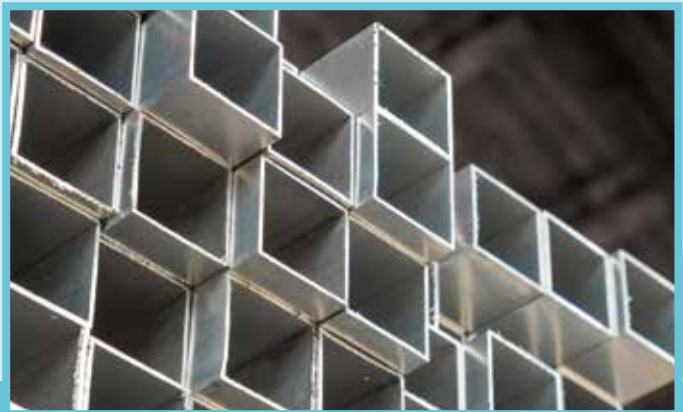


Engtex

A member of Engtex Group Berhad

ESP

ENGTEX STEEL PIPE SDN BHD
Manufacturer of ERW Pipes



IKRAM QA
CERTIFICATION



K-MARK

PRODUCT CATALOGUE



COMPANY PROFILE

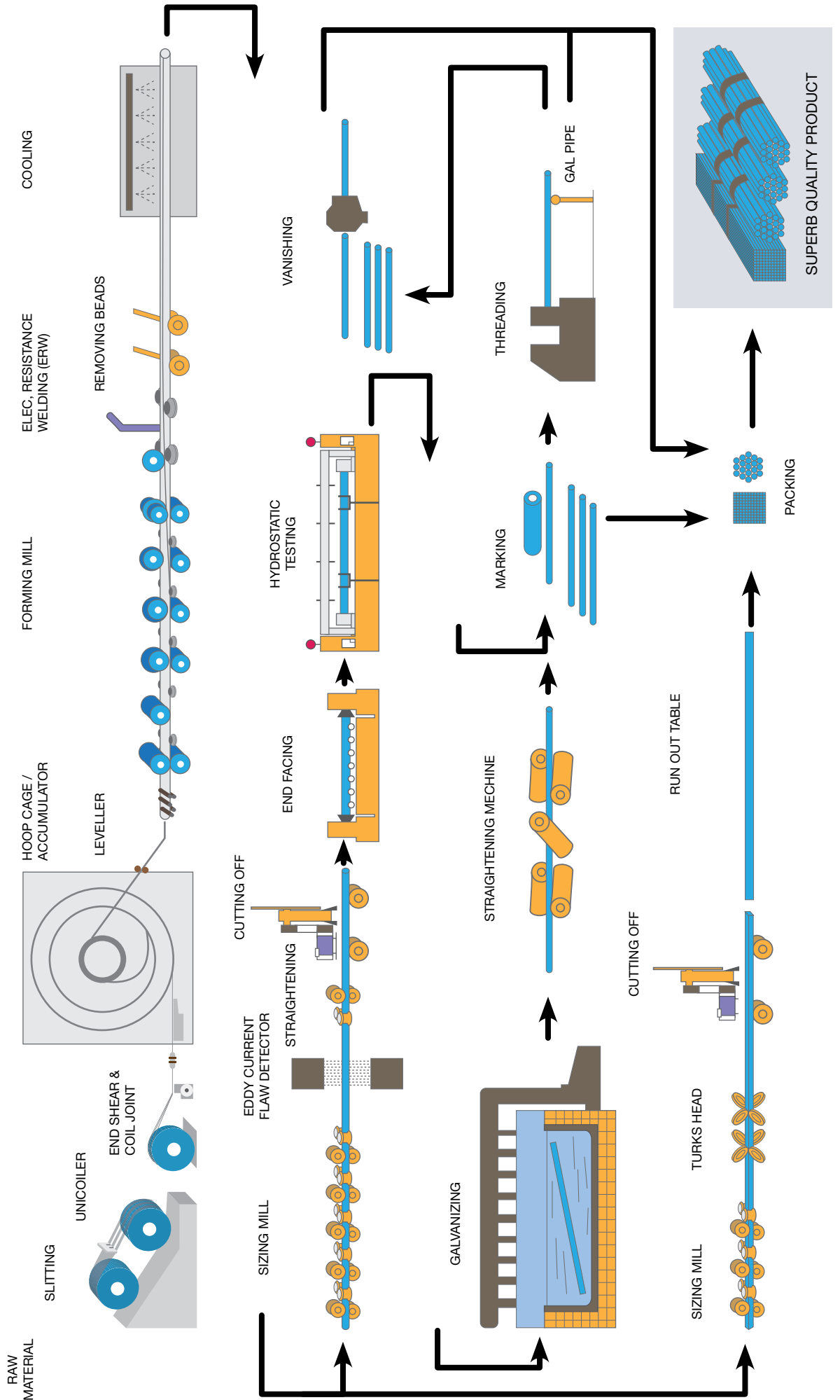
Engtex Steel Pipe Sdn Bhd ("ESP") is a subsidiary of Engtex Group Bhd, a company listed in the Bursa Malaysia Securities Bhd. ESP factory was set up and commercialize its products in 2018 on the manufacturing of ERW steel pipes and hollow sections. It produce a wide range of quality industrial products which cover its applications in water, oil and gas industries, building construction, infra-structural, and general engineering industries. We have pipe mill facilities and its supporting equipments to manufacture ERW steel pipes ranging

