



voestalpine Böhler Welding

Welding Solutions for the Railway Industry



Join Expertise – Don't let your productivity wear down

To provide solutions for the Railway industry is a special competence of voestalpine Böhler Welding. We offer you a wide range of long-life filler metals that help you increase productivity and optimize maintenance, repair, wear and surface protection. Rely on:

- Tailored products to the exact needs of the Railway industry
- Consistently high product quality
- Worldwide distribution and a global service network
- Individual technical support by application specialists and welding engineers
- Decades of experience and application know-how in the Railway industry





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Metallurgical Expertise for Best Welding Results

voestalpine Böhler Welding (formerly Böhler Welding Group) is a leading manufacturer and worldwide supplier of filler materials for industrial welding and brazing applications.

As a part of the voestalpine Group, Austria's largest steel manufacturer and one of the world's leading suppliers of specialized steel products, we are a part of a global network of metallurgy experts.

Our customers benefit from:

- Comprehensive welding and steel know-how under one roof
- Coordinated complete solutions comprised of steel and welding filler metals
- A partner offering maximum economic stability and technological expertise

Customer First

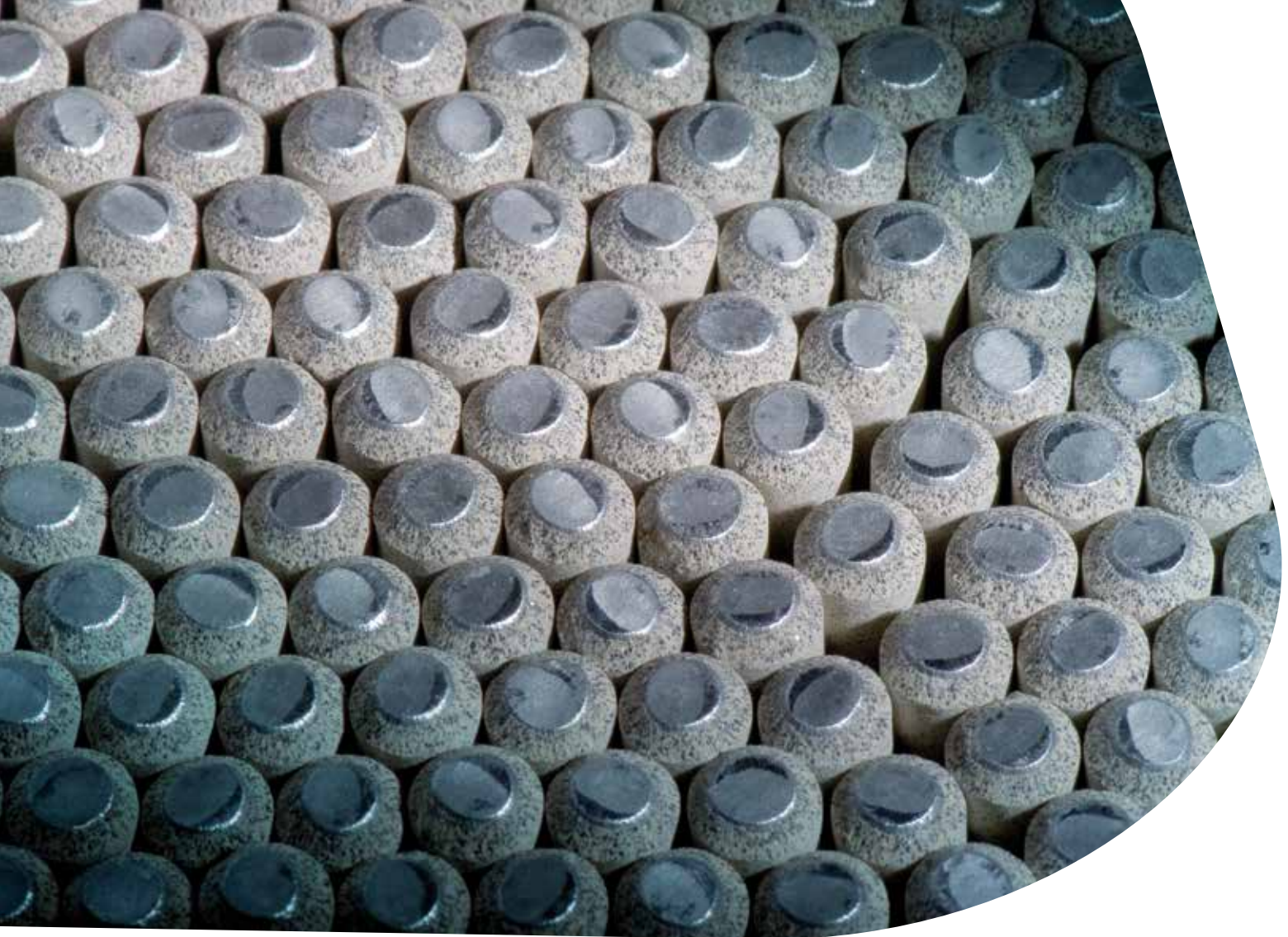
Absolute customer focus is our guiding principle. We see ourselves as a provider of solutions to challenging welding projects. We ensure that our customers get the right filler metals, use them correctly, and that all welding process parameters are adjusted for the best possible performance. We consider it as our responsibility to guarantee that we deliver to our customers, now and in the future, the best possible solutions. We also strive to develop new products, optimize existing products, and streamline processes so as to achieve very short turn-around times. We focus on technologically advanced industrial sectors and provide products that are geared to their specific requirements.

