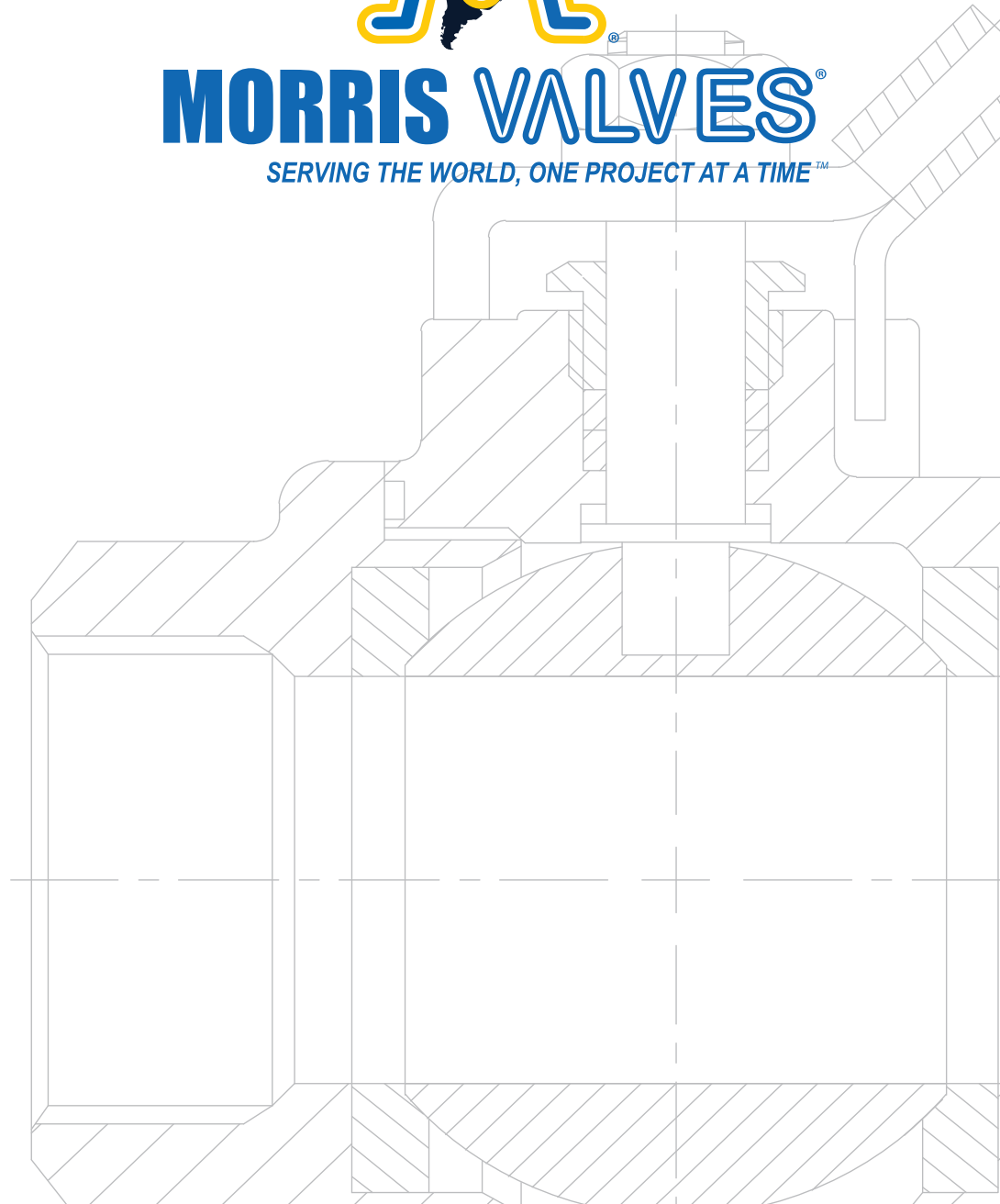




MORRIS VALVES®

SERVING THE WORLD, ONE PROJECT AT A TIME™



API 5L ERW PIPE

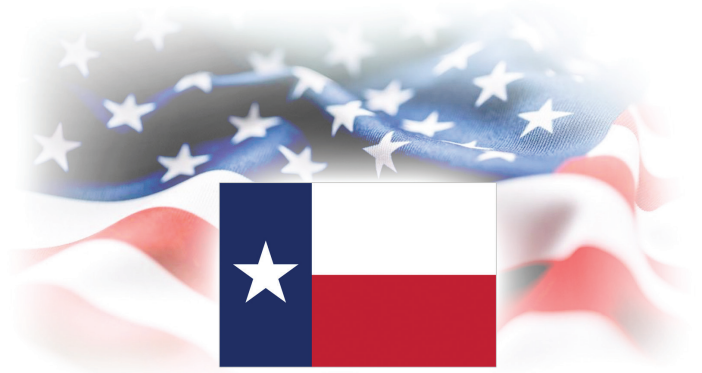
www.morrisvalve.com



In 1984, our journey into the business of repairing valves and industrial instrumentation began. That journey has led us to represent and service well known American brands and companies. In early 2000, our experience and growing passion for the valve industry encouraged our decision to launch our own brand, Morris Valves. Starting with the highly requested Ball Valves, the brand has been based on the principal of quality and performance to match our customers' needs. Our high standards of production later lead us to incorporate other models such as Gate Valve and Check Valves to our production. These additions were carefully selected to match our Standard of Quality. Our success has been driven by our belief of "Tradition with Quality" in everything we do. Our products are developed with that belief which drives our growth and guides the service we provide to our customers.

Contacts

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Vision

Our vision is to be amongst the leading corporations in the supply of goods and services related to valves, their components and industrial equipment in general. We want to conquer new markets in conformity with international standards and remain committed to customer satisfaction, the welfare of our company and the sustainability our planet.

Mission