from 1/2"Ø (21.4mm O.D) to 10"Ø (275.7mm O.D) and steel hollow sections ranging from 25mm square to 150mm square with thickness from 1.60mm to 6mm. Our products also conform to IKRAM QA Certification and are recognized by our relevant product certification body such as CIDB.

For business sustainability, we are driven very much in providing competitive price, consistent quality, enhanced relationship and excellent service for all our value customers and trading partners.



MANUFACTURING PROCESS FLOW



MAIN PRODUCTS

Our Company manufactures a wide range of quality industrial steel products which are widely accepted by the building and secondary manufacturing industries.



WATER & GENERAL APPLICATION

For carrying water, gas, steam, etc.
For agricultural application, civil engineering,
steel towers, furniture, mining industry, etc.

SPECIFICATION

BS EN 10255/BS 1387
MS 863 : 2010
JIS G 3452

Welded Steel Pipe for Ordinary Uses, Water Piping and Structural Purposes



WATER & GENERAL APPLICATION

Industrial water, irrigation & agriculture water,
sewage & drainage piping, etc.

SPECIFICATION

BS EN 10224/BS 3601
SPAN TS-21827

ERW Steel Tubes for Cement Lined Pipes



OTHER GENERAL APPLICATION

Ordinary uses, light structure support, etc.

SPECIFICATION

ESP S1
Manufacturer's
Standard

Carbon Steel Tubes for General Purposes (A, AA Pipes)



STRUCTURAL APPLICATION

Buildings, bicycles, vehicles, machineries, lamp
post, hand rails, furniture pipes, structures and all
other supports, etc.

SPECIFICATION

BS EN 10219
ASTM A 500
JIS G 3444

Square, Rectangular and Circular Hollow Sections for Building Construction, Infrastructure
and General Engineering Industry.

ERW PIPES



Technical Specification References

Classification	Specification	Designation of Grade	Mechanical Properties			Chemical Composition %					Bend Test (N2)		Flattening Test H
			Tensile Strength Min.	Yield Strength Min.	Elongation Min.	C	Si	Mn	P	S	Bending Angle	Bending Radius	
			N/mm ²	N/mm ²	%	Max	Max	Max	Max	Max			
Welded Steel Tubes - Light, Medium & Heavy	BS EN 10255/ BS 1387 MS 863 : 2010	-	320 to 520	195	20 (N3)	0.20	-	1.20	0.045	0.045	180 °	6D	3/5 D
Carbon Steel Pipes For Ordinary Piping	JIS G 3452	SGP	290min.	-	(N1) Test Piece No. 11 & 12 - 30 min. (N1) Test Piece No. 5 - 25min.	-	-	-	0.040	0.040	90 °	6D	2/3 D
ERW Steel Tubes for Cement Lined Pipes	BS EN 10224/ BS 3601 SPAN TS-21827: PART 2	ERW 320	320 - 460	195 min.	25 (N3)	0.16	-	0.30-0.70	0.040	0.040	-	-	As specified in BS 3601
		ERW 430	430 - 570	275 min.	22 (N3)	0.21	0.35	0.40 - 1.20	0.040	0.040			Specification
ESP Manufacturer Standard Welded Steel Pipes	ESP S1	(A) (AA)	270 min.	170 min.	20 (N3)	0.20	-	1.20	0.045	0.045	90 °	6D	1/3 D

