

# GM 312

## IDENTIFICATION

GM 312, ER 312

## CLASSIFICATION

AWS/SFA 5.9 ER312 BS2901-90 312S94,  
DIN 8556-86 WSGX10CrNi 30.9

## DESCRIPTION

GM 312 is a solid stainless steel wire which deposits a 29 % Cr / 9 % Ni austenitic / ferritic stainless steel weld metal with a ferrite content of about 40 FN. The weld metal exhibits excellent tolerance to dilution from dissimilar and difficult-to-weld base material without hot cracking, together with high strength and very good heat and oxidation resistance. Not recommended for depositing welds to be PWHT.

## CHEMICAL ANALYSIS (RANGE) %

C	Mn	Si	Cr	Cu	Ni	Mo	S	P
0.15 max	1.0 - 2.50	0.30 - 0.65	28.0 - 32.0	0.50 max	8.0 - 10.5	0.75 max	0.030 max	0.030 max

## MECHANICAL PROPERTIES (RANGE)

TS (MPa)	EL (%) (L=4D)	CVN Impact Value	
670 - 780	22 min	Temp	Joules
		20°C	50 - 90

## TYPICAL APPLICATIONS

- Medium and high carbon hardenable steels. For e.g. tool steels, shafts, gear teeth, free cutting steels.
- Dissimilar joints between stainless and high carbon steels.
- Buffer layer prior to hardfacing with chromium carbide deposits, surfacing of metal-to-metal wear areas, hot working tools.

**SHIELDING GAS :** Ar + 2% O<sub>2</sub> , 16 - 21 l/min

**WELDING CURRENT :** DC ( - )

## CORROSION RESISTANCE

Good resistance to sulphurous gases at high temperature. Good resistance to wet corrosion upto approximately 300°C.

## PACKING PARAMETERS

Size (mm)	Weight / Spool (Kg)
0.8	12.5

1	12.5
1.2	12.5
1.6	12.5