



Application Datasheet

Standard Designation for Wrought Copper Alloys

Revision Date: May 23, 2017

Copper-Nickel Alloys (C70000 - C73499)

* = are alloys registered with the U.S. EPA as Antimicrobial.

| UNS # | Cu | | Pb | | Sn | | Zn | | Fe | | Ni | | Mn | | Other Named Elements | | Status |
|--|------|-----------------------|------|------|------|------|------|------|-------|------|--------------------|--------------------|------|---------|----------------------------------|--|--------|
| | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | |
| C70100* | | Rem ⁽¹⁾⁽²⁾ | | | | | 0.25 | | 0.05 | | 3.0 ⁽³⁾ | 4.0 | 0.50 | | | | active |
| C70200* | | Rem ⁽¹⁾⁽²⁾ | 0.05 | | | | | | 0.10 | | 2.0 ⁽³⁾ | 3.0 | 0.40 | | | | active |
| C70230* | | Rem ⁽²⁾⁽¹⁾ | | | 0.10 | 0.50 | 0.50 | 2.0 | | | 2.2 | 3.2 | | 0.40 Si | 0.10 Ag ⁽⁴⁾ 0.8 Si | | active |
| C70240* | | Rem ⁽²⁾⁽¹⁾ | 0.05 | | | | 0.30 | 0.8 | 0.10 | | 1.0 | 4.0 ⁽³⁾ | 0.01 | 0.20 | 0.01 Ag 0.40 Si | 0.10 Ag 0.8 Si | active |
| C70250* | | Rem ⁽¹⁾⁽²⁾ | 0.05 | | | | 1.0 | | 0.20 | | 2.2 | 4.2 ⁽³⁾ | 0.10 | | 0.05 Mg 0.25 Si | 0.30 Mg 1.2 Si | active |
| C70252* Copper Nickel NKC 388 | | Rem ⁽²⁾⁽¹⁾ | 0.05 | | | | 1.0 | | 0.20 | | 3.0 ⁽³⁾ | 4.2 | 0.11 | 0.20 | 0.05 Mg 0.40 Si | 0.30 Mg 1.2 Si | active |
| C70260* | | Rem ⁽¹⁾⁽²⁾ | | | | | | | | | 1.0 ⁽³⁾ | 3.0 | | | 0.20 Si | 0.01 P 0.7 Si | active |
| C70265* | | Rem ⁽²⁾⁽¹⁾ | 0.05 | 0.05 | 0.8 | | 0.30 | | | | 1.0 | 3.0 ⁽³⁾ | | | 0.20 Si | 0.01 P 0.7 Si | active |
| C70270* | | Rem ⁽²⁾⁽¹⁾ | 0.05 | 0.10 | 1.0 | | 1.0 | 0.28 | 1.0 | | 1.0 | 3.0 ⁽³⁾ | 0.15 | | 0.20 Si | 1.0 Si | active |
| C70275* Copper Nickel Alloy MAX126 | | Rem ⁽¹⁾⁽²⁾ | 0.01 | 0.30 | 1.0 | 0.30 | 1.0 | | 0.25 | | 0.50 | 1.5 | | | 0.002 Mg 0.10 Si | 0.01 Ca 0.06 Cr 0.20 Mg 0.50 Si | active |
| C70280* | | Rem ⁽¹⁾⁽²⁾ | 0.02 | 1.0 | 1.5 | | 0.30 | | 0.015 | | 1.3 ⁽³⁾ | 1.7 | | | 0.02 P 0.22 Si | 0.04 P 0.30 Si | active |
| C70290* | | Rem ⁽²⁾⁽¹⁾ | 0.02 | 2.1 | 2.7 | | 0.30 | | 0.015 | | 1.3 ⁽³⁾ | 1.7 | | | 0.02 P 0.22 Si | 0.04 P 0.30 Si | active |

