

## Classifications

EN ISO 14343-A	AWS A5.9	Mat. No.
G 20 10 3	ER308Mo(mod.)	1.4431

## Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 300 °C (572 °F). For joining of stainless Cr and similar austenitic CrNiMo steels / cast steel grades. For joining of dissimilar materials. For tough joints on high manganese steel (steel castings), CrNiMn steels/cast steel grades and armour steels. For surfacing and repair welding on wear-exposed parts: rotors, rails. Especially suited for austenitic-ferritic joints at max. application temperature 300 °C (572 °F). Particularly for tough joints of unalloyed/low-alloy steels / cast steel grades or stainless heat resistant Cr steels / cast steel grades with austenitic steels / cast steel grades.

## Base materials

TÜV-certified parent metal

Combinations of stainless resp. cryogenic austenitic steels such as 1.4583 – X10CrNiMoNb18-12 and ferritic steels up to boiler plates P295GH; on and between high-tensile, unalloyed and alloyed structural steels, quenched and tempered steels and armour steels; unalloyed as well as alloyed boiler or structural steels with high alloyed Cr and CrNi steels; on austenitic high manganese steels and with other steels.

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

	C	Si	Mn	Cr	Mo	Ni
wt-%	0.05	0.5	1.3	20.5	3.3	10.5

**Structure:** Austenite with increased amount of ferrite

## Mechanical properties of all-weld metal

Heat-treatment	Yield strength R <sub>p0.2</sub>	Yield strength R <sub>p1.0</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	470	520	670	25	50

Operating data			
<b>Polarity:</b> DC ( + )	<b>Shielding gas:</b> (EN ISO 14175) M12 (max. 3 % CO <sub>2</sub> ), M13	<b>∅ (mm)</b> 1.2 1.6	<b>Spool:</b> B300 B300
Welding instruction			
Materials	Preheating	Postweld heat treatment	
Unalloyed / low-alloy structural steels of elevated strength (surfacing and repair welding)	According to parent metal mostly not necessary	No stress relieving (risk of carbide precipitation in weld fusion zone, loss of toughness, fracturing)	
Stainless Cr steels	According to parent metal	None	
Stainless CrNi steels	None	None	
High manganese steel	None	As this steel becomes very brittle at 400 – 600 °C (752 – 1112 °F), weld as cold as possible, cooling possibly with compressed air, or dip workpiece in water. No postweld heat treatment, quench if possible	
Approvals			
TÜV (01773), CE			