

Inweld 320 LR-16

AWS A5.4 E320LR-16

Chemical Composition of E320LR-16

Fe	C	Cr	Ni	Mo	Cb (Nb) & Ta	Mn	Si	P	S	N	Cu
Balance	0.03	19.0- 21.0	32.0- 36.0	2.0-3.0	8 X C to 0.40	1.50- 2.50	0.30	0.02	0.015	---	3.0-4.0

Single values are maximum unless otherwise specified.

Description and Applications

Inweld 320LR-16 coated electrodes are used for welding Carpenter 20 or 20 Cb-3 stainless steel, just like Inweld 320-16 - only better. Inweld 320LR-16 has been formulated with much "lower residual" elements such as carbon, silicon, phosphorus and sulfur. Columbium (Cb) and manganese (Mn) are also kept within a tighter range. These strict controls of the electrode chemistry creates a weld deposit that eliminates hot cracking and micro-fissuring, which is frequently encountered when welding austenitic stainless steels. Inweld 320LR-16 offers excellent corrosion resistance against sulfuric acid, phosphoric acid and their salts. Inweld 320LR-16 is used to weld both castings and wrought alloys of similar analysis without having to do post-weld heat treatment.

Procedure

Clean the work area. Preheating is not required. Use DC+ (reverse polarity), however an AC machine with a minimum open circuit voltage of 70 Volts can be used. The welding current should be kept to a minimum and the welding speed at a maximum to avoid overheating and distortion. The arc length should be kept as short as possible without touching the flux-coating of the electrode to the molten weld pool. The electrode should be tilted 15° in the direction of travel. Stringer beads should be used in the flat, horizontal, & overhead positions. Vertical welding should be done using the weaving technique but not to exceed 2-3 times the diameter of the electrode. Be sure to remove all slag before making additional passes. On the final pass, allow the part to cool before removing the slag cover.

Typical Weld Metal Properties

	<u>AWS Spec</u>
Tensile Strength:	85,000 psi
Yield Strength:	57,000 psi
Elongation:	34%

Recommended Parameters

SMAW AC/DC + (Electrode Positive)

<u>Wire Diameter</u>	<u>Flat Amperage</u>	<u>Vertical & Overhead Amperage</u>
3/32"	70-85	65-75
1/8"	85-110	80-90
5/32"	110-140	100-120
3/16"	120-160	110-130

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