böhler welding
by voestalpine

Lasting Connections

PREMIUM QUALITY GMAW WIRES AND GTAW RODS FOR THE WELDING OF ALUMINIUM

voestalpine Böhler Welding
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ONE STEP AHEAD.

BÖHLER WELDING

LASTING CONNECTIONS

As a pioneer in welding consumables for the joining of metals, Böhler Welding offers a globally unique and customer-focused portfolio for Lasting Connections. The extensive range of approximately 2.000 products is continuously aligned with latest industry specifications and customer requirements, certified by leading approval authorities, and thereby accredited for even the most challenging applications.

Our clients benefit from a partner with

- the highest expertise in joining, rendering the best application support globally available
- specialized and best in class product solutions for their local and global challenges
- an absolute focus on customer needs and their success
- a worldwide presence through factories, offices and distributors

Premium quality filler materials for the welding of aluminium

We offer a comprehensive range of premium quality wires and rods for the GMAW / MIG and GTAW / TIG welding of aluminium, covering all major grades. They feature the following characteristics and user benefits:

Product characteristics	User benefits
Use of high purity raw material	» Reduced risk of weld porosity » X-ray quality welds
Tightly controlled wire chemistry	» Welds with matching chemical composition and mechanical values
Surface shaving, cleaning and coating technology	» Reduced risk of weld porosity » X-ray quality welds » No flaking – stable feeding » Nice weld appearance
Tightly controlled diameter and cast & helix	» Good feeding properties » Straight welds
GTAW/ TIG rods marked 2 x on one side with the AA number and the aluminium alloy designation	» Easy identification of filler metal

Productive packaging options and accessories

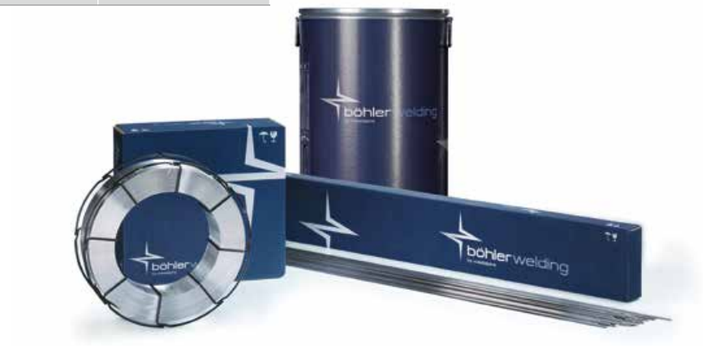
We supply aluminium welding wire on BS300 basket spools, but also in drums with a filling content of 80 or 140 kg to avoid major downtime for spool exchange and thereby increase the productivity of the welding station. Smart drum accessories are available for easy transport and installation of the drums and to guarantee problem-free wire pay-off from the drums and for dependable feeding over long distances – even with the ER 5XXX classification series of aluminium wire types. In combination with proper maintenance of the welding system and timely replacement of wear parts such as liners and contact tips, you will benefit from uninterrupted welding over longer periods of time.

