

Butt Welding FITTING

(ASME/KS/JIS)

Wrought Steel Butt-Welding Fittings

(Carbon & Alloy Steel)

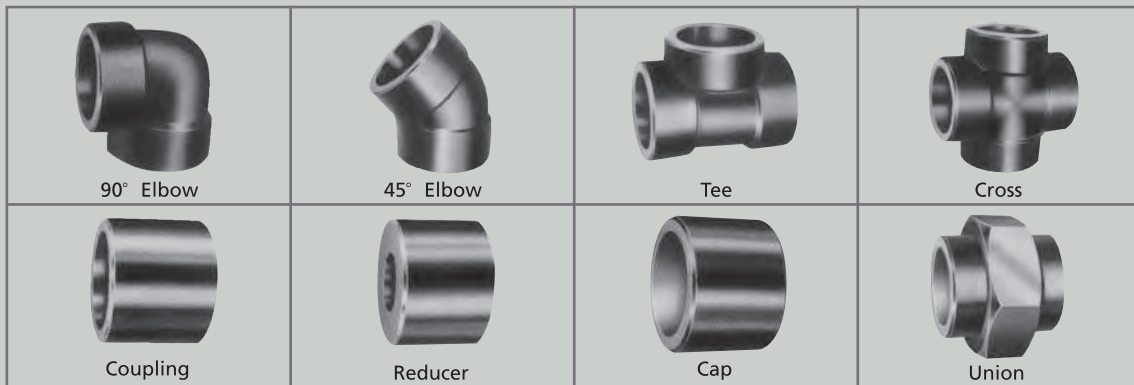
A long, smooth 90-degree elbow fitting.	A long, smooth 180-degree elbow fitting.	A concentric reducer fitting with a smooth transition.	A concentric reducer fitting with a smooth transition.
A short, smooth 90-degree elbow fitting.	A short, smooth 180-degree elbow fitting.	An eccentric reducer fitting with a smooth transition.	An eccentric reducer fitting with a smooth transition.
A long, smooth 45-degree elbow fitting.	A straight tee fitting.	A reducing tee fitting.	A hemispherical cap fitting.

Stainless Steel Butt-Welding Fittings

A long, smooth 90-degree elbow fitting.	A concentric reducer fitting with a smooth transition.	A straight tee fitting.
A short, smooth 90-degree elbow fitting.	An eccentric reducer fitting with a smooth transition.	A reducing tee fitting.
A long, smooth 45-degree elbow fitting.	A lap joint stub end fitting.	A hemispherical cap fitting.

Forged Steel Socket-Welding & Threaded Fittings

• Socket Welding Fittings



• Threaded Fittings



• Outlets



FITTING

(Capability)

1. Butt Welding Fitting

	Material	Product name	Production Range		Applicable Specifications
			Mold Type	Fab. Type	
Ferrous Material	Carbon Steel	- Elbow	~82"	~150"	KS, JIS, ASTM JPI, MSS, AWWA DIN, BS, ASME, API
	Low Alloy Steel (WP11~WP92)	- Tee	~72"	~150"	
		- Reducer	~48"	~150"	
High Alloy Steel (Stainless Steel)	- Cap	~150"	152"~		
	- Stub End	~16"	~60"		
	- Lateral				
Non-Ferrous Material	Ni Alloy Steel Cu Alloy Steel Al Alloy Steel	- Long Bend - Special Fittings (Fabrication Type)			

2. Forged Fitting

	Material	Product name	Production Range	Applicable Specification
Ferrous Material	Carbon Steel	- Elbow	~4"	KS, JIS, ASTM JPI, MSS, AWWA DIN, BS, ASME, API
	Low Alloy Steel (F11~F92)	- Tee		
		- Reducer/Insert		
High Alloy Steel (Stainless Steel)	- Cap			
	- Coupling			
	- Boss			
Non-Ferrous Material	Ni Alloy Steel Cu Alloy Steel Al Alloy Steel	- Union - Outlet	~36"	

3. Flange

	Material	Product name	Production Range	Applicable Specifications
Ferrous Material	Carbon Steel	- Welding Neck	~24"	KS, JIS, ASTM JPI, MSS, AWWA DIN, BS, ASME, API
	Low Alloy Steel (F11~F92)	- Slip on / Treaded		
		- Lap Joint		
High Alloy Steel (Stainless Steel)	- Ring Joint			
	- Blind			
	- Socket Welding			
Non-Ferrous Material	Ni Alloy Steel Cu Alloy Steel Al Alloy Steel	- Orifice - Long Neck		

*Nomenclature

- | | |
|---|---|
| 1. KS : Korean Industrial Standards | 6. AWWA : American Water Works Association |
| 2. JIS : Japanese Industrial Standards | 7. DIN : Deutsches Institut für Normung |
| 3. ASTM : American Society for Testing and Materials | 8. B.S : British Standards |
| 4. JPI : Japan Petroleum Institute | 9. ASME : American Society of Mechanical Engineers |
| 5. MSS : Manufacturers Standardization Society | 10. API : American Petroleum Institute |

FITTING (Possible Materials)

Ferrous Material						
Material Classification				Comparison as nations		
Large	Middle	Small		ASTM (U.S.A)		
				Designation	Identification	
Ferrous (Base Mat'l:Fe)	Carbon Steel	Ambient and Higher Temperature Service		A234	WPB	
		Low Temperature Service			A420	WPC
	Alloy Steel (Cr ≥ 1%)	High Alloy (Cr ≥ 12%) :Stainless Steel	Low Alloy (1% ≤ Cr ≤ 9%)		A234	WPL3
						WPL6
						WPL9
						WP1
						WP12
						WP11
						WP22
						WP23
						WP9
						WP91
	Alloy Steel (Cr ≥ 1%)	High Alloy (Cr ≥ 12%) :Stainless Steel	Martensitic Stainless Steel		A815	WP410
			Ferritic Stainless Steel			A815
Austenitic Stainless Steel			A403	WP304/L		
				WP316/L		
				WP317/L		
				WP321/H		
Super Austenitic Stainless Steel		A403	WP347/H			
Ferritic / Austenitic (Duplex / Super Duplex)		A815	S31254			
			904L			
			S31803			
			S32750			
			S32760			

*Applicable Code / Standard : ASTM Part A, 2007 Edition, ■ Non Registered materials on ASTM 2007 Edition.

Non-Ferrous Material Comparison		
Material Classification	Trade Mark	UNS NO.
Non-Ferrous (Base Mat'l : Ni)	Inconel 600	N06600
	Inconel 690	N06690
	Inconel 800H / 800HT	N08810 / N08811
	Inconel 625	N06625
	Incoloy 825	N08825
	Hastelloy B2	N10665
	Hastelloy C276	N10276
	Hastelloy C22	N06022
	Incoloy 020	N08020
	Monel 400	N04400
	Monel K500	N05500
Non-Ferrous (Base Mat'l : Cu)	Cu-Ni 70/30	C71500
	Cu-Ni 90/10	C70600