

# Crown E 309LT-1 FC

Gas Shielded Flux Cored Arc Welding  
(FCAW-G)

Stainless Steel

All Position



## Premium Gas Shielded Flux Cored Arc Welding for Stainless Steel

### Typical Applications

**Crown E309LT-1 FC** is an *all-position* gas-shielded flux cored stainless steel electrode for flux cored arc welding (FCAW). **Crown E309LT-1 FC** will produce high quality weldments in all positions of welding. It is used to weld type 309 wrought or cast forms. It is also the preferred alloy when welding dissimilar stainless steels. **Crown E309LT-1 FC** is used extensively for welding many stainless steels to mild or carbon steel. Both deposition rate and efficiency are better than that of covered stainless steel electrodes. Compared to the solid GMAW (MIG) process, **Crown E309LT-1 FC** achieves all-position capability without using a pulsed power source or short circuit transfer. **Crown E309LT-1 FC** will attain a higher deposition rate and better weld quality than GMAW (MIG) welding with solid wire. The weld deposits exhibit superior radiographic quality.

### Specifications

AWS A5.22/A5.22M

E 309LT1-1/T1-4

- Tensile Strength 84,500 psi (typical)
- Yield Strength 66,500 psi (typical)
- Elongation 37% (typical)

### Procedure

Feed rolls of common configurations (knurled, U-grooved, or flat and V-grooved combination) can be used, but feed roll pressures should not exceed a firm finger-tight setting. A properly sized nylon or Teflon cable liner will promote optimum wire feeding. The wire must be carefully cut to insure roundness before attempting to feed it through a contact tip. The welded bead should have essentially no ripple. This smooth, unrippled appearance is characteristic of weld beads produced by **Crown E309LT-1 FC**. Welding must be done using a constant voltage (CV) DC machine. If used on a constant current (CC) machine, any small changes in electrical stickout (length of wire from the end of the contact tip to the workpiece) will produce large voltage fluctuations, resulting in stubbing and porosity. Weld in the DC reverse polarity position. Electrode extension or stick out should be 1/2" to 1". The optimum range is from 5/8" to 3/4". Slag inclusions are best avoided by using backhand welding technique. **The optimum shielding gas is 100% CO<sub>2</sub>. Pure CO<sub>2</sub> provides more resistance to worm tracks than does an Argon-CO<sub>2</sub> blend. Spatter can be reduced slightly by using a 75% Argon/25% CO<sub>2</sub> shielding gas.**

Shielding Gas 100% CO <sub>2</sub>	.035 Wire Diameter			
Welding Current (amps)	100	120	140	170
Arc Voltage (volts)	23	23	25	26
Wire Feed Speed (ipm)	265	315	405	530
Deposition Rate (lbs/hr)	2.9	3.4	4.6	5.7
% Efficiency	83.9	81.4	82.6	81.8

When using a 75% Argon / 25% CO<sub>2</sub> mixture, decrease voltage by as much as 2 volts

Shielding Gas 100% CO <sub>2</sub>	.045 Wire Diameter			
Welding Current (amps)	130	165	190	220
Arc Voltage (volts)	25	26	28	30
Wire Feed Speed (ipm)	227	341	445	567
Deposition Rate (lbs/hr)	4.25	6.14	8.08	10.24
% Efficiency	84.0	83.0	84.0	84.0

When using a 75% Argon / 25% CO<sub>2</sub> mixture, decrease voltage by as much as 2 volts. When welding in the flat or horizontal position use 180-200 amps, 25-27 volts, 450 in/min. When welding in the vertical-up position use 150-170 amps, 24-26 volts, 325 in/min. When welding in the overhead position use 175-195 amps, 25-27 volts, 425 in/min.

### Sizes and Part Numbers

MIG Diameter	Part Numbers		
	2 lb (4") Spools	8" Spools	33 lb Spools
.035	SS309L1/1F	SS309L1/2F	SS309L1/3F
.045	SS309L1/1G	SS309L1/2G	SS309L1/3G

# CROWN ALLOYS COMPANY

30105 STEPHENSON HWY.  
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## Filler Metal Selector Guide for Stainless Steels *(page 1)*

