



TUBERIA
NACIONAL



Conduction Pipe

Villacero

Conduction Pipe

Black or Galvanized



In **TUNA** our conductive piping production, is done by heat reduction method, this causes the steel to become homogeneous thus obtaining the conditions needed for the conduction of fluids and gases.

Due to the homogenization of the steel, it acquires the malleability needed to provide ease in the bending and threading of the product.

We galvanize our pipes by the hot dip method which ensures a steady inner as an outer coating (a minimum of 150 gr/m²) providing endurance against corrosion far superior to that of the other methods.

The manufacturing processes are verified by strict quality control measures through a variety of tests and analysis, among which we have; the hydrostatic, ultrasound (Eddy current) and flattening to ensure that the quality is in accordance with all the domestic and international standards.

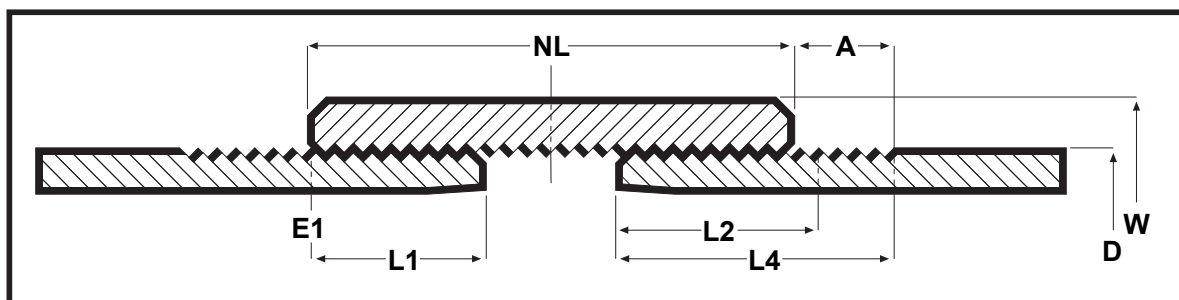
DIMENSIONS AND CHARACTERISTICS FOR WATER, GAS AND AIR CONDUCTION PIPING ASTM-A-53-A

NOMINAL SIZE		OUTSIDE DIAMETER		WALL THICKNESS		SCH.	PLAIN END WEIGHT		PIPE WEIGHT (kg)		PIPES/TON.	TEST PRESSURE ASTM-A-53-A		PACKING SYSTEM weight/bundle		
in	mm	in	mm	in	mm		lb/ft	kg/m	plain end	threaded & coupling		lb/in ²	kg/cm ²	pipes/bundle	kg	lb
1/2	13	0.840	21.3	0.109	2.77	40	0.85	1.27	8.13	8.20	123	700	50	127	1033	2277
				0.147	3.73	80	1.09	1.62	10.37	10.44	97	850	60	127	1317	2903
3/4	19	1.050	26.7	0.113	2.87	40	1.13	1.69	10.82	10.92	93	700	50	127	1374	3029
				0.154	3.91	80	1.47	2.20	14.08	14.12	71	850	60	127	1781	3926
1	25	1.315	33.4	0.133	3.38	40	1.68	2.50	16.00	16.16	63	700	50	91	1456	3210
				0.179	4.55	80	2.17	3.24	20.74	20.90	48	850	60	91	1887	4160
1 1/4	32	1.660	42.2	0.140	3.56	40	2.27	3.39	21.70	21.90	46	1200	85	91	1975	4354
				0.191	4.85	80	3.00	4.47	28.61	28.81	35	1800	127	61	1745	3847
1 1/2	38	1.900	48.3	0.145	3.68	40	2.72	4.05	25.92	26.20	39	1200	85	91	2359	5201
				0.200	5.08	80	3.63	5.41	34.62	34.90	29	1800	127	61	2112	4656
2	50	2.375	60.3	0.154	3.91	40	3.65	5.44	34.82	35.28	29	2300	162	61	2124	4683
				0.218	5.54	80	5.02	7.48	47.87	48.34	21	2500	176	32	1532	3377
2 1/2	64	2.875	73.0	0.203	5.16	40	5.79	8.63	55.23	56.28	18	2500	176	37	2041	4500
				0.160	4.06	NX	4.64	6.91	44.23	45.35	22	1950	137	37	1637	3609
3	76	3.500	88.9	0.216	5.49	40	7.58	11.29	72.26	73.78	14	2220	156	19	1373	3027
				0.170	4.32	NX	6.05	9.01	57.66	59.19	17	1930	136	19	1096	2416
4	102	4.500	114.3	0.237	6.02	40	10.79	16.07	102.85	104.82	10	1900	134	19	1953	4306
				0.188	4.78	NX	8.66	12.91	82.62	84.48	12	1500	105	19	1568	3457

Length: 21 ft.