NOTES :

- (N1) - When the tensile test is carried out on No. 12 or No. 15 test piece for the pipe under 8mm in wall thickness the minimum value of elongation shall be obtained by subtracting 1.5% from the thickness values of elongation given in Table above for each 1 mm decrease in wall thickness, and rounding off to an integer in accordance with JIS Z 8401
- (N1) - The values elongation given in Table above shall not applied to the pipe whose nominal size is 32mm or smaller.
- (N2) - Bend Test in table above only applied to pipes of nominal size 2" (50mm) or smaller.
- (N3) - Gauge length $L_0 = 5.65 \sqrt{S_0}$ (%)
 - H - Distance between the plates
 - D - Outside diameter of the pipe
 - ESP S1 - Manufacturer's Standard

BS 1387 : 1985 / MS 863 : 2010 Light, Medium, Heavy

GENERAL INFORMATION OF BS 1387 / MS 863 : WELDED STEEL PIPE

DESCRIPTION	BS 1387 : 1985 welded steel tube is produced in three thickness classes* - Light, Medium and Heavy - available in black finished or hot dipped galvanized finished in 6 meter uniform mill lengths.			
APPLICATIONS	For ordinary conveyance of steam, gas, air, water, etc.			
END FINISH AND END PROTECTION	Plain-end square-cut (PE) or threaded and fixed with coupling (T/C). (PE) tubes are shipped without any protection on both ends. T/C tubes are supplied screwed with taper threads to BS 21 and fitted with one taper-threaded malleable iron socket, as required under this specifications.			
IDENTIFICATION MARKING	Tubes are marked by colour bands about 50mm wide, painted about 300mm from each end, as follow : Light tubes - Brown Medium tubes - Blue Heavy tubes - Red			
PERTINENT EXCERPTS FROM BS 1387 : 1985 SPECIFICATION				
CHEMICAL COMPOSITION	The chemical composition of the steel, by ladle analysis, shall comply with the table below			
	C max.	Mn max.	P max.	S max.
	0.20%	1.20%	0.045%	0.045%
MECHANICAL PROPERTIES	The mechanical properties at room temperature shall be given as table below :			
	Tensile strength (N/ mm ²)	: 320 to 460		
	Yield strength (N/ mm ²)	: 195 min.		
	Elongation on gauge length $L_0 = 5.65 \sqrt{S_0}$ (%)	: 20 min.		
TOLERANCES ON DIMENSION AND MASS	Outside Diameter :	As shown in table on following page.		
	Wall Thickness :	Light tubes	- 8%	
		Medium and heavy tubes	-10%	
	Mass :	The mean consignment mass for quantities of 150 mm and over of one size shall not deviate more than $\pm 4\%$ from the mass of consignment calculated from the mass given in table appropriate. No single tube shall deviate by more than = 10%, -8% from the mass given in table as appropriate.		
BEND TEST	Black tubes up to and including DN 50 shall be bent cold without any signs of fracture or failure, through 180 degrees round a former having a radius at the bottom of the groove equal to six times the outside diameter of the tube as given in table. Hot-dip-zinc coated tubes shall be bent cold without cracking the steel, through 90° round a former having a radius at the bottom of the groove equal to eight times the outside diameter of the tube.			
FLATTENING TEST	The flattening test applies to tubes greater than DN 50. A ring not less than 40mm in length taken from one end of each selectes tube shall be flattened cold between parallel flat platens without showing either crack or flaw until the distance between the platens, measured under load, is not greater than 75% of original outside diameter of the tube, and no cracks or flaws in the metal elsewhere than in the weld shall occur until the distance between the platens is less than 60% of original diameter. The weld shall be placed at 90 degrees to the direction of flattening.			
LEAK TIGHTNESS TEST	The test shall be either a hydraulic test at a pressure of 50 bar (50 x 10 N/ M ²), or, alternatively, an eddy current test.			
HOT-DIP ZINC COATING TEST (IF REQUIRED)	After the four successive one-minute immersions in the copper-sulphate solution, the test sample shall not show any adherent red deposits of metallic copper.			
BORE TEST FOR HOT-DIP COATED TUBES	Hot-dip zinc coated tubes up to and including DN 25mm shall have a rod 230 mm in length, of the appropriate diameter specified below, passed through them and shall have a free bore.			
	Rod Diameters			
	Nominal size (DN)			Diameter of Rod (mm)
	15mm			9.5
	20mm			14.3
	25mm			20.6