Three Competences – Three Brands

In our efforts to afford our customers the best possible support and promote development in line with specific targets, we have built our core competences within Joint Welding, Repair & Maintenance Welding and Soldering & Brazing.

This way we offer our customers the largest and most comprehensive product portfolio of filler materials within our three brands:

- Böhler Welding
- UTP Maintenance
- Fontargen Brazing



Switches

- SK 218-O
- SK 219-O
- SK AP-O
- UTP CHRONOS
- UTP 7200 S
- UTP BMC

Rails

- | | |
|-----------|--|
| SK 242-O | SOUDOTAPE 309L + RECORD EST 307SK 300-O |
| SK 300-O | |
| SK 307-G | UTP DUR 250 |
| SK 232-O | UTP DUR 300 |
| SK 309L-O | UTP DUR 350 |
| SK 402-O | UTP 614 Kb |
| SK 402-G | UTP 630 |

| | FCAW STRIP ESW | Hardness | Description |
|--|-------------------|----------|-------------|
|--|-------------------|----------|-------------|

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|----------|---------------------------------|---|--|
| Switches | SK 218-O | As welded: approx. 200 HB, After work hardening: up to 450 HB | Maintenance of austenitic manganese castings |
| | SK 219-O | As welded: approx. 220 HB, After work hardening: up to 450 HB | Maintenance of austenitic manganese castings, hard facing of rails |
| | SK AP-O | As welded: approx. 200 HB, After work hardening: up to 525 HB | Rebuilding and joining of carbon and 14% manganese steels, buffer layer prior to deposit hard overlay, hard facing of castings and rails either, welding castings to rails |
| Rails | SK 242-O | As welded: approx. 40 HRc | Maintenance and hardfacing of underground rails, wheels rebuilding |
| | SK 300-O | As welded: approx. 285 HB | Self shielded flux-cored wire to be used for the rebuilding of Carbon steel parts. |
| | SK 307-G | As welded: approx. 155 HB, After work hardening: up to 425 HB | Railways and tramway lines, building up and buttering before hardfacing, wheel flanges rebuilding |
| | SK 232-O | As welded: approx. 170 HB | Maintenance and hardfacing of underground rails, wheels rebuilding |
| | SK 309L-O | As welded: approx. 170 HB | Corrosion resistant overlays on rail heads submitted to corrosive action, repair, surfacing or welding of rails or austenitic manganese casting either. Switch blades rebuilding, rust resisting deposit for tract circuiting. |
| | SK 402-O | As welded: approx. 160 HB | Repair, surfacing or welding of rails or austenitic manganese casting either. Switch blades rebuilding, rust resisting deposit for tract circuiting. |
| | SK 402-G | As welded: approx. 170 HB | Austenitic alloy type CrNiMn designed for joining dissimilar metals and for buffer layer deposits prior to hard surfacing. |
| | SOUDOTAPE 309L + RECORD EST 307 | - | Top rail corrosion resistant overlaying in a single layer using electroslag stripcladding at high deposition rates |

| | SMAW | Hardness | Description |
|--|------|----------|-------------|
|--|------|----------|-------------|

| | | | |
|----------|-------------|---|--|
| Switches | UTP CHRONOS | As welded: approx. 220 HB , After work hardening: up to 550 HB | Welding consumable suitable for buildups on high Mn-steel of the same and of similar nature and on C-steels. |
| | UTP 7200 S | As welded: appr. 200-250 HB, After work hardening: up to 400-450 HB | Basic coated, CrNi alloyed Mn hard-steel stick electrode for joining and surfacing against extreme impact, compression and shock. |
| | UTP BMC | As welded: appr. 260 HB After work hardening: up to 550 HB | Welding consumable designed for buildups on parts made of high Mn-steel subject to high compression and impact in combination with abrasion. |
| Rails | UTP DUR 250 | As welded: appr. 270 HB 1 layer on steel with C=0,5% appr. 320 HB | Basic coated stick electrode for tough, easily machinable buildups. |
| | UTP DUR 300 | As welded: appr. 300 HB 1 layer on steel with C=0,5% appr. 350 HB | Basic coated stick electrode for wear resistant surfaces on low alloyed steel parts. |
| | UTP DUR 350 | As welded: appr. 300 HB 1 layer on steel with C=0,5% appr. 420 HB | Basic coated electrode for wear resistant surfaces on carbon low alloyed steel parts. |
| | UTP 614 Kb | - | Double coated stick electrode for highly stressed joints. Particularly suited for rail joint welds. |
| | UTP 630 | As welded: appr. 200 HB After work hardening: up to 350 HB | Fully austenitic welding electrode for buffer layers and crack resistant joints. |

Legend: O: open arc, G: gas shielded, S: submerged arc (SAW), A: solid rods & wires (GTAW/GMAW), no letter: stick electrodes

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Böhler Welding know-how joins steel

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.



Fontargen Brazing – Through deep insight into processing methods and ways of application, Fontargen Brazing provides the best brazing and soldering solutions based on proven products with German technology. The expertise of this brand's application engineers has been formulated over many years of experience from countless application cases.

forwarded by:

Global Industry Segment Management
Railway Industry

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