

Classifications

AWS A5.9	EN ISO 14343-A	YB/T 5092
ER309L	G(23 12 L)	H 03 Cr 24 Ni 13 Si

Characteristics and typical fields of application

- GMAW solid wire of type G 23 12 L / ER309L. This is a standard alloy for welding dissimilar joints with average ferrite content 16 FN
- It is designed for very good welding and wetting 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 all-weld metal

	C	Si	Mn	P	S	Cr	Ni		
wt-%	0.02	0.55	2.2	0.015	0.015	23.5	13.6		

Mechanical properties of all-weld metal – typical values (min. values)

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-60 °C
AW	430 (≥ 350)	580 (≥520)	36 (≥ 30)	130 (≥ 47)	- (≥32)

AW as welded

Operating data

	Polarity:	Electrode identification:	Shielding gas:	ø mm
	DC +	BÖHLER GMA 309L/ ER309L	(ISO14175) M12	0.8
				1.0
				1.2
				1.6

Approvals

CE