BLACK & GALVANIZED Welded Steel Pipes

MS 863 : 2010 / MANUFACTURER'S STANDARD

CLASS	Nominal		Outside Diameter		Wall	Calculated Weight						Number of Threads	Socket		Test Pressure	
	Size		Maximum	Minimum	Thickness	Plain Ends			Threads And Coupling				Outer Diameter	Min Length		
	mm	in	mm	mm	mm	kg/m	kg/ft	lb/ft	kg/m	kg/ft	lb/ft	per inch	mm	mm	Bar	Psi
LIGHT (L2)	15	1/2	21.4	21.0	2.0	0.947	0.289	0.636	0.956	0.291	0.642	14	27.8	38.1	50	725
	20	3/4	26.9	26.4	2.3	1.38	0.421	0.928	1.39	0.424	0.935	14	34.1	41.3	50	725
	25	1	33.8	33.2	2.6	1.98	0.604	1.33	2	0.61	1.34	11	42.1	47.6	50	725
	32	1 1/4	42.5	41.9	2.6	2.54	0.774	1.71	2.57	0.78	1.73	11	51.6	54.0	50	725
	40	1 1/2	48.4	47.8	2.9	3.23	0.985	2.17	3.27	1	2.2	11	57.9	57.2	50	725
	50	2	60.2	59.6	2.9	4.08	1.24	2.73	4.15	1.26	2.78	11	70.6	63.5	50	725
	65	2 1/2	76.0	75.2	3.2	5.71	1.74	3.83	5.83	1.78	3.92	11	87.3	69.9	50	725
	80	3	88.7	87.9	3.2	6.72	2.05	4.52	6.89	2.1	4.63	11	101.6	76.2	50	725
	100	4	113.9	113.0	3.6	9.75	2.97	6.55	10	3.05	6.72	11	128.6	88.9	50	725
MEDIUM (M)	15	1/2	21.8	21.1	2.6	1.21	0.369	0.814	1.22	0.372	0.82	14	27.8	38.1	50	725
	20	3/4	27.3	26.5	2.6	1.56	0.475	1.05	1.57	0.479	1.06	14	34.1	41.3	50	725
	25	1	34.2	33.3	3.2	2.41	0.735	1.62	2.43	0.741	1.63	11	42.1	47.6	50	725
	32	1 1/4	42.9	42.1	3.2	3.1	0.945	2.08	3.13	0.954	2.1	11	51.6	54.0	50	725
	40	1 1/2	48.8	47.9	3.2	3.56	1.09	2.4	3.6	1.1	2.42	11	57.9	57.2	50	725
	50	2	60.8	59.7	3.6	5.03	1.53	3.37	5.1	1.55	3.42	11	70.6	63.5	50	725
	65	2 1/2	76.6	75.3	3.6	6.42	1.96	4.32	6.54	1.99	4.39	11	87.3	69.9	50	725
	80	3	89.5	88.0	4.0	8.36	2.55	5.62	8.53	2.6	5.73	11	101.6	76.2	50	725
	100	4	115.0	113.1	4.5	12.2	3.72	8.2	12.5	3.81	8.4	11	128.6	88.9	50	725
HEAVY (H)	15	1/2	21.8	21.0	3.2	1.44	0.439	0.968	1.45	0.442	0.974	14	27.8	38.1	50	725
	20	3/4	27.3	26.5	3.2	1.87	0.57	1.257	1.88	0.573	1.263	14	34.1	41.3	50	725
	25	1	34.2	33.3	4.0	2.93	0.896	1.98	2.95	0.899	1.98	11	42.1	47.6	50	725
	32	1 1/4	42.9	42.0	4.0	3.79	1.16	2.56	3.82	1.16	2.57	11	51.6	54.0	50	725
	40	1 1/2	48.8	47.9	4.0	4.37	1.33	2.95	4.41	1.34	2.96	11	57.9	57.2	50	725
	50	2	60.8	59.7	4.5	6.19	1.89	4.17	6.26	1.91	4.21	11	70.6	63.5	50	725
	65	2 1/2	76.6	75.3	4.5	7.93	2.42	5.34	8.05	2.45	5.41	11	87.3	69.9	50	725
	80	3	89.5	88.0	5.0	10.3	3.14	6.92	10.5	3.2	7.06	11	101.6	76.2	50	725
	100	4	115.0	113.1	5.4	14.5	4.42	9.71	14.8	4.51	9.95	11	128.6	88.9	50	725
125	5	140.8	138.5	5.4	17.9	5.46	12	18.4	5.61	12.4	11	155.6	95.3	50	725	
150	6	166.5	163.9	5.4	21.3	6.49	14.3	21.9	6.68	14.7	11	184.2	95.3	50	725	