Böhler Welding product names	Classification		Materials to be welded			Description and application	Approvals	
	AWS A5.10	EN ISO 18273	EN 573-2 / EN 1780-2	Material no.	EN 573-2 / EN 1780-2		GMAW / MIG	GTAW / TIG
Union Al99,5	ER1450	S Al 1450 (Al99,5Ti)	AW-Al99.0 AW-Al99.7 AW-Al99.5 AW-Al99.5	3.0205 3.0275 3.0255 3.0257	AW-1200 [Al99.0] AW-1070A [Al99.7] AW-1050A [Al99.5] AW-1350 [Al99.5]	Pure aluminium welding wire and rod for joining and surfacing of aluminium materials according to EN ISO 18273. It is a welding consumable with Ti for grain refinement. Weather and corrosion resistant. Cryogenic applications.	–	–
Union Al99,7	ER1070	S Al 1070 (Al99,7)	AW-Al99 AW-Al99.5 AW-Al99.7	3.0205 3.0255 3.0275	AW-1200 [Al99.0] AW-1050A [Al99.5] AW-1070A [Al99.7]	Aluminium solid wire and rod for welding very pure aluminium materials according to EN ISO 18273 for applications in electro technical and mechanical construction, food and chemical industry.	–	–
Union AlMg 2,7 Mn 0,8	ER5554	S Al 5554 (AlMg2,7Mn)	AW-AlMg3 AW-AlMg2.7Mn AW-AlMg2Mn0.3 AW-AlMg AW-AlMn1Mg1	3.3535 3.3537 3.3525 3.3315 3.0526	AW-5754 [AlMg3] AW-5454 [AlMg3Mn] AW-5251 [AlMg2Mn0.3] AW-5005A [AlMg1(C)] AW-3004A [AlMn1Mg1]	Developed for high temperature applications without becoming sensitive to stress corrosion. Also suitable for welding AW 5454 with the 6000 series. Recommended for a wide range of industrial applications – particularly in the structural industry – whenever high temperature processing is needed.	–	–
Union AlMg 3	ER5754	S Al 5754 (AlMg3)	AW-AlMg3 AW-AlMg2Mn0.3 AW-AlMg AW-AlMgSi0.5 AW-AlMg2.7Mn	3.3535 3.3525 3.3315 3.3206 3.3537	AW-5754 [AlMg3] AW-5251 [AlMg2Mn0.3] AW-5005A [AlMg1(C)] AW-6060 [AlMgSi0.5] AW-5454 [AlMg3Mn]	Solid wire for AlMg alloys containing up to 3 % Mg. Good colour matching with base metal after anodizing. Thorough cleaning of the workpiece bevels is necessary. Thicker plate materials require preheating to 150 °C (302 °F). Marine applications / sea water resistant. Corrosion resistant.	–	–
Union AlMg 4,5 Mn Zr	ER5087	S Al 5087 (AlMg4,5MnZr)	AW-AlMg4.5Mn AW-AlMg4Mn AW-AlMg5 AW-AlMgSi0.5 AW-AlMgSi0.7 AW-AlMgSi1 AW-AlMgSiCu AW-AlZn4.5Mg1	3.3547 3.3545 3.3555 3.3206 3.3210 3.2315 3.3211 3.4335	AW-5083 [AlMg4.5Mn0.7] AW-5086 [AlMg4] AW-5019 [AlMg5] AW-6060 [AlMgSi0.5] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn] AW-6061 [AlMg1SiCu] AW-7020 [AlZn4.5Mg1]	Zirconium micro alloyed welding rods and bare wire electrodes. The weld metal is not susceptible to hot cracking. Particularly advantageous for complicated weldments involving damp conditions. Thorough cleaning of the work-piece bevels is necessary. Thicker plate materials require preheating to 150 °C (302 °F). Shipbuilding and offshore industry. High strength structural aluminium applications. Railcars. Cryogenic applications.	DB (61.132.04), DNV GL, WIWEB	DB (61.132.04), DNV GL, WIWEB
Union AlMg 4,5 Mn	ER5183	S Al 5183 (AlMg4,5Mn0,7(A))	AW-AlMg4.5Mn AW-AlMg4Mn AW-AlMg5 AW-AlMgSi0.5 AW-AlMgSi0.7 AW-AlMgSi1 AW-AlMgSiCu AW-AlZn4.5Mg1	3.3547 3.3545 3.3555 3.3206 3.3210 3.2315 3.3211 3.4335	AW-5083 [AlMg4.5Mn0.7] AW-5086 [AlMg4] AW-5019 [AlMg5] AW-6060 [AlMgSi0.5] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn] AW-6061 [AlMg1SiCu] AW-7020 [AlZn4.5Mg1]	Solid wire for AlMg alloys. Thorough cleaning of the workpiece bevels is necessary. Thicker plate materials require preheating to 150 °C (302 °F). Aggressive service environments. Marine applications / sea water resistant. Cryogenic tanks. Shipbuilding and offshore industry. High strength structural aluminium applications. Railcars.	TÜV (2195.), DB (61.132.03), DNV GL, LR, WIWEB, BV	TÜV (2196.), DB (61.132.03), WIWEB
