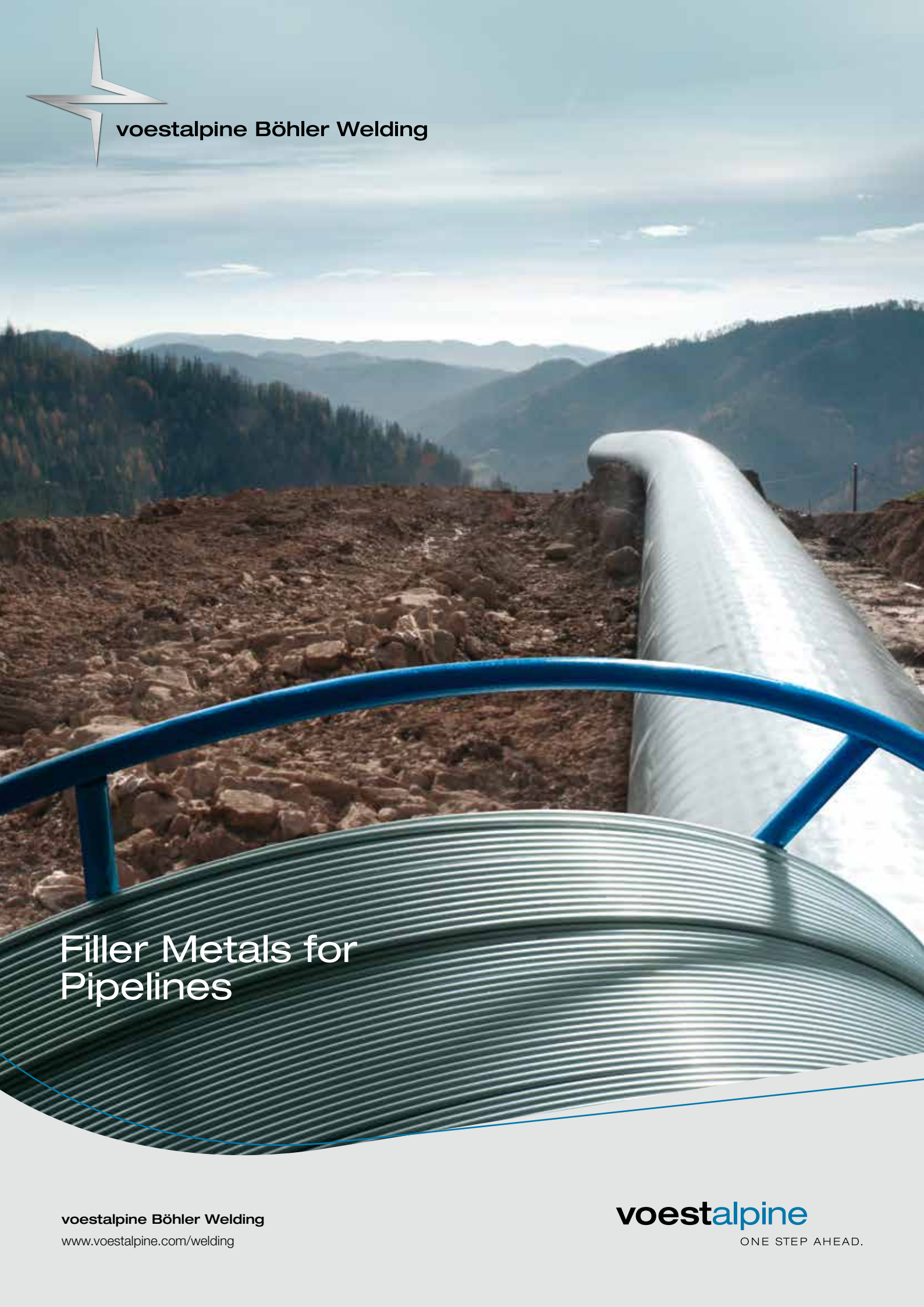




voestalpine Böhler Welding



Filler Metals for Pipelines

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	2560-A E42 3 C 2 5
			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 N L P M21 (C1) 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	

voestalpine Böhler Welding

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Customers in over 120 countries join the expertise of voestalpine Böhler Welding (formerly the Böhler Welding Group). Focused on filler metals, voestalpine Böhler Welding offers extensive technical consultation and individual solutions for industrial welding and soldering applications. Customer proximity is guaranteed by 40 subsidiaries in 28 countries, with the support of 2,200 employees, and through more than 1,000 distribution partners worldwide.



Böhler Welding – More than 2,000 products for joint welding in all conventional arc welding processes are united in a product portfolio that is unique throughout the world. Creating lasting connections is the brand's philosophy in welding and between people.



UTP Maintenance – Decades of industry experience and application know-how in the areas of repair as well as wear and surface protection, combined with innovative and custom-tailored products, guarantee customers an increase in the productivity and protection of their components.



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