

Classifications

EN ISO 16834-A	EN ISO 16834-B	AWS A5.28	AWS A5.28M
G 69 5 M21 Mn3Ni1CrMo	G 76A 5 M21 3M1	ER110S-G	ER76S-G

Characteristics and typical fields of application

GMAW wire for the welding of high-strength, heat treated, fine-grained constructional steels with a minimum yield strength of 690 MPa.

Due to the precise addition of micro-alloying elements X 70-IG wire features excellent ductility and crack resistance in spite of its high strength.

Good cryogenic impact energy down to -50°C.

Base materials

High-strength fine-grained steels

S620Q, S620QL, S690Q, S690QL, N-A-XTRA M 700, alform® plate 620 M, alform® 700 M, alform® plate 700 M, aldur 620 Q, 620 QL, aldur 700 Q, 700 QL

ASTM A 514 Gr. F, H, Q; A 709 Gr. 100 Type E, F, H, Q ; A 709 Gr. HPS 100W

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Cr	Ni	Mo	V
wt-%	0.1	0.6	1.6	0.25	1.3	0.25	0.1

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	-50°C
u	800 (≥ 690)	900 (770-940)	19 (≥ 17)	190	≥ 47

u untreated, as welded – shielding gas Ar + 15 – 25% CO₂

Operating data

	Polarity: DC (+)	Shielding gases: Argon + 15 – 25% CO ₂	ø (mm)
			1.0
			1.2

Preheating and interpass temperature as required by the base metal.

Approvals

TÜV (5547.), DB (42.014.19), ABS (X), BV (UP), DNV (IV Y69), GL (5Y69S), RMR (4Y69), SEPROZ, CE