Tolerance :	Wall thickness	: Light (L2)	- 8%
		Medium (M) and Heavy (H)	- 10%
	Length	: Plus 50mm or minus 0mm (Manufacturer Standard)	
	Mass	: Plus 10% or minus 8% on individual tubes for type L2	

BLACK Welded Steel Pipes (For General Structure Purposes)

ESP S1 MANUFACTURER'S STANDARD

CLASS	Nominal Size		Outside Diameter				Wall Thickness		Calculated Weight Plain Ends		
			Maximum		Minimum						
	mm	in	mm	in	mm	in	mm	in	kg/m	kg/ft	lb/ft
LIGHT (A)	90	3 1/2	102.0	3.98	101.1	3.95	3.2	0.126	7.761	2.366	5.220
EXTRA LIGHT (AA)	15	1/2	21.4	0.84	21.0	0.83	1.6	0.063	0.773	0.236	0.520
	20	3/4	26.9	1.06	26.4	1.04	1.6	0.063	0.990	0.302	0.666
	25	1	33.8	1.33	33.2	1.31	1.9	0.075	1.480	0.451	0.994
	32	1 1/4	42.5	1.67	41.9	1.65	1.9	0.075	1.890	0.576	1.270
	40	1 1/2	48.4	1.90	47.8	1.88	1.9	0.075	2.160	0.658	1.450
	50	2	60.2	2.30	59.6	2.35	1.9	0.075	2.720	0.829	1.830
	65	2 1/2	76.0	2.99	75.2	2.96	1.9	0.075	3.450	1.050	2.310
	80	3	88.7	3.49	87.9	3.46	2.1	0.083	4.460	1.360	3.000
	90	3 1/2	102.0	3.98	101.1	3.95	2.1	0.083	5.150	1.570	3.460
	100	4	113.9	4.48	113.0	4.45	2.3	0.091	6.310	1.920	4.230
	125	5	140.6	5.53	138.7	5.46	4.0	0.157	13.400	4.080	8.990
150	6	166.1	6.54	164.1	6.46	4.0	0.157	15.900	4.850	10.700	
(AAA)	25	1	33.8	1.33	33.2	1.31	1.6	0.063	1.259	0.384	0.847
	32	1 1/4	42.5	1.67	41.9	1.65	1.6	0.063	1.602	0.488	1.076
	40	1 1/2	48.4	1.90	47.8	1.88	1.6	0.063	1.835	0.559	1.233
	50	2	60.2	2.30	59.6	2.35	1.6	0.063	2.300	0.701	1.546
	65	2 1/2	76.0	2.99	75.2	2.96	1.6	0.063	2.920	0.890	1.962
	80	3	88.7	3.49	87.9	3.46	1.6	0.063	3.421	1.043	2.300
	100	4	113.9	4.48	113.0	4.45	1.9	0.075	5.226	1.593	3.513
	125	5	140.6	5.53	138.7	5.46	3.0	0.118	10.110	3.082	6.796
	150	6	166.1	6.54	164.1	6.46	3.0	0.118	11.990	3.655	8.059

Thickness Tolerances : $\pm 10\%$