

کاتالوگ

فدراکاران تجهیز کالا

FLANGE

Korea K & F Engineering Co , Ltd

Creating Better Tomorrow

Company Profile

KVF

Korea V & F Engineering CO.,Ltd.



Korea V & F Engineering Co.,Ltd.

We are one of professional a wide Various kind of Flange & Forging and Valve Manufacturere.
We KOREA V&F Engineering Co.,Ltd. has been established 1997 for Valve products and also we have been produced for flange & forging material since 2003.

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MANUFACTURING
PROCEDURE



KVF

Korea V & F Engineering CO.,Ltd.

Address : 397-18, Samrak-Dong, Sasang-Ku, Busan, Korea. 617-826
Tel : +8251-301-1051 Fax : +8251-301-1059 email: kovafo@gmail.com

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Korea V & F Engineering Co., Ltd.

ABOUT US

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- ▶ Company History
- ▶ Company Policy
- ▶ Certification
- ▶ Factory View
- ▶ Flange Shop
- ▶ Valve Shop

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Company Policy Korea V & F Engineering Co., Ltd.

Korea V & F Engineering Co., Ltd.

397-18, Seonin-Dong, Seong-Pu, Busan, Korea 616-276
T. +82(51) 301 1951 (Fax) F. +82(51) 301 1959 www.kvfe.com

ENVIRONMENT POLICY

We recognize that the environmental problems are an important common issue for all humanity, and will actively work toward environmental protection and make a positive contribution to society.

We work toward improving the environment in accordance with the following environment policy:

1. We comply with environmental laws, regulations, agreements, requirements that we set forth and other requirements that we have agreed upon, upgrade our working procedures, and continue the improvement of environment of environmental management.
2. Among environmental impacts produced by our business activities, the following items should be addressed as issues of the highest priority for environmental and prevention of contamination:

1. Energy Saving
2. Reduction of waste materials.
3. Recycling of resources

Environmental policy should be made known to all the employees and persons who work for the company.

The environmental objective and target should be set in accordance with the Environmental policy and the foundation for the implementation of the environmental management system should be consolidated with the participation of all the employees and the persons who work for the company.
The environmental objective and target should be periodically reviewed.

The environmental policy must be documented and be made public if requested.

Revised: July 21st, 2008

President and Representative Director: YANG, KUK-IL

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Busan, Korea
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QUALITY POLICY

1. The Korea V and F Engineering Co., Ltd. Will continuously improve the quality management system to supply high quality products for our Customer's satisfaction.

2. We will implement our quality management system to supply high quality products continuously, while complying with the international quality system (ISO9001) (ISO9001:2000) and other applicable regulatory requirements.

3. The chief of each department should make the quality policy known to everyone in the department, set quality and try to fulfill them, and review the progress of the implementation.

4. All the employees including me should fulfill their responsibilities according to the scope of their duties to ensure the quality of our products.

Notes: Products from various our product range item like as below:

1. Forged and Casted Valves and their Part Materials
2. Forged & Plate Materials
3. Forged Flange Materials
4. Forged Filling Materials

Revised: July 21st, 2008

President and Representative Director: YANG, KUK-IL

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Certification Korea V & F Engineering Co., Ltd.

Quality Management System



Certificate of Registration

This is to certify that the Quality Management System of

KOREA V&F Engineering Co., Ltd.
 #364-21, Samnak-dong, Sasang-gu, Busan, Korea

Has been found to conform to the Quality Management System Standard :

KS Q ISO 9001:2009 / ISO 9001:2008

This certificate is valid for the following product or service ranges:

**Design, Development, Manufacture and
 Service of Valve and Flange**

Certificate NO. : QSC0917
 Valid Until Date : 13-March-2014
 Certificate Issue Date : 07-March-2011
 Original Certificate Date : 14-March-2008

KOREA INT'L STANDARDS CERTIFICATION

-Lack of fulfillment of conditions described in the Guide for Certification Process may render this Certificate invalid.
 -The Certification scope above has been approved by Accreditation Body.
 Mark indicates that KIC is accredited by Korea Accreditation Board for Quality Management System (No. KAB-QC-36).

Authorized by : *Seungcheol Lee*
 Seung Cheol Lee, President

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Factory View _ Flange Shop Korea V & F Engineering Co., Ltd.



Forging Press



Ring Mill M.C



Heat Treatment_1



Heat Treatment_2



Forged Material



NCTuning M.C



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Factory View Flange Shop Korea V & F Engineering Co., Ltd.



