

Data sheet and application

DIM L-1.4115[©]

Material-no.: 1.4115
 DIN 8555: SG X20CrMo17-1
 DIN EN 14700: T Fe7
 EN ISO 14343-A: G/W 17
 EN 12072: G Z17 Mo
 5-GZ400 ZR
 AWS/ASME SFA-5.9

Highly alloyed, non-corrosive

Characteristics

Solid wire electrode for armouring on stainless steel with 13-18% Cr, as well as for gas, water and steam fittings made of unalloyed or low-alloy steels and cast steel grades for operating temperatures up to + 500 ° C. Armouring of machine parts made of high-strength tempering steel.

Excellent lubricity and conveying properties. Very good welding and flow behavior. Resistant to sea water and dilute organic acids, as well as up to + 900 ° C. High heat resistance. The weld metal is mostly in the same color as similar alloyed base materials. For connection welding, we recommend DIM L-63 as a filling layer and toughness enhancement and DIM L- 1.4115 as a top layer.

Materials

For corrosion-resistant applications:

All weldable carrier materials unalloyed and low alloyed.

For connections:

Corrosion-resistant, heat-treatable Cr steels with C-contents ≤0.20%.

1.4006, 1.4021/34/57, 1.4112, (G)X35CrMo17, SUS420J2.

(X12Cr13 / AISI,SAE,ASTM-410 (403E) / B.S.-410S21 / AFNOR-Z10C13)

(X 20 Cr 13 / AISI,SAE,ASTM-420 / 431 / B.S.-420S29 / AFNOR-Z20C13).

Chemical composition

C	Si	Mn	Cr	Mo	Ni
0,2	0,65	0,55	17,0	1,1	0,4

Certificate of batch upon request.

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Mechanical properties of pure weld metal

Yield strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A (L0=5d0) %	Impact energy ISO-V KV J +20°C -196°C
(≥ 500)	(≥ 700)	(≥ 15)	-

	u*	u - 1st layer	u - 2nd layer	u - 3rd layer	a*
Brinell-hardness HB	350	400-500	380-450	330-400	200

u* Untreated, welding state - base material unalloyed, protective gas Ar + 8-10% CO₂

a* annealed, 720°C/2 h – protection gas Ar + 8-10% CO₂

The hardness of the weld metal is mainly influenced by the mixing with the respective base material and its chemical composition. The higher the mixing ratio and the C content of the base material, the higher the hardness of the weld metal. Protective gases with higher CO₂ contents also lead to higher hardness.

Processing instructions

Protection gas: Argon + 8-10% CO₂ / Argon + 3% O₂ or max. 5% CO₂