

ASTM A234 Steel Pipe Fittings
Chemical Composition and Mechanical Properties

ASTM 234 Grade and Marking Symbol	(ASTM A234 steel pipe fittings) Chemical Composition, %						
	C	Mn	P	S	Si	Cr	Mo
WPB	0.30 max	0.29-1.06	0.05	0.058	0.10 min	0.40 max	0.15 max
WPC	0.35 max	0.29-1.06	0.05	0.058	0.10 min	0.40 max	0.15 max
WP1	0.28 max	0.30-0.90	0.045	0.045	0.10-0.50	...	0.44-0.65
WP12 CL1, WP12 CL2	0.05-0.20	0.30-0.80	0.045	0.045	0.60 max	0.80-1.25	0.44-0.65
WP11 CL1	0.05-0.15	0.30-0.60	0.03	0.03	0.50-1.00	1.00-1.50	0.44-0.65
WP11 CL2, WP11 CL3	0.05-0.20	0.30-0.80	0.04	0.04	0.50-1.00	1.00-1.50	0.44-0.65
WP22 CL1, WP22 CL3	0.05-0.15	0.30-0.60	0.04	0.04	0.50 max	1.90-2.60	0.87-1.13
WP5 CL1, WP5 CL3	0.15 max	0.30-0.60	0.04	0.03	0.50 max	4.0-6.0	0.44-0.65
WP9 CL1, WP9 CL3	0.15 max	0.30-0.60	0.03	0.03	1.00 max	8.0-10.0	0.90-1.10
WPR	0.20 max	0.40-1.06	0.045	0.05
WP91	0.08-0.12	0.30-0.60	0.02	0.01	0.20-0.50	8.0-9.5	0.85-1.05
WP911	0.09-0.13	0.30-0.60	0.02	0.01	0.10-0.50	8.5-9.5	0.90-1.10

ASTM A234 Grade and Marking Symbol	(ASTM A234 pipe fittings) Mechanical Properties								
	WPB	WPC, WP11 CL2, WP12 CL2	WP1	WP11 CL1, WP22 CL1, WP5 CL1, WP9 CL1	WPR	WP11 CL3, WP22 CL3, WP2 CL3, WP9 CL3	WP91	WP911	WP12 CL1
Tensile strength, range Ksi [MPa]	60-95 [415-655]	70-95 [485-655]	55-80 [380-550]	60-85 [415-585]	63-88 [435-605]	75-100 [520-690]	85-110 [585-760]	90-120 [620-840]	60-85 [415-585]
Yield strength, min, Ksi [MPa] (0.2% offset or 0.5% extension-under-load)	35 [240]	40 [275]	30 [205]	30 [205]	46 [315]	45 [310]	60 [415]	64 [440]	32 [220]

For more info please visit <https://www.octalsteel.com/astm-a234-steel-pipe-fittings>