NCTurning M.C



Turning M.C_1



Turning M.C_2



CNC Lathe_1



CNC Lathe_2



CNC Milling



CNC Drilling M.C



Finished Goods_1



Finished Goods_2



Packing Box



Loading



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We KOREA V&F Engineering Co.,Ltd. has been established 1997 for valve products and also we have been produced for flange & forging material since 2003.

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MANUFACTURING PROCEDURE

- Forging & Flange
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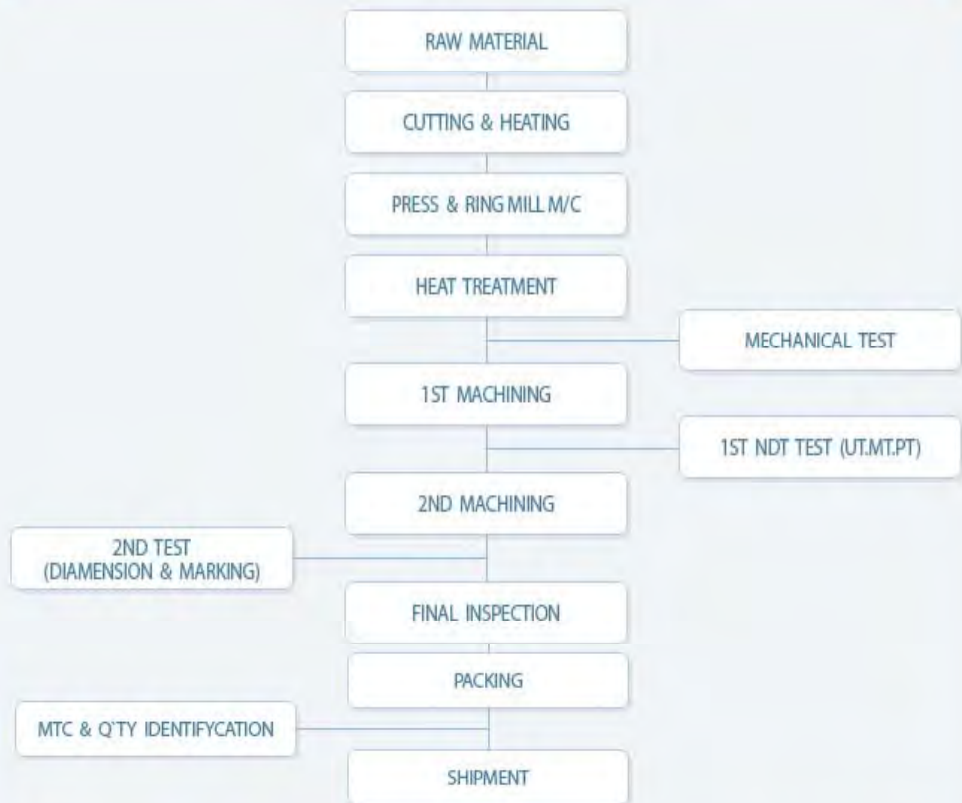
MANUFACTURING PROCEDURE

- Forging & Flange
- Valve

Forging & Flange Korea V & F Engineering Co.,Ltd.

Manufacturing General Process Chart

Forging & Flanges Manufacturing Process



Catalogue Download

[VIEW](#)

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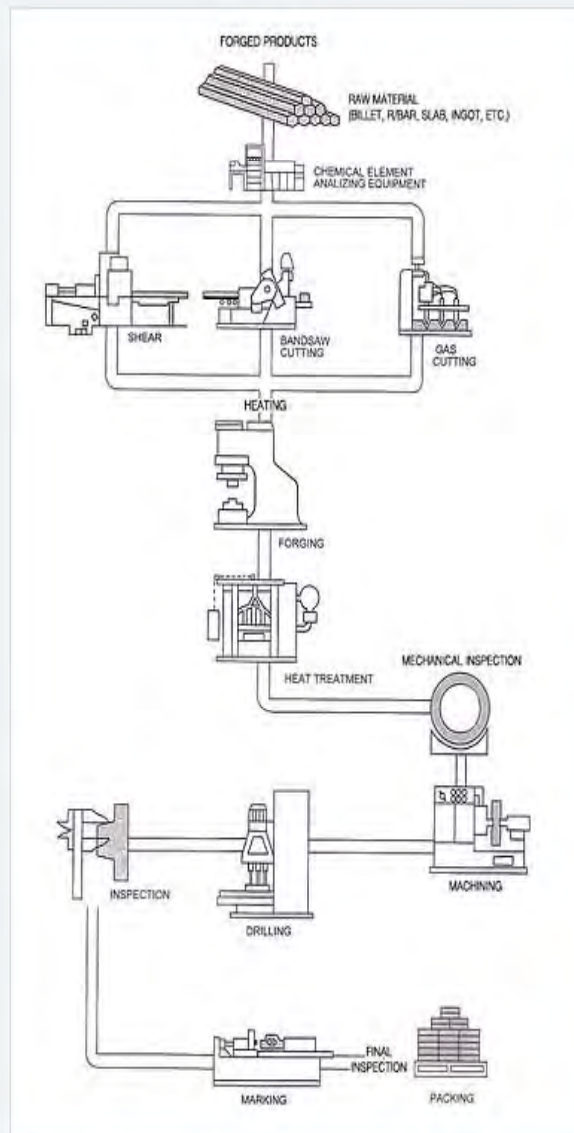
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Forging & Flange Korea V & F Engineering Co.,Ltd.