THREADING BASIC DATA

PIPE			THREAD									COUPLING				
NOMINAL SIZE	OUTSIDE DIAMETER D		THREADS PER INCH.	END OF PIPE TO HAND TIGHT PLANE L1		EFFECTIVE LENGTH L2		TOTAL LENGTH L4		PITCH DIAMETER AT HAND TIGHT PLANE. E1		OUTSIDE DIAMETER W		LENGTH NL		HAND TIGHT STAND-OFF (No. OF THREADS)
	mm	in		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
1/2	21.34	(0.840)	14	8.13	(0.320)	13.56	(0.534)	19.85	(0.782)	19.77	(0.778)	27.00	(1.063)	39.69	1 9/16	5
3/4	26.67	(1.050)	14	8.61	(0.339)	13.86	(0.546)	20.15	(0.794)	25.12	(0.989)	33.35	(1.313)	41.28	1 5/8	5
1	33.40	(1.315)	11 1/2	10.16	(0.400)	17.34	(0.683)	25.01	(0.985)	31.46	(1.239)	40.03	(1.576)	50.80	2	5
1 1/4	42.16	(1.660)	11 1/2	10.67	(0.420)	17.95	(0.707)	25.62	(1.009)	40.22	(1.583)	48.26	(1.500)	52.34	2 1/16	5
1 1/2	48.26	(1.900)	11 1/2	10.67	(0.420)	18.38	(0.724)	26.04	(1.025)	46.29	(1.822)	55.88	(2.200)	52.34	2 1/16	5 1/2
2	60.33	(2.375)	11 1/2	11.07	(0.436)	19.22	(0.757)	26.88	(1.058)	58.33	(2.296)	69.85	(2.750)	53.97	2 1/8	5 1/2
2 1/2	73.03	(2.875)	8	17.32	(0.682)	28.89	(1.138)	39.91	(1.571)	70.16	(2.762)	82.55	(3.250)	79.38	3 1/8	5 1/2
3	88.90	(3.500)	8	19.46	(0.766)	30.48	(1.200)	41.50	(1.634)	86.07	(3.389)	101.60	(4.000)	82.55	3 1/4	5 1/2
4	114.39	(4.500)	8	21.44	(0.844)	33.02	(1.300)	44.04	(1.733)	111.43	(4.387)	127.00	(5.000)	88.90	3 1/2	5



Thread graph Specifications' nomenclature corresponds to the above tables.



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CHEMICAL AND PHYSICAL REQUIREMENTS FOR CONDUCTION PIPING STANDARDS

REQUIREMENTS		ASTM A-53-A NMX-B-177
Yield strength min. kg./cm. ² (lb./pulg. ²) / (PSI)		3,400 (48,000)
Ultimate tensile strength, min. kg./cm. ² (lb./pulg. ²) / (PSI)		2,109 (30,000)
M a x	% E en 2"	$\frac{A 0.2}{U 0.9}$
	% C X 100	25
	% Mn X 100	95
	% P X 1000	50
	% S X 1000	60
	% Cu X 100	-

A = Area
625.000

U = Last stress effort.
 $\frac{A 0.2}{U 0.9}$



COUPLING PIPES ASTM A - 53 - A

NOMINAL SIZE in	OUTSIDE DIAMETER in	INSIDE DIAMETER in	WALL THICKNESS in	H&D TEST PRESSURE kg/cm ²	WEIGHT kg/m
1/2	1.050	0.715	0.172	70	2.43
3/4	1.315	0.915	0.205	70	3.45
1	1.576	1.150	0.210	70	4.68
1 1/4	1.900	1.480	0.215	100	6.41
1 1/2	2.200	1.721	0.245	100	7.94
2	2.750	2.199	0.280	100	11.85

STANDARDS

SPECIFICATIONS		DESCRIPTION	DIMENSIONS				USAGE
U.S.A. ASTM	MEXICO NMX		DIAMETER		THICKNESS		
			MIN.	MAX.	MIN.	MAX.	
A-53-A	B-177 TYPE E GRADE A	Carbon steel, black and hot dipped galvanized seamed pipes for common usage.	1/2"	4"	SCH. 40 0.109"	0.237"	Liquid, air and vapor conduction for jobs that require bending and rim work.
			1/2"	2"	COUPLING 0.172"	0.291"	
			1/2"	2"	SCH. 80 0.147"	0.218"	
			2 1/2"	4"	NORM X 0.160"	0.188"	



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