

## SelectAlloy 2594-C

### Description:

**SelectAlloy 2594-C** is a metal cored electrode having a nominal composition of 26 Cr, 9 Ni, 3 Mo, 0.6 W and 0.25 N. Its Pitting Resistance Equivalent Number (PRE<sub>N</sub>) is equal or greater than 40 making it an excellent choice for use in aqueous environments containing chlorides. It is used to weld super duplex stainless steels in both wrought (UNS S32750 and S32760) and cast (UNS J93380 and J93404) forms. In addition, **SelectAlloy 2594-C** can be used to weld standard duplex alloys in the 2205-family and is a good choice for dissimilar joints between the duplex stainless family and low alloy steels. Due to the higher PRE<sub>N</sub> value, this electrode has better resistance to intergranular corrosion, pitting and stress corrosion cracking than 2209. The recommended shielding gas is Ar/2O<sub>2</sub> (other proprietary gas mixtures have been used with this electrode- contact Select-Arc for information).

### Classification:

- EC2594 per AWS A5.22, ASME SFA 5.22

### Characteristics:

**SelectAlloy 2594-C** operates with a smooth, spray arc transfer. It produces little or no slag and virtually no spatter, minimizing cleanup. It offers higher deposition rates and more controlled penetration than the equivalent solid electrode. As a result it operates at higher travel speeds and handles poor fit-up.

### Applications:

**SelectAlloy 2594-C** is suitable for welding duplex and super-duplex materials in the chemical and fertilizer industries, energy generation, flue gas desulphurization, and for many offshore applications including piping systems, pumps, valves and heat exchangers.

### Typical Mechanical Properties (Ar-2% O<sub>2</sub>):

Ultimate Tensile Strength (psi)	123,000
Yield Strength (psi)	90,000
Percent Elongation	29

### Typical Weld Deposit Chemistry (wt%):

Shielding Gas	C	Cr	Ni	Mo	W	Mn	Si	N
98Ar/2 O <sub>2</sub>	0.02	25.80	8.90	3.10	0.60	1.90	0.60	0.25
Ferrite Number (WRC, 1992) - 49								
PRE <sub>N</sub> - 42								

### Typical Welding Parameters (Ar-2%O<sub>2</sub>)\*:

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.045"	250	180	21	1/2-5/8	7.1
<b>.045"</b>	<b>400</b>	<b>240</b>	<b>23</b>	<b>1/2-5/8</b>	<b>11.3</b>
<b>.045"</b>	<b>500</b>	<b>280</b>	<b>25</b>	<b>1/2-5/8</b>	<b>14.1</b>
.045"	650	300	28	1/2-5/8	18.4
1/16"	150	190	24	3/4-1	7.7
<b>1/16"</b>	<b>250</b>	<b>280</b>	<b>25</b>	<b>3/4-1</b>	<b>12.8</b>
<b>1/16"</b>	<b>350</b>	<b>385</b>	<b>26</b>	<b>3/4-1</b>	<b>17.9</b>
1/16"	450	490	32	3/4-1	23.1

- Optimum conditions are in **boldface type**.

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Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.