Union AlMg 5	ER5356	S Al 5356 (AlMg5Cr(A))	AW-AlMg5 AW-AlMg3 AW-AlMg4Mn AW-AlMgSi0.5 AW-AlMgSi0.7 AW-AlMgSi1 AW-AlMg1SiCu AW-AlZn4.5Mg1 AW-AlMg2.7Mn	3.3555 3.3535 3.3545 3.3206 3.3210 3.2315 3.3211 3.4335 3.3537	AW-5019 [AlMg5] AW-5754 [AlMg3] AW-5086 [AlMg4] AW-6060 [AlMgSi0.5] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn] AW-6061 [AlMg1SiCu] AW-7020 [AlZn4.5Mg1] AW-5454 [AlMg3Mn]	Solid wire for AlMg alloys containing up to 5 % Mg. Seawater resistant weld metal. Good colour matching with base metal after anodizing. Thorough cleaning of the workpiece bevels is necessary. Thicker plate materials require preheating to 150 °C (302 °F). Aggressive service environments. Automotive components / bumpers. Structures in shipbuilding. Railcars and trailers. Power industry. Cryogenic applications.	TUV (2197.), DB (61.132.01), DNV GL , LR	TUV (2198.), DB (61.132.01)
Union AlMg 5 Mn	~ ER5556	S Al 5556A (AlMg5Mn)	AW-AlMg5 AW-AlMg3 AW-AlMg4Mn AW-AlMgSi0.5 AW-AlMgSi0.7 AW-AlMgSi1 AW-AlMg1SiCu AW-AlZn4.5Mg1 AW-AlMg2.7Mn	3.3555 3.3535 3.3545 3.3206 3.3210 3.2315 3.3211 3.4335 3.3537	AW-5019 [AlMg5] AW-5754 [AlMg3] AW-5086 [AlMg4] AW-6060 [AlMgSi0.5] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn] AW-6061 [AlMg1SiCu] AW-7020 [AlZn4.5Mg1] AW-5454 [AlMg3Mn]	Solid wire for GMAW and GTAW of AlMg containing up to 5 % Mg. Thorough cleaning of the workpiece bevels is necessary. Pre-heating 150 °C (302°F) for plates > 15 mm. Marine applications / sea water resistant. High strength structural aluminium applications. Railcars. High strength structural aluminium applications. Shipbuilding and offshore industry	–	–
Union AlMg 5 Mn Ti	ER5556	S Al 5556 (AlMg5Mn1Ti(A))	AW-AlZn6Mg0,8Zr AW-AlZn4.5Mg1	 3.4335	AW-7003 [AlZn6Mg0.8Zr] AW-7020 [AlZn4.5Mg1]	Aggressive service environments / Pressure vessels / Storage tanks / Installations with long conduit length	–	–
Union AlSi 5	ER4043	S Al 4043A (AlSi5(A))	AW-AlMgSi0.5 AW-AlMgSi0.7 AW-AlMgSi1 AW-AlMg1SiCu	3.3206 3.3210 3.2315 3.3211	AW-6060 [AlMgSi0.5] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn] AW-6061 [AlMg1SiCu]	Solid wires for GMAW welding of aluminium alloys. The weld metal is not suitable for anodizing for decorative purposes. Very fluid weld pool. Thicker plate materials and castings require preheating to 150 – 200 °C (302 – 392 °F). Do not use for welding hardenable alloys in high stressed zones. Automotive components / frame and drive shafts. Bicycle frames.	DB (61.132.02)	DB (61.132.02)
Union AlSi 7 Mg	ER4010 (~ ER4008)	S Al Z (AlSi7Mg)	AW-AlMgSi AW-AlMg0.7Si AW-AlMg1SiCu AW-AlMgSiMn AW-AlSiMg AW-AlSi1MgMn	3.3206 3.3214 3.3210 3.2315	AW-6060 [AlMgSi0.5] AW-6063 [AlMg0.7Si] AW-6061 [AlMg1SiCu] AW-6106 [AlMgSiMn] AW-6005A [AlSiMg(A)] AW-6082 [AlSi1MgMn]	Automotive components / Shipbuilding and Offshore industry Union AlSi 7 Mg is a modified 4010 alloy (alloy 4008) with lower levels of impurities, specially designed for the joining or repairing of 7% Si aluminium cast components like 356.0, A356.0 and A357.0. The mechanical properties can be increased by heat treatment.	–	–
Union AlSi 12	ER4047	S Al 4047A (AlSi12(A))	AC-Al Si12 AC-Al Si10Mg(Cu) AC-Al Si11 AC-Al Si5Mg AC-Al Si7Mg0.3 AC-Al Si6Cu4	3.2581 3.2383 3.2211 3.2341 3.2371 3.2151	AC-44200 [AlSi12] AC-43200 [AlSi10Mg(Cu)] AC-44000 [AlSi11] AC-42100 [AlSi7Mg0.3] AC-45000 [AlSi6Cu4]	Used for aluminium-silicium casting alloy with a Si-content up to 12 %. Good mechanical characteristics, an excellent corrosion resistance and a low melting point ensure high quality welding results. Automotive components. Heat exchangers.	–	–

