

ASTM A53

- Production Standard of ASTM A53
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- Mechanical Properties Tensile Strength and Yield Strength of ASTM A53



Production Standard of ASTM A53

●ASTM A53

ASTM A53 is one of the standards of the American Society for Testing and Materials. The size range for the pipes is from NPS 1/8” to NPS 26”. The wall thickness of the pipes is also mentioned in the standard -astm a53 pipe Schedule 10, astm a53 pipe Schedule 20, astm a53 pipe Schedule 30, astm a53 pipe Schedule 40, astm a53 pipe Schedule 60, and astm a53 pipe Schedule 80. The various types of finishes available for the ASTM A53 pipes are black and hot-dipped, zinc-coated, welded, and seamless.

●Dimensions and Sizes of ASTM A53

NPS		O. D. mm	W. T.														
D N	Inc h		SCH 5S	SCH 10S	SCH 10	SCH 20	SCH 30	SCH 40	SCH 60	SCH 80	SCH 100	SCH 120	SCH 140	SCH 160	St h	XS	XXS
50	2"	60.3	1.65	2.77	-	-	-	3.91	-	5.54	-	-	-	8.74	3.91	5.54	11.07
65	2 1/2"	73	2.11	3.05	-	-	-	5.16	-	7.01	-	-	-	9.53	5.16	7.01	14.02

80	3"	88.9	2.11	3.05	-	-	-	5.49	-	7.62	-	-	-	11.13	5.49	7.52	15.24
90	3 1/2"	101.6	2.11	3.05	-	-	-	5.74	-	8.08	-	-	-	-	5.74	8.08	-
100	4"	114.3	2.11	3.05	-	-	-	6.02	-	8.58	-	11.13	-	13.49	6.02	8.56	17.12
125	5"	141.3	2.77	3.4	-	-	-	6.55	-	9.53	-	12.7	-	15.88	6.55	9.53	18.05
150	6"	168.3	2.77	3.4	-	-	-	7.11	-	10.97	-	14.27	-	18.26	7.11	10.97	21.95
200	8"	219.1	2.77	3.76	-	6.35	7.04	8.18	10.31	12.7	15.09	18.26	20.62	23.01	8.18	12.7	22.23
250	10"	273.1	3.4	4.19	-	6.35	7.8	9.27	12.7	15.09	18.26	21.44	25.4	28.58	9.27	12.7	25.4
300	12"	323.9	3.96	4.57	-	6.35	8.38	10.31	14.27	17.48	21.44	25.4	28.58	33.32	9.53	12.7	25.4
350	14"	355.5	3.96	4.78	6.35	7.92	9.53	11.13	15.09	19.05	23.83	27.79	31.75	35.71	9.53	12.7	-
400	16"	406.4	4.19	4.78	6.35	7.92	9.53	12.7	16.66	21.44	26.19	30.96	36.53	40.49	9.53	12.7	-
450	18"	457.2	4.19	4.78	6.35	7.92	11.13	14.27	19.05	23.83	39.36	34.93	39.67	45.24	-	-	-
500	20"	508	4.78	5.54	6.35	9.53	12.7	15.09	20.62	26.19	32.54	38.1	44.45	50.01	-	-	-
550	22"	558.8	4.78	5.54	6.35	9.53	12.7	-	22.23	28.58	34.93	41.28	47.63	53.98	-	-	-
600	24"	609.6	5.54	6.35	6.35	9.53	14.27	17.48	24.61	30.96	38.89	46.02	52.37	59.54	-	-	-

●Chemical Composition of ASTM A53

Elements	Type S (Seamless) Grade B	Type E (ERW) Grade B
Carbon max. %	0.30*	0.3
Manganese %	1.2	1.2
Phosphorous, max. %	0.05	0.05
Sulfur, max. %	0.045	0.045
Copper, max.%	0.4	0.4
Nickel, max. %	0.4	0.4
Chromium, max. %	0.4	0.4
Molybdenum, max. %	0.15	0.15
Vanadium, max. %	0.08	0.08

●Mechanical Properties Tensile Strength and Yield Strength of ASTM A53

Types and Grades	Min. Tensile Strength	Min. Yield Strength
Type E and S – ASTM A53 Grade A	330Mpa / 48000psi	205Mpa / 30000psi
Type F – ASTM A53 Grade A	330Mpa / 48000psi	205Mpa / 30000psi

● Thickness and Mass Tolerance of ASTM A53

Item	O.D.	Over	Under
Outside Diameter	NPS 1/8 to 1-1/2, DN 6 to 40	±0.4mm	±0.4mm
	NPS 2 and up, DN 50 and up	±1%	±1%
Wall Thickness at Any Point		—	±12.5%
Weight		±10%	±10%