Manufacturing General Process Chart



PRODUCT

- ▶ Forging & Flange
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Forging & Flange Korea V & F Engineering Co.,Ltd.

Forging



Forging_1



Forging_2



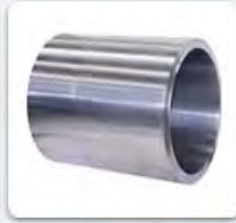
Forging_3



Forging_4



Forging_5



Forging_6

Flange



Flange



Flange



Blind



Long Welding Neck



Orifice



Slip On



Socket Welding



Spectacle Blind

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Forging & Flange Korea V & F Engineering Co.,Ltd.

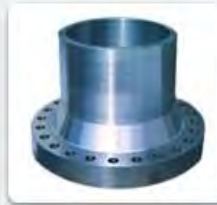
Special Flange



Special Flange



Special Flange



Special Flange



Special Flange



Bleed Ring



Counter Flange



Dual Outlet Flange



Flange Threaded Fitting Med



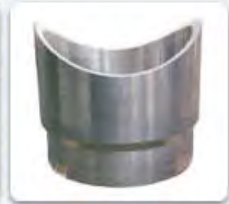
Girth Flange



Hanger Flange



Insulation Plate



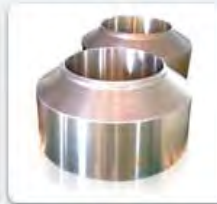
Nozzle_1



Nozzle_2



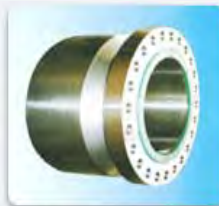
Nozzle_3



Nozzle_4



Nozzle_5



Reinforced Flange_1



Reinforced Flange_2



Reinforced Flange_3



Reinforced Flange_4

PRODUCT

- Forging & Flange
- Valve
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Forging & Flange Korea V & F Engineering Co.,Ltd.

Special Flange



Reinforced Flange_5



Shell Flange



Swivel Flange



Tube Sheet-1



Tube Sheet



Weldo Flange_1



Weldo Flange_2



Weldolet

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Material Specification Korea V & F Engineering Co.,Ltd.

Material Specification for Forging

Material Specification for Buttwelding Fittings

Material Specification for Forging

GRADE	Chemical Composition									
	C	Mn	P	S	Si	Ni	Cr	Mo	N	V
LOW ALLOY STEELS										
F1	0.28	0.06-0.90	0.045	0.045	0.15-0.35			0.44-0.65		
F5	0.15	0.30-0.60	0.03	0.03	0.5	0.5	4.0-6.0	0.44-0.65		
F9	0.15	0.30-0.60	0.03	0.03	0.50-1.10		8.0-10.0	0.90-1.10		
F91	0.08-0.12	0.30-0.60	0.02	0.01	0.20-0.50	0.4	8.0-9.5	0.85-1.05		
F92	0.07-0.13	0.30-0.60	0.02	0.01	0.5	0.4	8.50-9.50	0.30-0.60		
F11	0.05-0.15	0.30-0.60	0.03	0.03	0.50-1.00		1.00-1.50	0.44-0.65		
F12	0.05-0.15	0.30-0.60	0.045	0.045	0.50		0.80-1.25	0.44-0.65		
F22	0.05-0.15	0.30-0.60	0.04	0.04	0.5		2.00-2.50	0.87-1.13		
F23	0.04-0.10	0.10-0.60	0.03	0.01	0.5		1.92-2.60	0.05-0.30		
SCM440	0.38-0.43	0.60-0.90	0.03	0.03	0.15-0.35	0.25	0.90-1.20	0.15-0.30		
SNCM439	0.36-0.43	0.60-0.90	0.03	0.03	0.15-0.35	1.60-2.00	0.60-1.00	0.15-0.30		
STAINLESS STEELS (MARTENSITIC)										
F6	0.15	1	0.04	0.03	1	0.5	11.5-13.5			
STAINLESS STEELS (FERRITIC)										
F429	0.12	1	0.04	0.03	0.75	0.5	14.0-16.0			
F430	0.12	1	0.04	0.03	0.75	0.5	16.0-18.0			