Our mission is to use our highly trained, highly focused, and extremely motivated staff to work with manufacturers who value quality and have the vision for new development and product applications to ensure the timely provision of goods and services related to valves, their components and industrial equipment in general. We maintain a rigorous standard of customer satisfaction, which will provide for the welfare of the company, the welfare of the countries we serve, and most importantly the sustainability of the planet.

"Serving the world, one project at a time"

United States of America

United States Patent and Trademark Office



Reg. No. 4,840,307

Registered Oct. 27, 2015

Int. Cl.: 6

TRADEMARK

PRINCIPAL REGISTER

MORRIS VALVES, INC. (FLORIDA CORPORATION)
5590 N.W. 84TH AVE.
MIAMI, FL 33166

FOR: METAL PIPES AND METAL FITTINGS THEREFOR; METAL TUBES AND METAL FITTINGS THEREFOR, IN CLASS 6 (U.S. CLS. 2, 12, 13, 14, 23, 25 AND 50).

FIRST USE 2-11-2015; IN COMMERCE 2-11-2015.

OWNER OF U.S. REG. NO. 4,241,186.

THE COLOR(S) YELLOW, WHITE, AND BLUE IS/ARE CLAIMED AS A FEATURE OF THE MARK.

THE MARK CONSISTS OF A STYLIZED WHITE LETTER "V" WITH A BLUE OUTLINE INSIDE OF A STYLIZED LETTER "M" IN BLUE OUTLINED WITH YELLOW. THE BACKGROUND OF THE MARK IS WHITE.

SER. NO. 86-543,795, FILED 2-24-2015.

MARCIE MILONE, EXAMINING ATTORNEY



Michelle K. Lee

Director of the United States
Patent and Trademark Office

ELECTRIC RESISTANCE WELDED PIPES (ERW)

The processing of Electric Resistance Welded (ERW, induction welding and contact welding) pipe begins as a coiled plate of steel with appropriate thickness and specific width to form a pipe that conforms to its relevant specification.

ERW pipe is cold formed.

