



Filler Metals for Pipelines

voestalpine Böhler Welding
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ONE STEP AHEAD.

Joining 1/2

	Process	Product Name	AWS Classification	EN ISO Norm
Unalloyed steels	SMAW	BÖHLER FOX CEL	A5.1 E6010	2560-A E 38 3 C 2 1
		BÖHLER FOX CEL+	A5.1 E6010	2560-A E 38 2 C 2 1
		BÖHLER FOX CEL-S	A5.1 E6010	2560-A E 38 3 C 2 1
		Phoenix Cel 70	A5.1 E6010	2560-A E 42 2 C 2 5
		BÖHLER FOX CEL 75	A5.5 E7010-P1	2560-A E 42 3 C 2 5
		Phoenix Cel 75	A5.5 E7010-P1	2560-A E 42 2 C 2 5
		Phoenix K 50 R	A 5.1 E7016	2560-A E 42 3 B 3 2
		BÖHLER FOX EV PIPE	A 5.1 E7016-1H4R	2560-A E 42 4 B 1 2 H5
		Phoenix 120 K	A5.1 E7018-1	2560-A E 42 5 B 3 2 H5
	BÖHLER FOX EV 50	A5.1 E7018-1H4R	2560-A E 42 5 B 4 2 H5	
	GTAW	BÖHLER ER 70 S-2	A5.18 ER70S-2	
		BÖHLER EML 5	A5.18 ER70S-3	636-A W 46 5 W2Si1
		Union I 2	A5.18 ER70S-3	636-A W 42 5 W2Si1
		BÖHLER EMK 6	A5.18 ER70S-6	636-A W 42 5 W3Si1
		Union I 52	A5.18 ER70S-6	636-A W 42 5 W3Si1
	FCAW	BÖHLER HL 46-MC	A5.18 E70C-6MH4	17632-A T46 3 M M 1 H5
		BÖHLER TI 52-FD	A5.20 E71T-1MJH8	17632-A T 46 4 P M 1 H10/T 42 2 P C 1 H5
	GMAW	BÖHLER EMK 8	A5.18 ER70S-6	14341-A G 46 4 M G4Si1/G 46 4 C G4Si1
		BÖHLER SG 3-P	A5.18 ER70S-G	14341-A G 46 5 M G3Si1/G 42 4 C G3Si1
		Union K 52 S	A5.18 ER70S-6	14341-A G 42 4 M21 3Si1
		Union K 56	A5.18 ER70S-6	14341-A G 46 4 M G4Si1/G 42 2 C G4Si1
		Union K 56 S	A5.18 ER70S-6	14341-A G 46 2 C G4 Si1/G 46 4 M G6 Si1
		Union K Nova	A5.18 ER70S-G	14341-A G 46 5 M G3Si1/G 42 4 C G3Si1
	SAW	UV 418 TT		14174 SA FB 1 55 AC H5
		UV 421 TT		14174 SA FB 1 55 AC H5
		Union S 2	A5.17 EM12	756 S2
		Union S 3 Si	A5.17 EH12K	756 S3Si
	Medium alloyed steels	SMAW	BÖHLER FOX CEL 70-P	A5.5 E7010-P1
BÖHLER FOX CEL Mo			A5.5 E7010-A1	2560-A E 42 3 Mo C 2 5
BÖHLER FOX CEL 80-P			A5.5 E8010-P1	2560-A E 46 3 1Ni C 2 5