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Material Specification for Forging

STAINLESS STEELS (AUSTENITIC)									
F304L	0.03	2	0.045	0.03	1	8.0-13.0	18.0-20.0		
F310	0.25	2	0.045	0.03	1	19.0-22.0	24.0-26.0		
F316L	0.03	2	0.045	0.03	1	10.0-15.0	16.0-18.0	2.0-3.0	
F317L	0.03	2	0.045	0.03	1	11.0-15.0	18.0-20.0	3.0-4.0	
F321	0.08	2	0.045	0.03	1	9.0-12.0	17.0-19.0		
F347	0.08	2	0.045	0.03	1	9.0-13.0	17.0-20.0		
F44	0.02	1	0.03	0.01	0.8	17.5-18.5	19.5-20.5	6.0-6.5	
STAINLESS STEELS (DUPLEX)									
F51	0.03	2	0.03	0.02	1	4.5-6.5	21.0-23.0	2.5-3.5	
F53	0.03	1.2	0.035	0.02	0.8	6.8-8.0	24.0-26.0	3.0-5.0	
F904L	0.02	2	0.04	0.03	1	23.0-28.0	19.0-23.0	4.0-5.0	
SUSF329J3L	0.03	2.00	0.04	0.03	1	4.50-6.50	21.0-24.0	2.5-3.5	0.08-0.20
F60									
CARBON STEELS									
A105	0.35	0.60-1.05	0.035	0.04	0.10-0.35	0.4	0.3	0.12	
A350LF2	0.3	0.60-1.35	0.035	0.04	0.15-0.30	0.4	0.3	0.12	
A350LF3	0.2	0.9	0.035	0.04	0.20-0.35	3.3-3.7	0.3	0.12	
A694/F65	0.26	1.4	0.025	0.025	0.15-0.35				
S45C	0.42-0.48	0.60-0.90	0.30	0.35	0.15-0.35				
ALLOY STEELS									
ALLOY20	0.07	2	0.45	0.35	1	32-38	19-21	2.0-3.0	
ALLOY625	0.1	0.5	0.015	0.015	0.5	58	20-23	8.0-10.0	
ALLOY800	0.1	1.5		0.015	1	30-35	19-23		
A800H/HT	0.05-0.10	1.5		0.015	1	30-35	19-23		
ALLOY825	0.05	1		0.03	0.5	38-46	19.5-23.5	2.50-3.50	
MOLD STEELS									
SKT4	0.50-0.60	0.60-0.90	0.03	0.02	0.10-0.40	1.50-1.80	0.80-1.20	0.35-0.55	0.05-0.15
STD61	0.32-0.42	0.50	0.03	0.03			4.50-5.50	1.00-1.50	0.80-1.20

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Material Specification for Buttwelding Fittings

Material Specification for Forging

GRADE	Mechanical Propertise				
	UNSNO	DIN	Tensile Strength Min, ksi(MPa)	Yield Strength Min, ksi(MPa)	Brinell Hardness
LOW ALLOY STEELS					
F1	K12822	15Mo3	70(485)	40(275)	143-192
F5	K41545	12CrMo19-5	70(485)	40(275)	143-217
F9	K90941	12CrMo9-1	85(585)	55(380)	179-217
F91	K90901	X10CrMoVNi69-1	85(585)	60(415)	248max
F92			90(620)	64(440)	269max
F11	K11597	13CrMo44	60(415)	30(205)	121-174
F12	K11562	16CrMo44	60(415)	32(220)	121-174
F22	K21590	10CrNi9-10	60(415)	30(205)	170max
F23	K41650		74(510)	58(400)	220max
SCM440		42CrMo4			
SNM439		36CrNiMo4			
STAINLESS STEELS (MARTENSITIC)					
F6	S41000	X12Cr13	70(485)	40(275)	143-207
STAINLESS STEELS (FERRITIC)					
F429	S42900		60(415)	35(240)	190max
F430	S43000		60(415)	35(240)	190max
STAINLESS STEELS (AUSTENITIC)					
F304L	S30403	X2CrNi19-11	70(485)	25(170)	
F310	S31000	X12CrNi25-20	75(515)	30(205)	
F316L	S31603	X2CrNiMo18-14-3	70(485)	25(170)	
F317L	S31703		70(485)	25(170)	
F321	S32100	X6CrNiTi18-10	75(515)	30(205)	
F347	S34700	X6CrNiNb18-10	75(515)	30(205)	
F44	S31254		94(650)	44(300)	