ALUMINIUM FILLER MATERIALS RANGE AND DRUM ACCESSORIES

GMAW / MIG wires	BS300 7 kg	Round drum ø 520 x 780 mm 80 kg	Round drum ø 650 x 560 mm 100 kg
ø 1.0 mm	X	X	X
ø 1.2 mm	X	X	X
ø 1.6 mm	X	X	X

GTAW / TIG rods	Carton 5 kg
ø 1.6 x 1000 mm	X
ø 2.4 x 1000 mm	X
ø 3.0 x 1000 mm	X
ø 4.0 x 1000 mm	X
ø 5.0 x 1000 mm	X
ø 6.0 x 1000 mm	X



Item no.	SAP short text	Description	Aluminium Alloys 4xxx	Aluminium	Drum - 80 kg Ø 520 x 780 mm	Drum - 100 kg Ø 650 x 560 mm
46576	3ZDRUMHOOD-ALUMINUM-LL-R520	Drum hood Ø 520 mm	X	X	X	-
21747	3ZDRUMHOOD-ALUMINUM-LL-R650	Drum hood Ø 650 mm	X	X	-	X
21457	3ZAlu Liner PTFE incl. 2 Plastic Connect	Liner PTFE, incl. 2 connectors (per meter, min length 5 m)	X	X	X	X
28659	3ZWirePayOffSystem 650-4xxxx	Wire pay off system for drum ø 650 mm double cone, alloys 4xxx	X	-	-	X
21453	3ZWirePayOffSystem 520-OrbArm-5xxx	Wire pay off system for drum ø 520 mm without inner core, single cone with orbital arm, alloys 5xxx	-	X	X	-
21748	3ZWirePayOffSystem 650-OrbArm-5xxx	Wire pay off system for drum ø 650 mm without inner core, single cone with orbital arm, alloys 5xxx	-	X	-	X
85999	3ZWOODENBALLS-ALUMINUM-LL-R	Wire pay off support balls for drums with inner core, 70 balls ø 40 mm per set, non fumigated wood	X	X	X	
28661	3ZWireStraightener two plan 4xxxx Alu	Wire straightener two plan (2 x 5 rolls)	X	-	X	X
70752	3ZInner Orbital Arm Aluminum 520	Inner orbital arm with PTFE Liner for drum Ø 520 mm	X	X	X	
28660	3ZInner Orbital Arm Aluminum 650	Inner orbital arm with PTFE Liner for drum Ø 650 mm	X	X	-	X

Specialised items available on request.

JOIN! voestalpine Böhler Welding

We are a leader in the welding industry with over 100 years of experience, more than 50 subsidiaries and more than 4,000 distribution partners around the world. Our extensive product portfolio and welding expertise combined with our global presence guarantees we are close when you need us. Having a profound understanding of your needs enables us to solve your demanding challenges with Full Welding Solutions - perfectly synchronized and as unique as your company.

Lasting Connections – Perfect alignment of welding machines, consumables and technologies combined with our renowned application and process know-how provide the best solution for your requirements: A true and proven connection between people, products and technologies. The result is what we promise: Full Welding Solutions for Lasting Connections.

Tailor-Made Protectivity™ – The combination of our high-quality products and application expertise enables you to not only repair and protect metal surfaces and components. Our team of engineers, experienced in your specific applications, offer you customized solutions resulting in increased productivity for your demanding challenge. The result is what we promise: Tailor-Made Protectivity™.

In-Depth Know-How – As a manufacturer of soldering and brazing consumables, we offer proven solutions based on 60 years of industrial experience, tested processes and methods, made in Germany. This in-depth know-how makes us the internationally preferred partner to solve your soldering and brazing challenge through innovative solutions. The result is what we promise: Innovation based on in-depth know-how.

The Management System of voestalpine Böhler Welding Group GmbH, Peter-Mueller-Strasse 14-14a, 40469 Duesseldorf, Germany has been approved by Lloyd's Register Quality Assurance to: ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007, applicable to: Development, Manufacturing and Supply of Welding and Brazing Consumables.
More information: www.voestalpine.com/welding

129/2018/EN/GL

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