

LANCASTER ALLOYS COMPANY

**PREMIUM QUALITY WELDING WIRE
FOR THE AEROSPACE
AND AIRCRAFT INDUSTRIES**



**LANCASTER ALLOYS COMPANY
PROMISE OF TECHNICAL & ENGINEERING SUPPORT
WE HELP BUILD PERFORMANCE**

It is the policy of LANCASTER ALLOYS COMPANY to support our customers in their welding applications. We realize that this industry is tremendously varied and is often very complicated. We want the users of our products to be as successful as possible, therefore, we encourage you to call us whenever we can help.

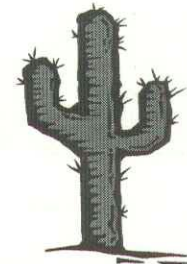
Such interaction helps us to supply alloys that are the very best they can be for you, rather than simply suggesting that you use a standard alloy from existing stock. Even if we must suggest alloys from other suppliers, our commitment to excellence and quality in the aerospace industry is of the utmost importance to us.

Alloys geared specifically to our performance criteria may sometimes cost more, but almost always saves time and money by minimizing rework, production delays, confusion and product profit degradation to you.

So, call us anytime you need us -----

We're not in the commodity business - we are dedicated to building performance that will last into the 21st Century.

LANCASTER ALLOYS COMPANY



STOCK LIST

LAC STOCK # ¹	ALLOY DESIGNATION	CHEMICAL COMPOSITION
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Aluminum alloys

4181	4008	7Si 0.3Mg 0.1Ti
4184	4145	10Si 4Cu
4185	4047	12Si
4189	4643	4.1Si 0.2Mg
4190	4043	5.2Si
4191	2319	6.3Cu 0.3Mn 0.18Zr 0.15Ti 0.10V
4245	C355.0	5.0Si 1.2Cu 0.50Mg
4246	A357.0	7.0Si 0.52Mg 0.12Ti 0.06Be
A106	5356	5.0Mg

Cobalt based alloys

5385	ALLOY 21	62Co 27Cr 2.8Ni 5.5Mo 0.25C
5789	ALLOY 31	54Co 25.5Cr 10.5Ni 7.5W
5796	L-605	52Co 20Cr 10Ni 15W
5801	HS 188	39Co 22Cr 22Ni 14.5W 0.07La

Magnesium alloys

4350	AZ61A	6.5Al 0.95Zn
4395	AZ92A	9Al 2Zn
4396	EZ33A	3.3Ce 2.5Zn 0.7Zr
M107	AZ101	10Al 1.0Zn

¹ • Call toll free (800) LA-WIRES

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Nickel based alloys

5675	FM 92	70Ni 15.5Cr 7Fe 3.0Ti 2.4Mn
5679	FM 62	73Ni 15.5Cr 2.2Cb 8.0Fe
5778	FM 69	72Ni 15.5Cr 2.4Ti 1(Cb+Ta) 0.7Al 7Fe
5786	ALLOY W	62.5Ni 5.0Cr 24.5Mo 5.5Fe
5798	ALLOY X	47.5Ni 22Cr 1.5Co 9.0Mo 0.60W 18.5Fe
5800	ALLOY 41	54Ni 19Cr 11Mo 3.2Ti 1.5Al 0.006B
5828	WASPALLOY	57Ni 19.5Cr 13.5Cb 4.2Mo 3.1Ti 1.4Al 0.006B
5829	ALLOY 90	56Ni 19.5Cr 18Co 2.5Ti 1.5Al
5832	ALLOY 718	52.5Ni 19Cr 5.1(Cb+Ta) 0.90Ti 0.5Al 18Fe
5835	ALLOY 82	72Ni 3.2Mn 20Cr 2.5(Cb+Ta) 0.48Ti
5837	ALLOY 625	62Ni 21.5Cr 9.0Mo 3.7(Cb+Ta)
5838	ALLOY S	65Ni 16Cr 15Mo 0.30Al 0.06La
5872	ALLOY 263	48Ni 20Cr 20Co 5.9Mo 2.2Ti 0.45Al
N100	B2	26Mo
N112	80/20	80Ni 20Cr

Iron based alloys²

5621	420	13Cr (0.30-0.40C)
5656	21-6-9	9.0Mn 20Cr 6.5Ni 0.27N
5659	15-5PH	15Cr 4.5Ni 0.30(Cb+Ta) 3.5Cu
5680	347A	18.5Cr 11Ni 0.40(Cb+Ta) HiSi
5689	321	18Cr 10.5Ni 0.40Ti
5692	316	19Cr 12.5Ni 2.50Mo
5694	310	27Cr 21.5Ni
5776	410	12.5Cr 0.15C

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Iron based alloys (continued)

5782	349	20.5Cr 9.0Ni 0.50Mo 1.5W 1.2(Cb+Ta) 0.20Ti
5784	312	29Cr 9.5Ni
5794	N-155	31Fe 21Cr 20Ni 20Co 3Mo 2.5W 1(Cb+Ta) 0.15N
5802	INCO 909	41Fe 37.5Ni 14Co 4.8(Cb+Ta) 1.5Ti
5813	15-7	15Cr 7.1Ni 2.4Mo 1Al
5817	GREEK ASCOLOY	13Cr 2.0Ni 3.0W
5823	ALLOY 190	11.8Cr 2.8Ni 1.6Co 1.8Mo 0.32V
5824	17-7PH	17Cr 7.1Ni 1.0Al
5825	17-4PH	16.4Cr 4.8Ni 0.22Cb 3.6Cu
5826	15-5PH VM	15Cr 5.1Ni 0.30(Cb+Ta) 3.2Cu

Low alloy steel

6456	4340	0.80Cr 1.8Ni 0.25Mo (0.35-0.40C)
6457	4130	0.95Cr 0.20Mo (0.28-0.33C)
6458	17-22VM	1.25Cr 0.65Si 0.50Mo 0.30V (0.28-0.33C)
6461	6130	1Cr 0.2V (0.28-0.33C)

Titanium alloys

4914	15-3-3-3	15V 3Al 3Cr 3Sn
4951	C.P	99Ti (Commercially pure)
4954	6-4	6Al 4V Std
4955	8-1-1	8Al 1Mo 1V
4956	6-4 ELI	6Al 4V ELI
4975	6-2-4-2	6.0Al 2.0Sn 4.0Zr 2.0Mo 0.08Si

Notes:

1. AMS designation used as LAC stock # where applicable.
2. Low alloy carbon grade are available where applicable.
3. 308; 308L; 309 & 309L Stainless is certified to AWS A5. 9-93 only.

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Guide To Filler Metal Selection

The properties of welded joints mainly depend on properties of an alloy formed from the filler metal and base metal. Strength, Ductility, resistance to weld cracking, gas porosity, corrosion resistance, heat treatability and other properties may be largely influenced by the degree of dilution of the filler metal.

The extent of the fusion of the base metal and dilution with the filler metal depends upon joint design, welding process used, and welding procedure. Weld cracking tendencies are generally reduced by keeping base alloy dilution to a minimum.

The proper choice of a filler metal in welding is an extremely important factor, and in combination with the welding technique, it may play a crucial role in achieving the desired results.

This catalog is designed to introduce selectively and very generally the correlation and proper usage between base alloys and the suggested filler metal Lancaster Alloys Company has to offer.

Though the welding industry is tremendously complicated and widely varied in its nature, we hope that you will find the information we have put together here as helpful and beneficial as possible.

Understanding our customer's needs and supplying them with the best weld wire possible is our most important goal.

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