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STAINLESS STEELS (DUPLEX)

F51	S31803	X2CrNiMoN22-5-3	90(620)	65(450)	
F53	S32750	X2CrNiMoCuWN25-7-4	116(800)	80(550)	310max
F904L	NO8904		71(490)	31(215)	
SUSF329J3L					
F60	S32205				

CARBON STEELS

A105		CK25	70(485)	36(250)	187
A350LF2			70-95(485-655)	36(250)	197
A350LF3			70-95(485-655)	37.5(260)	
A694/F65			77(530)	65(450)	
S45C		CK45			

ALLOY STEELS

ALLOY20	NO8020				
ALLOY625	NO6625				
ALLOY800	NO8800				
A800H/HT	NO8810/11				
ALLOY825	NO8825				

MOLD STEELS

SKT4					
STD61					

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Material Specification for Forging

Material Specification for Buttwelding Fittings

Material Specification for Buttwelding Fittings

Marking Symbols	Materials	Form	Chemical Composition(percent)						
			Max. or Range(Uniess otherwise indicated)						
			C	Si	Mn	P	S	Ni	
A234	A106 Gr.B A151 Gr.65 A515 Gr.70	P	0.30	0.10min	0.29-1.06	0.048	0.058	-	
		PL	0.28-0.33	0.13-0.33	0.90	0.035	0.040	-	
		PL	0.31-0.35	0.13-0.33	0.90	0.035	0.040	-	
	WPC	A106 Gr.C	P	0.35	0.10min	0.29-1.06	0.048	0.058	-
	WP1	A335 Gr.P1 A204 Gr.B	P	0.10-0.20	0.10-0.50	0.30-0.80	0.045	0.055	-
			PL	0.20-0.27	0.13-0.32	0.90	0.035	0.040	-
	WP12	A335 Gr.P12 A387 Gr.12	P	0.15	0.50	0.30-0.61	0.045	0.055	-
			PL	0.17	0.13-0.32	0.36-0.69	0.035	0.040	-
WP11	A335 Gr.P11 A387 Gr.11	P	0.15	0.50-1.00	0.30-0.60	0.030	0.030	-	
		PL	0.17	0.44-0.86	0.35-0.69	0.035	0.040	-	
WP22	A335 Gr.P22 A387 Gr.22	P	0.15	0.50	0.30-0.60	0.030	0.030	-	
		PL	0.15-0.17	0.50	0.27-0.63	0.035	0.035	-	
WP5	A335 Gr.P5 A387 Gr.5	P	0.15	0.50	0.30-0.60	0.030	0.030	-	
		PL	0.15	0.50	0.27-0.63	0.040	0.030	-	
WP91	A335 Gr.P91 A387 Gr.91	P	0.08-0.12	0.20	0.30-0.60	0.020	0.010	0.400	
		PL	0.18-0.12	0.50	0.30-0.60	0.020	0.010	0.400	
A403	A312 Gr.TP304 A240 Type304	P	0.08	0.75	2.00	0.040	0.030	8.00-11.00	
		PL	0.15	1.00	2.00	0.045	0.030	8.00-10.50	
	WP304H	A312 Gr.TP304H A240 Type304H	P	0.01-0.10	0.75	2.00	0.040	0.030	8.00-11.00
			PL	0.04-0.10	1.00	2.00	0.045	0.030	8.00-10.50
	WP304L	A312 Gr.TP304L ⁺ A240 Type304L ⁺	P	0.035	0.75	2.00	0.040	0.030	8.00-13.00
			PL	0.030	1.00	2.00	0.045	0.030	8.00-12.00
	WP309	A312 Gr.TP309 A240 Type309S	P	0.15	0.75	2.00	0.040	0.030	12.00-15.00
			PL	0.08	1.00	2.00	0.045	0.030	12.00-15.00
WP310	A312 Gr.TP310 A240 Type310S	P	0.15	0.75	2.00	0.040	0.030	19.00-22.00	
		PL	0.08	1.00	2.00	0.045	0.030	19.00-22.00	
WP316	A312 Gr.TP316 A240 Type316	P	0.08	0.75	2.00	0.040	0.030	11.00-14.00	
		PL	0.08	1.00	2.00	0.045	0.030	10.00-14.00	
WP316H	A312 Gr.TP316H A240 Type316H*	P	0.04-0.10	0.75	2.00	0.040	0.030	11.00-14.00	
		PL	0.40-0.10	1.00	2.00	0.045	0.030	10.00-14.00	

