



## Chemical Composition

<b>C87850 EcoBrass® ASTM B505-08</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	
Min.	74.0	0.00	0.00		0.00	0.00	0.00	0.05		0.00	0.00	2.70	
Max.	78.0	0.30	0.09	REM.	0.10	0.20	0.10	0.20	n/a	0.30	0.10	3.40	
<b>C89320 ASTM B505-08</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	87.0	5.0	0.00	1.00	0.20	1.00	0.35	0.30	0.08	0.05	n/a	0.005	4.0
Max.	91.0	7.0	0.09	1.00	0.20	1.00	0.35	0.30	0.08	0.05	n/a	0.005	6.0
<b>C89325 Federalloy® III-937</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	84.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	2.70
Max.	88.00	11.00	0.10	1.00	0.15	1.00	0.50	0.10	0.08	0.005	n/a	0.005	3.70
<b>C89831 Federalloy® I-844</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	87.00	2.70	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	2.70
Max.	91.00	3.70	0.10	4.00	0.30	1.00	0.25	0.05	0.08	0.005	n/a	0.005	3.70
<b>C89833 Federalloy® I-836</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	87.00	4.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	1.70
Max.	91.00	6.00	0.09	4.00	0.30	1.00	0.25	0.05	0.08	0.005	n/a	0.005	2.70
<b>C89835 Federalloy® III-932</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	85.00	6.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	1.75
Max.	89.00	7.50	0.05	4.00	0.20	1.00	0.35	0.10	0.08	0.005	n/a	0.005	2.75
<b>C89844 Federalloy® I-844</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	83.00	3.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	2.0
Max.	86.00	5.00	0.20	10.00	0.30	1.00	0.25	0.05	0.08	0.005	n/a	0.005	4.0
<b>C90300 ASTM B505-08</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	86.00	7.50	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
Max.	89.00	9.00	0.30	5.00	0.20	1.00	0.20	1.50	0.05	0.005	n/a	0.005	n/a
<b>C95400 ASTM B505-08</b>	<b>Cu%</b>	<b>Sn%</b>	<b>Pb%</b>	<b>Zn%</b>	<b>Fe%</b>	<b>Ni%</b>	<b>Sb%</b>	<b>P%</b>	<b>S%</b>	<b>Al%</b>	<b>Mn%</b>	<b>Si%</b>	<b>Bi%</b>
Min.	83.00		n/a		3.00	0.00				10.00	0.00		
Max.	87.00	n/a	n/a	n/a	5.00	1.50	n/a	n/a	n/a	11.500	0.50	n/a	n/a

## Mechanical Properties

ALLOY	TENSILE	YIELD	% ELONGATION IN 2"	HARDNESS
<b>C87850 EcoBrass® ASTM B505-08</b>	65 ksi min.	25 ksi min	8% min	103 MIN Bhn (500kg)
<b>C89320 ASTM B505-08</b>	35 ksi min.	18 ksi min	15% min	70 MIN Bhn (500kg)
<b>C89325 Federalloy® III-937</b>	30 ksi min	12 ksi min.	4% min	73 typical Bhn (500kg)
<b>C89831 Federalloy® I-844</b>	29 ksi min	13 ksi min.	5% min	55 typical Bhn (500kg)
<b>C89833 Federalloy® I-836</b>	30 ksi min	14 ksi min.	6% min	81 typical Bhn (500kg)
<b>C89835 Federalloy® III-932</b>	30 ksi min	14 ksi min.	6% min	70 typical Bhn (500kg)
<b>C89844 Federalloy® I-844</b>	28 ksi min	13 ksi min.	5% min	55 typical Bhn (500kg)
<b>C90300 ASTM B505-08</b>	44 ksi min	22 ksi min.	18% min	70 typical Bhn (500kg)
<b>C95400 ASTM B505-08</b>	85 ksi min	32 ksi min.	12% min	170 typical Bhn (3000kg)

## Machinability

ALLOY	MACHINABILITY RATING	Density (lb/cu in.)
<b>C87850 EcoBrass® ASTM B505-08</b>	70	0.300
<b>C89320 ASTM B505-08</b>	80	0.318
<b>C89831 Federalloy® I-844</b>	85	0.318
<b>C89833 Federalloy® I-836</b>	81	0.317
<b>C89835 Federalloy® III-932</b>	65	0.321
<b>C89844 Federalloy® III-844</b>	70	0.310
<b>C90300 ASTM B505-08</b>	30	0.318
<b>C95400 ASTM B505-08</b>	60	0.269