Phoenix Cel 80			A5.5 E8010-P1	2560-A E 46 3 C 2 5
BÖHLER FOX CEL 85			A5.5 E8010-P1	2560-A E 46 4 1Ni C 2 5
Phoenix Cel 90			A5.5 E9010-G	2560-A E 50 3 1Ni C 2 5
BÖHLER FOX CEL 90			A5.5 E9010-P1	2560-A E 50 3 1Ni C 2 5
BÖHLER FOX EV 60 PIPE			A5.5 E8016-GH4R	2560-A E 50 4 1Ni B 1 2 H5
BÖHLER FOX EV 60			A5.5 E8018-C3H4R	2560-A E 46 6 1Ni B 4 2 H5
Phoenix SH V 1			A5.5 E8018-G/E8018-C3 (mod.)	2560-A E 50 6 Mn 1Ni B 42 H5
BÖHLER FOX EV 65			A5.5 E8018-GH4R	E 55 6 1NiMo B 4 2 H5
BÖHLER FOX EV 70 PIPE			A5.5 E9016-GH4R	18275-A E 55 4 ZMn2NiMo B 1 2 H5
BÖHLER FOX EV 70			A5.5 E9018-GH4R	18275-A E 55 6 1NiMo B 4 2 H5
Phoenix SH Ni 2 K 100			A5.5 E11018G/E11018-M (mod.)	18275-A E 69 5 Mn 2 NiCrMo B 4 2 H5
BÖHLER FOX EV 85			A5.5 E11018-GH4R	18275-A E 69 6 Mn2NiCrMo B 4 2 H5
BÖHLER FOX BVD 85			A5.5 E8045-P2	2560-A E 46 5 1Ni B 4 5
BÖHLER FOX BVD 90			A5.5 E9045-P2 (mod.)	18275-A E 55 5 Z2Ni B 4 5
BÖHLER FOX BVD 100		A5.5 E10045-P2 (mod.)	18275-A E 62 5 Z2Ni B 4 5	
BÖHLER FOX BVD 110		A5.5 E11018-G	18275-A E 69 3 Mn2NiMo B 4 5	
BÖHLER FOX BVD 120		A5.5 E12018-G	18275-A E 69 3 Mn2NiMo B 4 5	
GTAW		BÖHLER Ni 1-IG	A5.28 ER80S-Ni1 (mod.)	636-A W3Ni1
		Union I 1,2 Ni	A5.28 ER80S-G	636-A W 46 6 W3Ni1
		Union I Ni1MoCr	A5.28 ER100S-G	16834-A W 55 6 ZMn3Ni0,9MoCr
FCAW		Union RV 71	A5.20 E71T-1MJH4/E71T-1CH4	17632-A T 42 2 P M 1 H5/T 42 2 P C 1 H5
		BÖHLER PIPESHIELD 71 T8-FD	A5.29 E71T8-K6	
		BÖHLER PIPESHIELD 71.1 T8-FD	A5.29 E71T8-Ni1	
		BÖHLER PIPESHIELD 81 T8-FD	A5.29 E81T8-N2	
		Union MV Ni1	A5.28 E80C-Ni1H4	17632-A T 50 6 1 Ni MM 1 H5
		Union RV Ni1	A5.29 E81T1-Ni1MJH4	T 50 6 1Ni P M 1 H5
		BÖHLER TI 60-FD	A5.29 E81T1-Ni1	17632-A T 50 6 1Ni P M 1 H5
		BÖHLER TI 70 PIPE-FD	A5.29 E91T1-GM	18276-A T 55 4 Mn1Ni P M 1 H5
		BÖHLER TI 80 PIPE-FD	A5.29 E111T1-GMH4	18276-A T 69 4 Z P M 1 H5

