

Weld Fittings and Flanges - ASTM Specifications

BUTT WELDING FITTINGS Carbon Steel Material Specification		
	ASTM Specification A234	
GRADE SYMBOL	WPA (Grade A)	WPB (Grade B)
Type of Steel	Carbon	Carbon
Chemical Composition	C-0.25 Max.	C-0.30 Max.
Minimum Physical Requirements	TS - 48,000 YP - 30,000	TS - 60,000 YP - 35,000
Heat Treatment	Cooled in still air.	Cooled in still air.

FLANGES Carbon Steel Material Specification*				
	ASTM Specification A181		ASTM Specification A105	
GRADE SYMBOL	I	II	III	IV
Type of Steel	Carbon		Carbon	
Chemical Composition	C-0.35 Max.		C-0.35 Max.	
Minimum Physical Requirements	TS - 60,000 YP - 30,000	TS - 70,000 YP - 36,000	TS - 60,000 YP - 30,000	TS - 70,000 YP - 36,000
Heat Treatment	Hot forged with finishing temperature above upper critical. Cooled in still air.		Hot forged with finishing temperature above upper critical. Cooled in still air.	

*Material specifications for the ASME Boiler Code are the same as ASTM except the letter S is prefixed thereto. A 35% Carbon maximum for flanges which are to be welded has been established by ASTM A181 and A105.

Grade and Composition Symbols for Carbon Steel Butt Welding Fittings		
WPA	Seamless Pipe	ASTM A106 Grade A
	Plate	ASTM A285 Grade C
	Forgings	ASTM Grade 1
	Bars*	ASTM GR. 1008-1022
WPB	Seamless Pipe	ASTM Grade B
	Plate	ASTM Grade 6S
	Forgings	ASTM Grade 11
	Bars*	ASTM GR. 1025-1030
WPC	Seamless Pipe	ASTM A106 Grade C
	Plate	-
	Forgings	ASTM A104 Grade 11*
* For fittings 2" nominal size and smaller		
Low Temperature Carbon Steel		
WPLO	Seamless and Welded Pipe	ASTM A332 Grade O
	Plate	ASTM A300 Class 1
	Forgings	ASTM A350 Grade LF1