

EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 18.8.Mn

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008870	EN008460	2020-01-20	1 (2)

REASON FOR ISSUE

Product name and Classification amended.

GENERAL

18.8.Mn is a filler material is a filler metal of AWS ER 307 type with increased managanese content, reducing the risk for fissuring/hot cracking that otherwise can be a problem in fully austenitic weld metals. It is similar to ER 307 type suitable for joining work-hardenable steels, armor plate, austenitic stainless manganese steels, free-machining steels (such as ASTM 303) and stainless Cr steels with max. 18% Cr.

The grade is used, for example, in the automotive industry for joining dissimilar steels as well as tractor trailers and passenger rail cars. It is also suitable for overlay welding on carbon and low-alloy steels. It is used for MIG/MAG welding.

CLASSIFICATIONS Wire Electrode

EN ISO 14343-A	G 18 8 Mn Si
SFA/AWS A5.9	ER(307)
Werkstoffnummer	1.4370

APPROVALS

CE	EN 13479
DB	43.118.11
VdTÜV	19482

CHEMICAL COMPOSITION

Wire/Strip (%)	
	Nom
C	0.08
Si	0.9
Mn	7.0
P	<=0.025
S	<=0.015
Cr	18
Ni	8
Mo	<0.3
Co	<0.5
Cu	<0.10
N	<0.060

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal	
Properties	As welded Typ
Rp0.2 (MPa)	460
Rm (MPa)	650
A5 (%)	41
Z (%)	61
Charpy V at 20°C (J)	140

EXATON Product Data Sheet

G 'Gas-shielded metal-arc welding'

Exaton 18.8.Mn

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN008870	EN008460	2020-01-20	2 (2)

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
$\emptyset$	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
0.8	40	120	12.0				4	8	15	19
1.0	60	220	12-18				4	12	15	28
1.2	150	260	18.0				3	10	24	29
1.6	230	350	18.0				3	5	25	30

W = Gas consumption (l / min)

η = Recovery, g weld metal / 100g wire (%)

H = Deposit rate (kg weld metal / hour arc time)

Feed = Feeding rate (m/min)

U = Arc voltage (V)

OTHER DATA

CORROSION RESISTANCE - ALL WELD METAL: 18.8.Mn has corrosion resistance similar to that of the of the corresponding parent metal. For joints between non alloyed or low alloyed steels and stainless steels, resistance to corrosion is of secondary importance.

RECOMMENDED WELDING DATA:

Electrode positive is used to give good penetration in all types of welded joint.

Exaton can provide recommendations for shielding gases.

Short-arc welding is used with light gauge material of less than about 3 mm, in depositing root runs, and in welding out-of-flat positions.

The higher the inductance in short-arc welding, the higher the fluidity of the molten pool.

Spray-arc welding is normally used for heavier gauge material.

WELD METAL CHARACTERISTICS: Fully austenitic.