Joining 2/2

	Process	Product Name	AWS Classification	EN ISO Norm
Medium alloyed steels	GMAW	BÖHLER SG 8-P	A5.28 ER80S-G	14341-A G 42 5 M G3Ni1
		Union K Nova Ni	A5.28 ER80S-G	14341-A G 50 6 M Z3Ni1/G 46 4 C Z3Ni1
		Union NiMo 80	A5.28 ER90S-G	16834-A G 62 5 M21 Mn3Ni1Mo/ G 55 4 C1 Mn3Ni1Mo
		BÖHLER NiMo 1-IG	A5.28 ER90S-G	16834-A G 55 6 M Mn3 Ni1 Mo
		Union I Ni 1 MoCr	A5.28 ER100S-G	16834-A G Z Mn3Ni0,9MoCr
	SAW	Union S 2 NiMo 1	A5.23 ENi1	756 SZ2Ni1
		Union S 3 NiMo 1	A5.23 EF3 mod.	756 S3Ni1Mo
		Union S 3 NiMoCr	A5.23 EF6 mod.	756 SZ3Ni2,5CrMo
		Union S 3 Ti B	A5.23 EG	14171 SZ
		Union S 3 Mo Ti B	A5.23 EA2TiB	14171 SZ
Stainless steels	SMAW	BÖHLER FOX EAS 4 M	A5.4 E316L-15	3581-A E 19 12 3 L B 2 2
		BÖHLER FOX EAS 4 M-A	A5.4 E316L-17	3581-A E 19 12 3 L R 3 2
		BÖHLER FOX CN 22/9 N-B	A5.4 E2209-15	3581-A E 22 9 3 NL B 2 2
		BÖHLER FOX CN 22/9 N	A5.4 E2209-17	3581-A E 22 9 3 NL R 3 2
		BÖHLER FOX CN 25/9 Cu T	A5.4 E2595-15	3581-A E 25 9 4 NL B 2 2
	GTAW	BÖHLER EAS 4 M-IG	A5.9 ER316L	14343-A W 19 12 3 L
		BÖHLER CN 22/9 N-IG	A5.9 ER2209	14343-A W 22 9 3 NL
		Thermanit 22/09	A5.9 ER2209	14343-A W 22 9 3 NL
		BÖHLER CN 25/9 Cu T-IG	A5.9 ER2594	14343-A W 25 9 4 NL
		Thermanit 25/09 CuT	A5.9 ER2594	14343-A W 25 9 4 NL
	FCAW	BÖHLER EAS 4 PW-FD	A5.22 E316LT1-4(1)	17633-A T 19 12 3 L P M(C) 1
		BÖHLER CN 22/9 PW-FD	A5.22 E2209T1-4(1)	17633-A T 22 9 3 NL P M(C) 1
		BÖHLER CN 25/9 PW-FD	A5.22 E2594T1-4(1)	17633-A T 25 9 4 NL P M21 (C) 2
	GMAW	BÖHLER EAS 4 M-IG (SI)	A5.9 ER316LSi	14343-A W 19 12 3 LSi
		BÖHLER CN 22/9 N-IG	A5.9 ER2209	14343-A G 22 9 3 NL
		Thermanit 22/09	A5.9 ER2209	14343-A G 22 9 3 NL
		BÖHLER CN 25/9 Cu T-IG	A5.9 ER2594	14343-A G 25 9 4 NL
		Thermanit 25/09 CuT	A5.9 ER2594	14343-A G 25 9 4 NL
	SAW	Marathon 431		14174 SA FB 2 DC
		BÖHLER BB 202		14174 SA FB 2 DC
		Thermanit GE-316L	A5.9 ER316L	14343-A S 19 12 3 L
		BÖHLER EAS 4 M-UP	A5.9 ER316L	14343-A S 19 12 3 L
		Thermanit 22/09	A5.9 ER2209	14343-A S 22 9 3 NL
		BÖHLER CN 22/9 N-UP	A5.9 ER2209	14343-A S 22 9 3 NL
Nickel base	SMAW	UTP 6222 Mo	A5.11 ENiCrMo-3	14172 ENi 6625
	GTAW	Thermanit 625	A5.14 ERNiCrMo-3	18274 S Ni 6625
		UTP A 6222 Mo-3	A5.14 ERNiCrMo-3	18274 S Ni 6625
	FCAW	UTP AF 6222 MoPW	A5.34 ENiCrMo-3 T1-4	12153 T Ni 6625 P M21 2
	GMAW	Thermanit 625	A5.14 ERNiCrMo-3	18274 S Ni 6625
		UTP A 6222 Mo-3	A5.14 ERNiCrMo-3	18274 S Ni 6625
	SAW	UTP UP FX 504		14174 SA AB 2 AC
		Thermanit 625	A5.14 ERNiCrMo-3	18274 S Ni 6625
UTP A 6222 Mo-3		A5.14 ERNiCrMo-3	18274 S Ni 6625	

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