



Chemical Composition

| C87850 EcoBrass® ASTM B505-08 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | |
|--------------------------------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|------------|------------|------------|
| Min. | 74.0 | 0.00 | 0 | | 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 | |
| C89320 ASTM B505-08 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| Min. | 87.0 | 5.0 | 0.09 | 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 |
| C89325 Federalloy® III-937 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 |
| C89831 Federalloy® I-844 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 |
| C89833 Federalloy® I-836 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 | 0.10 | 4.00 | 0.30 | 1.00 | 0.25 | 0.05 | 0.08 | 0.005 | n/a | 0.005 | 2.70 |
| C89835 Federalloy® III-932 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 |
| C89844 Federalloy® I-844 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 |
| C90300 ASTM B505-08 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| 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 |
| C95400 ASTM B505-08 | Cu% | Sn% | Pb% | Zn% | Fe% | Ni% | Sb% | P% | S% | Al% | Mn% | Si% | Bi% |
| Min. | 83.00 | | | | 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 |
|--------------------------------------|-------------|-------------|--------------------|--------------------------|
| C87850 EcoBrass® ASTM B505-08 | 65 ksi min. | 25 ksi min | 8% min | 103 MIN Bhn (500kg) |
| C89320 ASTM B505-08 | 35 ksi min. | 18 ksi min | 15% min | 70 MIN Bhn (500kg) |
| C89325 Federalloy® III-937 | 30 ksi min | 12 ksi min. | 4% min | 73 typical Bhn (500kg) |
| C89831 Federalloy® I-844 | 29 ksi min | 13 ksi min. | 5% min | 55 typical Bhn (500kg) |
| C89833 Federalloy® I-836 | 30 ksi min | 14 ksi min. | 6% min | 81 typical Bhn (500kg) |
| C89835 Federalloy® III-932 | 30 ksi min | 14 ksi min. | 6% min | 70 typical Bhn (500kg) |
| C89844 Federalloy® I-844 | 28 ksi min | 13 ksi min. | 5% min | 55 typical Bhn (500kg) |
| C90300 ASTM B505-08 | 44 ksi min | 22 ksi min. | 18% min | 70 typical Bhn (500kg) |
| C95400 ASTM B505-08 | 85 ksi min | 32 ksi min. | 12% min | 170 typical Bhn (3000kg) |

Machinability

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