Exaton 316/316L CRYO

316/316L CRYO is a filler material for joining austenitic stainless steels, e.g. ASTM 316, 316L, as well as 304, 304L, for cryogenic applications and meets the requirements of ASME Section VIII, Division 1, UHA 51 ((a) (4) (-a) (-1)) and others. It is used for service temperatures down to -269ºC (-452ºF), and ferritic or martensitic stainless steels, with maximum 19% Cr. 316/316L CRYO is available as wire and rods for MIG/MAG, TIG, plasma arc and submerged arc welding (SAW). The grade has been specifically developed for welding in cryogenic applications, typically: manufacturing of dewars, containers, tanks, cryostats, and transfer systems for transportation and storage of LNG, LPG, liquid nitrogen and liquid helium.
The chemical composition is optimized for cryogenic applications in terms of impact strength and other characteristics. It has controlled chemical composition and ferrite content for resistance to microfissuring, and balanced minor additions of certain elements for optimum arc stability and wetting characteristics. Impurity levels are lower in the consumable in order to reduce the risk of hot cracking and to obtain the best arc stability, fluidity, low spatter and wetting properties. It is used for TIG-welding.

Classifications Wire Electrode	SFA/AWS A5.9 : ER316L EN ISO 14343-A : W (19 12 3 L) Werkstoffnummer : ~1.4430
Approvals	CE EN 13479

Approvals are based on factory location. Please contact ESAB for more information.

Alloy Type	Austenitic (with appr. 2 % ferrite) 19 % Cr - 13 % Ni - 2 % Mo - Low C
Shielding Gas	I1 (EN ISO 14175)

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	-196 °C (-321 °F)	90 J (67 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Al	Cu
0.01	1.8	0.4	0.001	0.012	13.0	18.5	2.3	0.008	0.03

Typical Weld Metal Analysis %

N	Nb	Ti	Co	FN WRC-92
0.05	0.01	0.002	0.04	3

Typical Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Al	Cu
0.02	1.8	0.4	0.003	0.012	13.3	18.5	2.3	0.01	0.06

Typical Wire Composition %

N	Nb	Ti	Co	FN WRC-92
0.06	0.01	0.005	0.03	2

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