The ribbon is pulled through a series of rollers that gradually form it into a cylindrical tube. As the edges of the now cylindrical plate come together, an electric charge is applied at the proper points to heat the edges so they can be welded together. The pipe has short weld joints, high dimensional accuracy, uniform thickness, and excellent surface and can bear high pressure.

ERW pipe is a high-speed production product, that can be made in continuous lengths up to 115'(35m). It produces uniform wall thicknesses and outside dimensions and is made in a wide range of specifications. It does, however, require minimum tonnage to set up on a specific size and sometimes has long lead times.



ERW Pipe is available in the follow specifications.

- * ASTM A-53 pipe comes in three types (F, E, S) and two grades (A, B).
- * ASTM A-53 Type E has an ERW (Grades A and B)
 - Size Range: 1/8" - 12".
- * A-135.
- * A-252 Grade 1, 2, 3.
- * API5L Grade A & B.
- * API5L X42 thru X55

The API 5L covers SMLS & WELDED steel line pipe. Specifications for API 5L adhere to the ISO 3183 which standardizes pipe line transportation systems whiting the materials, equipment and offshore structures for Petroleum, Petrochemical and natural gas Industries.

There are two basic Products Specifications Levels (PSL) of technical requirements and therefore developed PSL1 & PSL2.

PSL1 is a standard quality for line pipe where PSL2 contains additional chemical, mechanical properties, and testing requirements.

Grades covered by this specification are: A25, A, B (API5L Grade A & B) and the following "X" Grades, X42, X46, X52, X56, X 60, X65, X70, X80.

The two-digit Number following the "X" indicates the Minimum Yield Strength in 000's Psi of Pipe produced to this Grade.

SPECIFICATIONS FOR ERW															
Chemical Properties												Mechanical Properties			
STD	CLASS	Grade	C Max.%	Mn. Max.%	P Max.%	S Max.%	Cu Max.%	NiA Max.%	CrA Max.%	MoA Max.%	VA Max.%	Yield Strength Min.(Ksi)	Yield Strength Max.(Ksi)	Tensile Strength Min.(Ksi)	Tensile Strength Max.
API 5L	TYPE E (ERW)	A	0.25	0.95	0.05	0.045	0.4	0.4	0.4	0.15	0.08	30	None	48	None
		B	0.3	1.2	0.05	0.045	0.4	0.4	0.4	0.15	0.08	30	None	60	None
		2B	I	0.21	0.60	0.30	0.30	-	-	-	-	25	None	45	None
			II	0.21	0.60	0.80	0.30	-	-	-	-	25	None	45	None
		A	0.22	0.90	0.030	0.030	-	-	-	-	-	30	None	48	None
		B	0.26	1.20	0.030	0.030	-	-	-	-	-	35	None	60	None
		X42	0.26	1.30	0.030	0.030	-	-	-	-	-	42	None	60	None
		X46	0.26	1.40	0.030	0.030	-	-	-	-	-	46	None	63	None
		X52	0.26	1.40	0.030	0.030	-	-	-	-	-	52	None	66	None
		X56	0.26	1.40	0.030	0.030	-	-	-	-	-	56	None	71	None
	PSL1	X60	0.26	1.40	0.030	0.030	-	-	-	-	-	60,	None	75	None
		X65	0.26	1.45	0.030	0.030	-	-	-	-	-	65	None	77	None
		X70	0.26	1.65	0.030	0.030	-	-	-	-	-	70	None	82	None
		B	0.22	1.20	0.025	0.015	-	-	-	-	-	35	65	60	110
		X42	0.22	1.30	0.025	0.015	-	-	-	-	-	42	72	60	110
		X46	0.22	1.40	0.025	0.015	-	-	-	-	-	46	76	63	110
		X52	0.22	1.40	0.025	0.015	-	-	-	-	-	52	77	66	110
		X56	0.22	1.40	0.025	0.015	-	-	-	-	-	56	79	71	110
		X60	0.22	1.40	0.025	0.015	-	-	-	-	-	60	82	75	110
		X65	0.22	1.45	0.025	0.015	-	-	-	-	-	65	87	77	110
		X70	0.22	1.65	0.025	0.015	-	-	-	-	-	70	90	82	110
	PSL2	X80	0.22	1.85	0.025	0.015	-	-	-	-	-	80	100	90	120

A) The total composition for these five elements shall not exceed 1.00 %.