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Material Specification for Forging

Material Specification for Buttwelding Fittings

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	WP316L	A312 Gr.TP316L A240 Type316L ⁺	P PL	0.035 0.030	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.030	10.00-15.00 10.00-14.00
	WP317L	A312 Gr.TP317L A240 Type317L	P PL	0.035 0.030	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.030	11.00-15.00 11.00-15.00
	WP321	A312 Gr.TP321 A240 Type321	P PL	0.08 0.08	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.030	9.00-13.00 9.00-12.00
	WP321H	A312 Gr.TP321H A240 Type321H [*]	P PL	0.04-0.10 0.04-0.10	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.030	9.00-13.00 9.00-12.00
	WP347	A312 Gr.TP347 A240 Type347	P PL	0.08 0.08	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.035	9.00-13.00 9.00-13.00
	WP347H	A312 Gr.TP347H A240 Type347H [*]	P PL	0.04-0.10 0.08	0.75 1.00	2.00 2.00	0.040 0.045	0.030 0.030	9.00-13.00 9.00-13.00
A420	WPL6	A333 and A334 Gr.6 A516 Gr.60	P PL	0.30 0.21-0.27	0.10min 0.13-0.33	0.29-1.06 0.60-1.25	0.048 0.035	0.058 0.040	- -
	WPL3	A333 and A334 Gr.3 A203 Gr.D	P PL	0.19 0.17-0.20	0.18-0.37 0.13-0.32	0.31-0.64 0.70-0.80	0.050 0.035	0.050 0.040	3.18-3.82 3.18-3.82
	WPL9	A333 and A332 Gr.9 A203 Gr.A	P PL	0.20 0.17	- 0.15-0.40	0.40-1.06 0.70	0.025 0.035	0.025 0.040	1.60-2.24 2.10-2.50
A815	S31803	A790 S31803 A240 S31803	P PL	0.030	1.0	2.0	0.030	0.020	4.50-6.50 6.0-8.0
	S32750	A790 S32750 A240 S32750	P PL	0.030	0.8	1.2	0.035	0.020	-0.0-8.00 -
	S32760	A790 S32760 A240 S32760	P PL	0.05 0.030	1.00	1.00	0.030	0.010	- -
A860	WPHY42	API Gr.X42 A572 Gr.42	P PL	0.28	-	1.25	0.04	0.05	- -
	WPHY60	API Gr.X60 A572 Gr.60	P PL	0.26	-	1.35	0.04	0.05	- -
	WPHY65	API Gr.X65 A572 Gr.65	P PL	0.26	-	1.40	0.04	0.05	- -

- ▶ Asterisks(*) denote that the carbon content shall be 0.04 to 0.10%. Daggers(+) denote that the minimum tensile strength shall be 65,000 psi(488 MPa), and that the minimum yield strength shall be 25,000 psi(172 MPa).
- ▶ The yield strength shall be determined by the offset method at 0.2% limiting perminet set in accordance with ASTM A370 Specification. An alternative method of determining yield strength maybe based on a total extension under load of 0.5%.

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Comparison of Material Korea V & F Engineering Co.,Ltd.

