

BÖHLER AWS E309L-17

High alloyed stick electrode type 309L for special applications

Main benefit

Core wire alloyed stick electrode with balanced chemistry to provide safe dissimilar joints and surfacing.



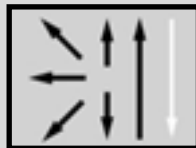

| Product features | Product benefits | User benefits |
|--|--|--|
| » Core wire alloyed coating concept | » Homogeneous chemistry of every single stick from the beginning up to the end | » Homogeneous weld seams lead to reliable corrosion resistance |
| » Designed for easy welding | » Minimum spatter formation » Self-releasing slag | » Less post weld cleaning » Lower total welding time |
| » Rutile coated | » Easy to handle » Very good welding characteristics | » Smooth and clean weld seams » Shiny surface for visible seams |
| » Increased delta ferrite content (FN ~17) » Moisture resistant coating | » Crack resistant dissimilar joints » Safe against porosity | » Welding for high demanding industries |



Typical applications

- » Variable applications when dissimilar joints are requested
- » Surfacing of unalloyed steel for corrosion resistance
- » Various industries

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| Classifications | | Operating data | |
|-----------------|--------------------|--|---|
| EN ISO 3581-A | AWS A5.4 / SFA-5.4 | Welding positions | Polarity |
| E 23 12 L R 3 2 | E309L-17 |  |  |

| Typical analysis of all weld metal, wt. % | | | | | |
|---|------|-----|-----|------|------|
| | C | Si | Mn | Cr | Ni |
| | 0.02 | 0.7 | 0.8 | 23.2 | 12.5 |

| Mechanical properties, all weld metal (single values typical) | | | | | | |
|---|-----------|---|---|--|---|-----------|
| | Condition | Yield strength R _{p0.2%} MPa | Tensile strength R _m MPa | Elongation A (L ₀ = 5d ₀) % | CVN Impact toughness ISO-V KV J 20 °C -60 °C | |
| | As welded | 450 (≥ 320) | 570 (≥ 520) | 37 (≥ 25) | 55 | 42 (≥ 32) |

| Steels to be welded | |
|---|------|
| EN | ASTM |
| <p>Primarily used for surfacing (buffer layer) unalloyed or low-alloyed steels and when joining non-molybdenum-alloyed stainless and carbon steels. Joints and mixed joints between austenitic steels such as 1.4301 X5CrNi18-10, 1.4306 X2CrNi19-11, 1.4308 GX5CrNi19-10, 1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4408 GX5CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-12-3, 1.4541 X6CrNiTi18-10, 1.4550 X6CrNiNb18-10, 1.4552 GX5CrNiNb19-11, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2, 1.4583 X10CrNiMoNb18-12, 1.4948 X6CrNi18-10</p> <p>UNS S30400, S30403, S30809, S31600, S31603, S31635, S32100, S34700, S31640</p> <p>AISI 304, 304L, 316, 316L, 316Ti, 321, 347</p> <p>or mixed joints between austenitic and heat resistant steels such as 1.4713 X10CrAlSi7, 1.4724 X10CrAlSi13, 1.4742 X10CrAlSi18, 1.4826 GX40CrNiSi22-10, 1.4828 X15CrNiSi20-12, 1.4832 GX25CrNiSi20-14, 1.4837 GX40CrNiSi25-12</p> <p>with ferritic steels to pressure boiler steels P295GH and fine grained structural steels to P355N, ship building steel grades A – E, AH 32 – EH 36, A40 – F40, etc.</p> | |

| Approvals |
|-----------|
| ABS, CE |

| Carton Packaging | |
|---|---|
|  | <p>Weight: ~ 4.1 kg</p> <p>Diameter: 2.5 x 300 mm 3.2 x 350 mm 4.0 x 350 mm</p> |