B) For each reduction of 0.01 % below the specified carbon maximum, an increase of 0.06 % manganese above the specified maximum will be permitted up to a maximum of 1.35 %.

Sizes: For ERW We use the 24" diameter pipe because it is the only size common to all the forms of production.

ASTM A-53 Type E has an ERW (Grades A and B)

* Size Range: 1/8" - 12"

* **Weight Class:** STD, XS (Extra Strong), XXS(Double Extra Strong)

* **Schedule Numbers:** 40,80,160

It is common practice to dual stencil seamless pipe with API5L and ASTM A-53 monograms.

ASTM A53 API5L PSL1 Gr B, X42,X52,X60

* Size Range: 2" - 24"



Sizes: The NPS value in inches relates to the inside diameter (ID). i.e. a 1" SCH STD tube has an I.D.= 1" (25.4mm); but only up to 12 inches.

For NPS 14 and larger, the NPS Is equal to the outside diameter in inches, which are based on ASME standards B36.10M and B36.19M).

W.T	ERW PIPES COMMON SIZES (NPS/O.D) WEIGHT CLASS/SCHEDULE (Lb/Ft)																		
	ASTM A-53 Gr B									ASTM A53, API 5L (DUAL STENCIL)									
	1/2 0.840	3/4 1.050	1 1.315	1-1/2 1.900	2 2.375	2-1/2 2.875	3 3.500	4 4.500	6 6.625	8 8.625	10 10.75	12 12.75	14	16	18	20	22	24	26
0.109	STD (0.85)																		
0.147	XS (1.09)																		
0.188	160 (1.31)																		
0.294	XXS (1.72)																		
0.113	STD (1.13)																		
0.133		STD (1.68)																	
0.145			STD (2.72)																
0.154	XS/80 (1.48)			STD (3.66)															
0.179		XS (2.17)																	
0.200			XS/80 (3.63)		STD (5.80)														
0.216						STD (7.58)													
0.218					XS (5.03)														
0.219	160 (1.95)																		
0.237							STD (10.80)												
0.250		160 (2.85)							20 (22.38)	20 (22.38)	20 (33.41)								
0.276					XS (7.67)														
0.277									30 (24.72)										
0.280								STD (18.99)											
0.281			160 (4.86)																
0.300						XS (10.26)													
0.307										30 (24.72)									
0.308	XXS (2.44)																		
0.312												20 (45.65)	20 (52.32)	20 (58.99)					
0.322									STD/40 (28.58)										
0.330											30 (43.81)								
0.337								XS/80 (15.00)											
0.344				160 (7.47)															
0.358			XXS (3.66)																
0.365										STD/40 (28.58)									
0.375					160 (10.02)						STD (49.61)	STD/30 (54.62)	STD/30 (62.64)	STD (70.65)	STD/20 (78.67)	STD/20 (86.69)	STD/20 (94.71)	STD (102.72)	
0.400			XXS (6.41)																