Steel Composition	ASTM Specification and Grade				KS Specification and Grade
	Marking Symbol	Pipe	Plate	Forgings	Pipe
Carbon Steel	-	A120	A283A	-	SPP
Carbon Steel	-	A53-B	A242	-	SPPS38
Carbon Steel	-	A53-B	A242	-	SPP42
Carbon Steel	WPB	A106-B	A515-65 or 70	A181-2 and A105	SPP42
Carbon Steel	WPC	A106-C	-	-	SPHT49
Carbon Steel	WPL6	A333 and A334-6	A516-60	A350-LF2	SPLT39
3 ½% Ni Steel	WPL3	A333 and A334-3	A203-D	A350-LF3	-
Carbon-Molybdenum Steel	WP1	A335-P1	A204-B	A182-F1	SPA12
1% Cr-½% Molybdenum Steel	WP12	A335-P12	A387-12	A182-F12	SPA22
1½% Cr-½% Molybdenum Steel	WP11	A335-P11	A387-11	A182-F11	SPA23
2¼% Cr-1% Molybdenum Steel	WP22	A335-P22	A387-22	A182-F22	SPA24
5% Cr-½% Molybdenum Steel	WP5	A335-P5	A387-5	A182-F5	SPA25
7% Cr-½% Molybdenum Steel	WP7	A335-P7	-	A182-F7	-
9% Cr-1% Molybdenum Steel	WP9	A335-P9	-	A182-F9	-
18% Cr-8% Ni Steel	WP304	A312-TP304	A240-Type 304	A182-F304	STS304TP
18% Cr-8% Ni-(0.04-0.10)% C Steel	WP304H	A312-TP304H	A240-Type 304H	A182-F304H	-
18% Cr-8% Ni-0.035% C Steel	WP304L	A312-TP304L	A240-Type 304L	A182-F304L	SPS304LTP
22% Cr-12% Ni Steel	WP309	A312-TP309	A240-Type 309S	-	STS309STP
25% Cr-20% Ni Steel	WP310	A312-TP310	A240-Type 310S	A182-F310	STS310STP
18% Cr-8% Ni-Cb + Ta Steel	WP347	A312-TP347	A240-Type 347	A182-F347	STS347TP
18% Cr-8% Ni-Mo Steel	WP316	A312-TP316	A240-Type 316	A182-F316	STS316TP
18% Cr-8% Ni-Mo-(0.04-0.10)% C Steel	WP316H	A312-TP316H	A240-Type 316H	A182-F316H	STS316HTP
18% Cr-8% Ni-Mo-0.035% C Steel	WP316L	A312-TP316L	A240-Type 316L	A182-F316L	STS316LTP
18% Cr-8% Ni-Ti Steel	WP321	A312-TP321	A240-Type 321	A182-F321	ST321TP
18% Cr-8% Ni-Ti-(0.04-0.10)% C Steel	WP321H	A312-TP321H	A240-Type 321H	A182-F321H	-
18% Cr-8% Ni-Cb+Ta-(0.04-0.10)% C Steel	WP347H	A312-TP347H	A240-Type 347H	A182-F347H	STS347HTP

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KS Specification and Grade	JIS Grade		B.S Specification and Grade	DIN Specification and Grade	Steel Composition
	Pipe	Plate			
SS41	SGP	SS41	1378-M	2440-ST33-1	Carbon Steel
SWS41B	STPG38	SM41B	3602-ERW23	1626-ST37	Carbon Steel
SWS41B	STPG42	SM41B	3602-ERW27	-	Carbon Steel
SBB42	STPT42	SB42	3602-Steel27	17175-St45.8	Carbon Steel
SBB49	STPL49	SB49	3602-Steel35	-	Carbon Steel
SLAL33	STPL39	-	3603-Steel27 LT30	-	Carbon Steel
-	STPL46	-	3603-Steel503 LT100	-	3 1/2% Ni Steel
SBB46M	STPA12	-	-	17175-15 Mo3	Carbon-Molybdenum Steel
SCMV2	STPA22	-	3604-HF620	17175-13CrMo44	1% Cr-1/2% Molybdenum Steel
SCMV3	STPA23	-	3604-HF621	-	1 1/4% Cr-1/2% Molybdenum Steel
SCMV4	STPA24	-	3604-HF622,27	17175-10CrMo910	2 1/4% Cr-1% Molybdenum Steel
SCMV6	STPA25	-	3604-HF625	-	5% Cr-1/2% Molybdenum Steel
-	-	-	-	-	7% Cr-1/2% Molybdenum Steel
-	STPA26	-	-	-	9% Cr-1% Molybdenum Steel
STS304	SUS304TP	SUS304	3605-801	17440-X5CrNi189	18% Cr-8% Ni Steel
-	SUS304HTP	-	3605-811	-	18% Cr-8% Ni-(0.04-0.10)% C Steel
STS304L	SUS304LTP	SUS304L	3605-811L	17440-X2CrNiMo189	18% Cr-8% Ni-0.035% C Steel
STS309S	SUS309STP	SUS309S	-	-	22% Cr-12% Ni Steel
STS310S	SU310STP	SU310S	3605-805S	-	25% Cr-20% Ni Steel
STS347	SU347TP	SU347	3605-822Nb	17440-X0CrNiNb189	18% Cr-8% Ni-Cb + Ta Steel
STS316	SU316TP	SU316	3605-845	17440-X5CrNiMo1810	18% Cr-8% Ni-Mo Steel
-	SUS316HTP	-	3605-855	-	18% Cr-8% Ni-Mo-(0.04-0.10)% C Steel
STS316L	SUS316LTP	SUS316L	3605-845L	17440-X2CrNiMo1810	18% Cr-8% Ni-Mo-0.035% C Steel
STS321	SUS321TP	SUS321	3605-822Ti	17440-X10CrNiTi89	18% Cr-8% Ni-Ti Steel
-	SUS321HTP	-	3605-832Ti	-	18% Cr-8% Ni-Ti-(0.04-0.10)% C Steel
-	SUS347HTP	-	3605-832Nb	-	18% Cr-8% Ni-Cb+Ta-(0.04-0.10)% C Steel

