

CARBOWELD 82

International standards	Materia	l No.		2.4648							
	DIN 173	1736 EL-NiCr 19 Nb									
	AWS A	AWS A5.11 E NiCrFe-2 / MOD.									
Typical applications and characteristics	Nickel base electrode with excellent weldability on AC. Suitable for joining and cladding low alloyed and alloyed steels, welding iron- and nickel base alloys and for dissimilar joints. The austenitic deposit is insensitive to hot-cracking and free of embrittle- ment at high as well as at low temperatures, non-scaling up to 1000° C, and cold tough down to –196° C. No diffusion of carbon into the weld metal at high temperatures. Used for service-temperatures of more than 300° C in Chemical Industry, Petrochemical Industry, glassworks, civil engineering, repairing and main- tenance workshops.										
Operating temperature	- 196° C up to 550° C										
Base materials	2.4605 NiCr23Mo16Al 2.4856 NiCr22 2.4952 NiCr20TiAl 2.4630 NiCr20Ti Mo9Nb 1.4876 X10NiCrAITi32 2.4631 NiCr20TiAl 2.4858 NiCr21Mo (Alloy 800) 2.4669 NiCr15Fe7TiAl 2.4867 NiCr60-15 1.4958 X5NiCrAITi31-2 2.4816 NiCr15Fe 2.4869 NiCr21Mo 1.4959 X8NiCrAITi32-2 2.4817 LC-NiCr15Fe 2.4869 NiCr80-20 (Alloy 800 HT) 2.4851 NiCr23Fe 2.4870 NiCr 10 (Alloy 800 HT) 2.4851 NiCr23Fe 2.4870 NiCr 20 (Alloy 800 HT) 2.4851 NiCr23Fe 2.4870 NiCr 20 (Alloy 800 HT) 2.4851 NiCr23Fe 2.4870 NiCr 20 (Alloy 800 HT) 2.4851 NiCr23Fe Dissimilar joints: Ni-base alloys to austenitic steels/ Ni-base alloys to ferritic steels/ austitic to ferritic steels up to 550° C Ni-base alloys to ferritic steels/ austitic to ferritic steels up to 550° C						CrAITi32-20 800) CrAITi31-20 CrAITi32-21 800 HT)				
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Mechanical properties of all-weld metal	Tensile	strength N/mm²	Yie	eld strength	ı	Elong A₅		İS	act strength O – V J t -196 ° C		
	Tensile R _m I	strength	Yie	eld strength	1		%	İS	O-V J		
of all-weld metal (typical values)	Tensile R _m I	e strength N/mm²	Yie R	eld strength p _{p0,2} N/mm ² 380		A ₅	% 5	İS	O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis	Tensile R _m I	e strength N/mm² 650 Mn	Yie R Mo	eld strength p _{0,2} N/mm ² 380 Cr	Ni	A₅ 3 	% 5 <u>Nb</u>	İS	O – V J t -196 ° C		
of all-weld metal (typical values)	Tensile R _m I	e strength N/mm² 650 Mn	Yie R	eld strength p _{0,2} N/mm ² 380 Cr		A ₅	% 5 <u>Nb</u>	İS	O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis	Tensile R _m I	e strength N/mm ² 650 Mn 3,5	Yie R Mo	eld strength p _{0,2} N/mm ² 380 Cr	Ni	A₅ 3 	% 5 <u>Nb</u>	İS	O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %)	Tensile R _m I 6 C < 0,04 = + / ~ ,	e strength N/mm ² 650 Mn 3,5	Y ie R Mo <1	eld strength 2 _{p0,2} N/mm ² 380 Cr 19	Ni	A₅ 3 	% 5 <u>Nb</u>	İS	O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %) Current	Tensile R _m I 6 C < 0,04 = + / ~ , PA, PB	e strength N/mm ² 550 Mn 3,5 , 50 V	Yie R Mo <1	eld strength 2 _{p0,2} N/mm ² 380 Cr 19	Ni Bal.	A₅ 3 Fe < 4	% 5 <u>Nb</u>	İS	O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %) Current Welding positions Rebaking Dia./Length Amperage	Tensile R _m I c < 0,04 = + / ~ , PA, PB 1 h, 350 ge (A)	e strength N/mm ² 650 650 3,5 , 50 V , PC, PD, 1	Mo <1 PE, PF 0 °C	eld strength 2 _{p0,2} N/mm ² 380 Cr 19	Ni Bal.	A₅ 3 Fe < 4	% 5 <u>Nb</u>		O – V J t -196 ° C		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %) Current Welding positions Rebaking Dia./Length Amperag 2,5 x 300 60 -	Tensile R _m I c c < 0,04 = + / ~ , PA, PB 1 h, 350 ge (A) 100	e strength N/mm ² 650 650 3,5 , 50 V , PC, PD, I 0 °C + / - 1 Pcs./ pacl 209	Mo <1 PE, PF 0 °C	eld strength 2p0,2 N/mm ² 380 Cr 19 19 (if requ cs./ carton 838	Ni Bal.	A₅ 3 Fe < 4) / 1000 19,1	% 5 2 kg / pa 4,0	cket	O – V J t -196 ° C > 32 kg / carton 16,0		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %) Current Welding positions Rebaking Dia./Length Amperage 2,5 x 300 60 - 3,2 x 350 80 -	Tensile R _m I (C < 0,04 = + / ~ , PA, PB 1 h, 350 (ge (A) 100 140	e strength N/mm ² 550 550 550 550 550 550 550 550 550 55	Mo <1 PE, PF 0 °C	eld strength 2p0,2 N/mm ² 380 Cr 19 19 (if requ <u>cs./ carton</u> 838 531	Ni Bal. ired	A ₅ 3 Fe < 4 < 4) / 1000 19,1 37,7	% 5 2 2 kg / pa 4,0 5,0	IS at	O – V J t -196 ° C > 32 kg / carton 16,0 20,0		
of all-weld metal (typical values) Weld metal analysis (typical, wt. %) Current Welding positions Rebaking Dia./Length Amperag 2,5 x 300 60 -	Tensile R _m I (C < 0,04 = + / ~ , PA, PB 1 h, 350 ge (A) 100 140	e strength N/mm ² 650 650 3,5 , 50 V , PC, PD, I 0 °C + / - 1 Pcs./ pacl 209	Mo <1 PE, PF 0 °C	eld strength 2p0,2 N/mm ² 380 Cr 19 19 (if requ cs./ carton 838	Ni Bal. ired	A₅ 3 Fe < 4) / 1000 19,1	% 5 2 kg / pa 4,0	cket	O – V J t -196 ° C > 32 kg / carton 16,0		

Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. Carbo-Weld may change the characteristics of its products without notice. We recommend the applier to check our products for their special application autonomously.