VENVU 309 L

Flux cored wire, high-alloyed, special applications

Classifications

ø 1.2 mm / ø 1.6 mm		
EN ISO 17633-A	**EN ISO 17633-B**	**AWS A5.22**
T 23 12 L R M21 (C1) 3	TS 309L-F M21 (C1) 0	E309LT0-4/-1
ø 0.9 mm		
EN ISO 17633-A	**EN ISO 17633-B**	**AWS A5.22**
T 23 12 L P M21 (C1) 1	TS 309L-F M21 (C1) 1	E309LT1-4/-1

Characteristics and typical fields of application

Rutile flux-cored welding wire for GMAW of dissimilar joints of Cr- and CrNi(Mo)-steels and non- or low-alloy steels, as well as weld cladding of un- or low alloyed base metals preferably in flat or horizontal position. This product achieves high productivity and is easy to operate achieving excellent welding characteristics, self releasing slag, almost no spatter formation and temper discolouration, smooth weld finish and safe penetration. Beside the major savings in time and cost VENVU offers a high production quality level together with lowest probabilities for welding errors. Increased travel speeds as well as little demand for cleaning and pickling provide considerable savings in time and money. Suitable for service temperatures of -60°C to +300°C.
VENVU 309 L ø 0.9 mm is well suitable for welding of sheet metal (thickness greater than 1.5 mm, for out-of-position welding greater than 5 mm). The slag concept gives the opportunity to weld this diameter in all welding positions. Wires with ø 1.2 mm can be used for wall thicknesses from 3 mm and up. Wire ø 0.9 mm is designed for positional welding, wire ø 1.2 mm and 1.6 mm are recommended mainly for downhand and horizontal welding positions.

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 (wt.-%)

C	Si	Mn	Cr	Ni
0.03	**0.7**	**1.4**	**23.0**	**12.5**

Mechanical properties of all-weld metal

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
u	**400** (≥ 320)	**540** (≥ 520)	**33** (≥ 25)	**60**	**45** (≥ 32)

u: untreated, as welded – (Argon + 18% CO_2)

All i nformation provided is based upon careful investigation and intensive research.
However, we do not assume any liability for correctness and information is subject to change without notice.

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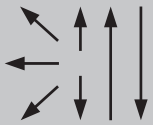
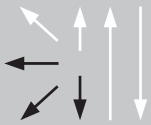
Operating data

		Polarity:	Shielding gases:	ø (mm)	Amps A	Voltage V
		DC (+)	Argon + 15 – 25% CO_2	0.9	100 – 160	21 – 30
				1.2	125 – 280	20 – 34
				1.6	200 – 350	25 – 35
ø 0,9 mm	ø 1,2 mm ø 1,6 mm		100% CO_2			
			Redrying if necessary: 150 °C / 24 h			

Welding with standard GMAW-facilities possible, slightly trailing torch position (angel appr. 80°), when using 100% CO_2 as shielding gas it is necessary to increase the voltage by 2 V; the gas flow should be 15-18 l/min. Preheat and interpass temperatures as required by the base metal.

Approvals

TÜV (5350.), DB (43.014.16), CWB (E309LT0-1(4)), GL (4332 (C1, M21)), LR (DX, CMn/SS), SEPROZ, CE, RINA (309L5), DNV

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