KVF

Korea V & F Engineering CO.,Ltd.

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International Standard Korea V & F Engineering Co.,Ltd.**KS : KOREAN INDUSTRIAL STANDARDS**

KS B 1522	Steel Butt-Welding Pipe Fittings for Ordinary use.
KS B 1541	Steel Butt-Welding Pipe Fittings.
KS B 1542	Steel Socket-Welding Pipe Fittings.
KS B 1543	Steel Plate Butt-Welding Pipe Fittings.

JIS : JAPANESE INDUSTRIAL STANDARDS

JIS B 2311	Steel Butt-Welding Pipe Fittings for Ordinary use.
JIS B 2312	Steel Butt-Welding Pipe Fittings.
JIS B 2313	Steel Plate Butt-Welding Pipe Fittings.
JIS B 2314	Steel Socket-Welding Pipe Fittings.

ANSI : AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI B 16.5	Pipe Flanges and Flanged Fittings.
ANSI B 16.9	Factory Made Wrought Steel Butt-Welding Fittings.
ANSI B 16.11	Forged Steel Fittings, Socket-Welding and Threaded.
ANSI B 16.25	Butt-Welding Ends.
ANSI B 16.28	Wrought Steel Butt-Welding short Radius Elbow and Returns.
ANSI B 36.10	Welded and Seamless Wrought Steel Pipe.
ANSI B 36.19	Stainless Steel Pipe.



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International Standard Korea V & F Engineering Co.,Ltd.

ASTM : AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM A 105	Forging, Carbon Steel for Piping Components.
ASTM A 182	Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and valves and Parts for High-Temperature Service.
ASTM A 234	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
ASTM A 350	Forgings Carbon and Low-Alloy Steel, Requiring Notch Toughness Testing for Piping Components.
ASTM A 403	Wrought Austenitic Stainless Steel Piping Fittings.
ASTM A 420	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service.
ASTM A 815	Specification for Wrought Ferritic, Ferritic/Austenitic, and Martensitic Stainless Steel Piping Fittings.

MSS : MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY

MSS SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions.
MSS SP-43	Wrought Stainless Steel Butt-Welding Fittings.
MSS SP-44	Steel Pipe Line Flanges.
MSS SP-75	Specification for High Test Wrought Butt-Welding Fittings.
MSS SP-79	Socket Welding Reducer Inserts.
MSS SP-83	Carbon Steel Pipe Unions Socket-Welding and Threaded.
MSS SP-87	Factory-Made Butt-Welding Fittings for Class 1 Nuclear Piping Applications.
MSS SP-95	Swage(d) Nipples and Bull Plugs.
MSS SP-97	Integrally Reinforced Forged Branch Outlet Fittings-Socket Welding, Threaded and Butt-Welding Ends.

ASME : AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME SECTION II	Materials.
ASME SECTION III	Subsection NCA / Division 1 / Division 2
ASME SECTION V	Nondestructive Examination.
ASME SECTION VIII	Rules for Construction of Pressure Vessels / Division 1, Division 2
ASME SECTION IX	Welding and Brazing Qualifications.

API : AMERICAN PETROLEUM INSTITUTE

API 5L	Line Pipe.
API 5LX	High Test Line Pipe.
API 6A	Wellhead and Christmas Tree Equipment.