Stainless Steel or Steel Base Alloy	442	430F	430	501	416	403	321	317	316L	316	314	310	309	304L	303	201	MILD STEEL				
	446	430FSE	431	502	416SE	405	348					310S	309S	304L	303SE	202		301	302	302B	304
201-202	310	310	310	310	309	309	347	308	308	308	308,	308	308	308	308	308	312				
301-302	312	312	312	312	310	310	308	316	316	316	309					310					
302B-304	309	309	309	309	312	312		317			310					309					
305-308																308					
303	310	310	310	310	309	309	347	308	308	308	308,	308	308	308	308-15	308	312				
303SE	309	309	309	309	310	310	308	316	316	316	309					310					
	312	312	312	312	312	312	317	317			310					309					
304L	310	310	310	310	309	309	347	308	308L	308	308,	308	309	308L	308	308	312				
	309	309	309	309	310	310	308L	316		316	309		308			310					
	312	312	312	312	312	312	317	317		310	310		308			309					
309	310	310	310	310	309	309	347	317	316	316	309	309	309	309	308	308	309				
309S	309	309	309	309	310	310	308	316	309	309	310	310	310	308		310					
	312	312	312	312	312	312	309	309		310						312					
310	310	310	310	310	310	310	347	317	310	316	310	310	309	308	308	308	310				
310S	309	309	309	309	309	309	308	316	316	310			310			309					
	312	312	312	312	312	312	309	309	309	309						312					
314	310	310	310	310	310	310	309	309	309	309	310-15	310	309	308,	308,	308,	310				
	312	312	312	312	312	309	310	310	310	310			310	309	309	309					
	309	309	309	309	309	312	347	317	316	316				310	310	310					
316	310	310	310	310	309	309	347	316	316	316	309	316	316	308	308	308	309				
	309	309	309	309	310	310	308	308			310	310	309	316	316	316					
	312	312	312	312	312	312					316	309	310	316	316	312					
316L	310	310	310	310	309	309	347	316	316L	316	309	310	316	308L	308	308	309				
	309	309	309	309	310	310	308	317			310	316	309	316	316	316					
	312	312	312	312	312	312	308	308			316	309		316	316	312					

Bold numbers indicate first choice, light numbers indicate second and third choice. This choice can vary with specific applications and individual job requirements.

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## Filler Metal Selector Guide for Stainless Steels (page 2)

Stainless Steel or Steel Base Alloy	442	430F	430	501	416	403	321									201	MILD STEEL
	446	430FSE	431	502	416SE	405	348	317	316L	316	314	310	309	304L	303	202	
						410	347					310S	309S		303SE	301	
						420										302	
						414										302B	
																304	
																305	
																308	
317	310	310	310	310	309	309	308	317	316	316	309	317	317	308	308	308	309
	309	309	309	309	310	310	347		317	308	310	316	316	316	316	316	310
	312	312	312	312	312	312			308		317	309	309	317	317	317	312
321	310	310	310	310	309	309	347	308	347	347	309	347	347	347	347	347	309
348	309	309	309	309	310	310		347	308	308	310	308	308	308L	308	308	310
347	312	312	312	312	312	312					347					312	312
403-405	310	310	310	310	410-15*	410*	309	309	309	309	310	310	309	309	309	309	309
410-420	309	309	309	309	309**	309**	310	310	310	310	309	309	310	310	310	310	310
414	312	312	312	312	310**	310**	312	312	312	312	312	312	312	312	312	312	312
416	310	310	310	310	410-15*	410-15*	309	309	309	309	310	310	309	309	309	309	309
416SE	309	309	309			309**	310	310	310	310	312	309	310	310	310	310	310
						310**	312	312	312	312	309	312	312	312	312	312	312
501	310	310	310	502*	310	310	310	310	310	310	310	310	310	310	310	310	310
502				310**		309	309	309	309	309	312	309	309	309	309	312	312
						312	312	312	312	312	309	312	312	312	312	309	309
430	310	310	430-15*	310	310	310	310	310	310	310	310	310	310	310	310	310	310
431	309	309	310**		309	309	309	309	309	309	312	309	309	309	309	312	309
			309**		312	312	312	312	312	312	309	312	312	312	312	309	312
430F	310	410-15*	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
430FSE	309		309	310	309	309	309	309	309	309	312	309	309	309	309	312	309
					312	312	312	312	312	312	309	312	312	312	312	309	312
442	309	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
446	310	309	309		309	309	309	309	309	309	312	309	309	309	309	312	309
					312	312	312	312	312	312	309	312	312	312	312	309	312

\*Preheat    \*\*No Preheat Necessary    Bold numbers indicate first choice, light numbers indicate second and third choice. This choice can vary with specific applications and individual job requirements.



**!!!! WARNING !!!!**



**WELDING FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.**

**BEFORE USING THIS PRODUCT THE WELDER (END-USER) MUST READ AND UNDERSTAND THE COMPLETE PRODUCT WARNING LABEL AND THE NEW 16 SECTION SAFETY DATA SHEET (SDS).**

**THE SAFETY DATA SHEET (SDS) WHICH OUTLINES THE POTENTIAL HEALTH HAZARDS AND SAFETY INFORMATION RELATED TO THIS PRODUCT CAN BE DOWNLOADED FROM THE SDS PORTION OF THIS WEBSITE. IT IS ALSO AVAILABLE FROM YOUR EMPLOYER AND WELDING SUPPLY DISTRIBUTOR.**

**DO NOT PROCEED WITH USE OF THIS PRODUCT UNTIL YOU READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) AND PRODUCT WARNING STATEMENT.**

**BE SURE TO CONSULT THE LATEST VERSION OF THE SDS.**

**SEE THE PRODUCT WARNING LABEL AND SDS FOR COMPLETE WARNING INFORMATION.**