W.T	WEIGHT CLASS/SCHEDULE (Lb/Ft) ASTM A53, API 5L (DUAL STENCIL)																		
	ASTM A-53 Gr B																		
	1/2 0.840	3/4 1.050	1 1.315	1-1/2 1.900	2 2.375	2-1/2 2.875	3 3.500	4 4.500	6 6.625	8 8.625	10 10.75	12 12.75	14	16	18	20	22	24	26
0.406												40 (53.57)							
0.432									XS/80 (28.60)										
0.436					XXS 9.04														
0.438							160 (14.34)	120 (19.02)				40 (63.50)			30 (82.23)				
0.500									XS/80 (43.43)	XS/60 (54.79)	XS (65.48)	XS (72.16)	XS/40 (82.85)		XS 93.54	XS/30 (104.23)	XS/30 (114.92)	XS (125.61)	XS/20 (136.30)
0.531							160 (22.53)												
0.552					XXS 13.71														
0.562								120 (36.43)							40 (104.76)			30 (140.81)	
0.594									80 (64.49)			60 (85.13)				40 (123.23)			
0.600							XXS (18.60)												
0.656														60 (107.60)					
0.674								XXS (27.57)											
0.688											80 (88.71)							40 (171.45)	
0.719								160 (45.39)											
0.750												80 (106.23)			60 (138.30)				
0.812																60 (166.56)			
0.844														80 (136.74)					
0.864								XXS (53.21)											
0.875									XXS (72.49)										
0.906									160 (74.66)										
0.938												100 (130.98)			80 (171.08)				
1.000									XXS/140 (104.23)	XXS/120 (125.61)									
1.031														100 (164.98)		80 (209.06)			
1.094												120 (150.93)							
1.125									160 (115.75)								80 (251.05)		
1.156															100 (208.15)				
1.219													120 (192.61)					80 (296.86)	
1.250												140 (170.37)							
1.312											160 (160.42)								
1.406												160 (189.29)			120 (244.37)				
1.438													140 (223.85)						
1.562																			
1.594														160 (245.48)					
1.781															160 (308.79)				
1.969																160 (379.53)			
2.125																	160 (451.49)		
2.344																		160 (542.64)	

Applications:

ERW pipe is primarily used as:

- * API Line pipe for the transmission of gas and oil.
- * It is also used for the transmission of water Under AWWA specifications.
- * As piling and slurry pipe and mechanical applications.

- **Weight Class:** STD, XS (Extra Strong), XXS(Double Extra Strong).

- **Schedule Numbers:** 40,80,160

- **Surface finishes are available in:** Black (oiled). Galvanized. and Bare. Also, supplied with Inorganic coatings

(anodic chromate, oxide and vitress enamels); Organic coatings (paints. varnishes. lacquers. rubber, and plastics such as x-tru coat and Scotchkote); Bituminous coatings (asphalt and coal tar).

Marking: Required Marking on Each Length (Each Joint, Each Piece). On Tags attached to each Bundle in case of Bundled Pipe.

1. Rolled, Stamped or Stenciled (Manufacture Name) or Registered Trade Mark (MORRIS VALVES OR LOGO).
2. Kind of pipe; that is:
 - a. CW, ERW A, ERW B, Seamless A; or Seamless B;
3. STD, XS for extra strong, XXS for double extra strong.
4. Manufacturing STD (ASTM A53).
5. Length of pipe.

Length: 21 foot uniform lengths. (SRL) single random lengths from 16 foot to 22 foot and (DRL) double random lengths from 38 foot to 80 feet.

Ends: Square ends, Beveled 30° for welding, Threaded both ends, Threaded and coupled and Victaulic grooved for use with Victaulic couplings.

Inspection & Testing:

1. Hydrostatic test pressures for plain-end pipe According ASTM A53/A 53M,
2. Elongation in 2" Refer to A 53 table x 4.1, latest revisions - ASTM A53/A 53M
3. Ultrasonic testing,
4. Eddy current testing,
5. Magnetic particle Testing,
6. Impact testing, Hardness testing, etc.

Packaging:

For Sizes NPS 1 & 2 and smaller are normally put in standard bundles.



Certification:

MILL TEST CERTIFICATE ACCORDING TO EN10204 - 3.1 IN ENGLISH LANGUAGE

Warranty:

12 MONTHS FROM DATE OF COMMISSIONING OR 18 MONTHS FROM SHIPMENT DATE





A Tradition of Quality

*Our passion is to develop
solutions for difficult situations in
Industrial Applications, no matter
how large or small the project.*

"Serving the world, one project at a time"

