# BÖHLER CN 23/12-IG

Solid wire, high-alloyed, special applications

## Classifications

| EN ISO 14343-A | EN ISO 14343-B | AWS A5.9 |
|---|---|---|
| G 23 12 L | SS309L | ER309L |

## Characteristics and typical fields of application

GMAW wire of type G 23 12 L / ER309L. This is a standard alloy for welding dissimilar joints with an average ferrite content 16 FN. BÖHLER CN 23/12-IG is designed for very good welding, wetting and feeding characteristics as well as good safety after dilution when welding dissimilar joints. Suitable for service temperatures between –80 °C and +300 °C.

## Base materials

Dissimilar joint welds: of and between high-strength, mild steels and low-alloyed QT-steels, stainless, ferritic Cr- and austenitic Cr-Ni- steels, manganese steels

Surfacing: for the first layer of corrosion resistant weld surfacing on ferritic- perlitic steels in boiler and pressure vessel parts up to fine-grained steel S500N, as well as of high temperature steels like 22NiMoCr4-7 acc. SEW- Werkstoffblatt 365, 366, 20MnMoNi5-5 and G18NiMoCr3-7

## Typical analysis of solid wire (wt.-%)

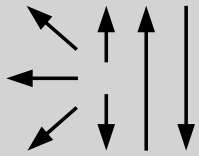
| | C | Si | Mn | Cr | Ni |
|---|---|---|---|---|---|
| wt-% | ≤ 0.02 | 0.5 | 1.7 | 23.5 | 13.2 |

## Mechanical properties of all-weld metal

| Condition | Yield strength $R_{p0.2}$ | Tensile strength $R_m$ | Elongation A ($L_0$=5$d_0$) | Impact work ISO-V KV J | |
|---|---|---|---|---|---|
| | MPa | MPa | % | +20 °C | –80 °C |
| u | **420** (≥ 320) | **570** (≥ 520) | **32** (≥ 25) | **90** | ≥ 32 |

u untreated, as welded – shielding gas Argon + max. 2.5% $CO_2$

## Operating data



| Polarity: | Shielding gases: | ø (mm) |
|---|---|---|
| DC ( + ) | Argon + max. 2.5 % $CO_2$ | 0.8 |
| | Argon + max. 1.0 % $O_2$ | 1.0 |
| | | 1.2 |

Preheat and interpass temperature as required by the base metal.

## Approvals

TÜV (4698.), DB (43.014.18), DNV (309L), GL (4332S), SEPROZ, CE