 377.79						

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