| UNS # | Cu | | Pb | | Sn | | Zn | | Fe | | Ni | | Mn | | Other Named Elements | | Status |
|--------------------------------|------------------------|--------------------------|------|-------|------|------|------|-------|-------|------|---------------------|---------------------|------|-------|--------------------------------|---|-------------------|
| | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | |
| C70300* Copper Nickel Alloy | | Rem ⁽¹⁾ | | | | | | | 0.05 | | 4.7 | 5.7 | | 0.05 | | | inactive 07/74 |
| C70310* | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | 1.0 | | 2.0 | 0.10 | | 1.0 | 4.0 ⁽³⁾ | | | 0.02 Ag 0.08 Si 0.005 Zr | 0.05 P 0.50 Ag 0.10 Mg 1.0 Si 0.05 Zr | active |
| C70320 Copper Nickel | | Rem ⁽¹⁾ | | | | | | | | | 2.5 ⁽³⁾ | 5.0 | | | 0.20 Al 0.18 Cr 0.20 Si | 1.2 Al 0.50 Cr 1.2 Si | inactive 03/92 |
| C70350* | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 1.0 | 0.20 | | 1.0 | 2.5 | | 0.20 | 1.0 Co 0.50 Si | 2.0 Co 0.04 Mg 1.2 Si | active |
| C70370* | | Rem ⁽²⁾⁽¹⁾ | | 0.05 | | | | 1.0 | 0.20 | | 1.0 | 2.0 | | 0.20 | 0.20 Ag 1.0 Co 0.50 Si | 0.70 Ag 2.0 Co 0.04 Mg 1.0 Si | active |
| C70400* Copper-Nickel, 5% | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 1.0 | 1.3 | 1.7 | 4.8 ⁽³⁾ | 6.2 | 0.30 | 0.8 | | | active |
| C70440 95/5 Copper-Nickel | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 1.0 | 1.0 | 1.8 | 4.5 ⁽³⁾ | 6.0 | 1.0 | 1.5 | 0.35 Si | 0.05 C 0.05 S 0.45 Si | inactive 03/92 |
| C70500* Copper-Nickel, 7% | | Rem ⁽²⁾⁽¹⁾ | | 0.05 | | | | 0.20 | 0.10 | | 5.8 ⁽³⁾ | 7.8 | | 0.15 | | | active |
| C70600* Copper-Nickel, 10% | | Rem ⁽²⁾⁽¹⁾ | | 0.05 | | | | 1.0 | 1.0 | 1.8 | 9.0 | 11.0 ⁽³⁾ | | 1.0 | | | active |
| C70610* | | Rem ⁽¹⁾⁽²⁾ | | 0.01 | | | | | 1.0 | 2.0 | 10.0 ⁽³⁾ | 11.0 | 0.50 | 1.0 | | 0.05 C 0.05 S | active |
| C70620* | 86.5 ⁽¹⁾⁽²⁾ | | | 0.02 | | | | 0.50 | 1.0 | 1.8 | 9.0 | 11.0 ⁽³⁾ | | 1.0 | | 0.02 P 0.05 C 0.02 S | active |
| C70690* | | Rem ⁽¹⁾⁽⁵⁾⁽²⁾ | | 0.001 | | | | 0.001 | 0.005 | | 9.0 ⁽³⁾ | 11.0 | | 0.001 | | 0.02 C | active |
| C70700* | | Rem ⁽¹⁾⁽²⁾ | | | | | | | 0.05 | | 9.5 | 10.5 ⁽³⁾ | | 0.50 | | | active |
| C70800* Copper-Nickel, 11% | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 0.20 | 0.10 | | 10.5 ⁽³⁾ | 12.5 | | 0.15 | | | active |
| C70900* Copper Nickel | | Rem ⁽¹⁾ | | 0.05 | | | | 1.0 | 0.6 | | 13.5 ⁽³⁾ | 16.5 | | 0.6 | | | inactive 03/92 |
| C71000* Copper-Nickel, 20% | | Rem ⁽²⁾⁽¹⁾ | | 0.05 | | | | 1.0 | 1.0 | | 19.0 ⁽³⁾ | 23.0 | | 1.0 | | | active |
| C71100* | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 0.20 | 0.10 | | 22.0 ⁽³⁾ | 24.0 | | 0.15 | | | active |

| UNS # | Cu | | Pb | | Sn | | Zn | | Fe | | Ni | | Mn | | Other Named Elements | | Status |
|--------------------------------|------------------------|--------------------------|------|---------------------|------|-------|------|--------------------|------|------|---------------------|---------------------|------|------|------------------------------|--|-------------------|
| | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | |
| C71110* Copper Nickel | | Rem ⁽¹⁾ | | | | | | | | | 21.5 ⁽³⁾ | 23.5 | | 0.35 | | 0.008 S 0.05 Ti | inactive 03/92 |
| C71300* | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 1.0 | | 0.20 | 23.5 ⁽³⁾ | 26.5 | | 1.0 | | | active |
| C71500* Copper-Nickel, 30% | | Rem ⁽²⁾⁽¹⁾ | | 0.05 | | | | 1.0 | 0.40 | 1.0 | 29.0 | 33.0 ⁽³⁾ | | 1.0 | | | active |
| C71520* | 65.0 ⁽¹⁾⁽²⁾ | | | 0.02 | | | | 0.50 | 0.40 | 1.0 | 29.0 ⁽³⁾ | 33.0 | | 1.0 | | 0.02 P 0.05 C 0.02 S | active |
| C71580* | | Rem ⁽⁶⁾⁽¹⁾⁽²⁾ | | 0.05 | | | | 0.05 | | 0.50 | 29.0 ⁽³⁾ | 33.0 | | 0.30 | | 0.07 C | active |
| C71581* | | Rem ⁽⁷⁾⁽²⁾⁽¹⁾ | | 0.02 | | | | | 0.40 | 0.7 | 29.0 ⁽³⁾ | 32.0 | | 1.0 | | | active |
| C71590* | | Rem ⁽⁵⁾⁽¹⁾ | | 0.001 | | 0.001 | | 0.001 | | 0.15 | 29.0 ⁽³⁾ | 31.0 | | 0.50 | | 0.02 C | active |
| C71600* Copper Nickel Alloy | | Rem ⁽¹⁾ | | 0.05 | | | | 1.0 | 4.8 | 5.8 | 29.0 ⁽³⁾ | 33.0 | | 1.0 | | | inactive 05/71 |
| C71630* Copper Nickel | | Rem ⁽¹⁾ | | 0.01 | | | | | 0.40 | 1.0 | 30.0 ⁽³⁾ | 32.0 | 0.50 | 1.5 | | 0.06 C 0.08 S | inactive 03/92 |
| C71640* | | Rem ⁽²⁾⁽⁸⁾⁽¹⁾ | | 0.05 ⁽⁸⁾ | | | | 1.0 ⁽⁸⁾ | 1.7 | 2.3 | 29.0 ⁽³⁾ | 32.0 | 1.5 | 2.5 | | 0.06 C 0.03 S | active |
| C71700* | | Rem ⁽¹⁾⁽²⁾ | | | | | | 1.0 | 0.40 | 1.0 | 29.0 ⁽³⁾ | 33.0 | | 1.0 | 0.30 Be | 0.7 Be | active |
| C71900 | | Rem ⁽¹⁾⁽²⁾ | | 0.015 | | | | 0.05 | | 0.50 | 28.0 ⁽³⁾ | 33.0 | 0.20 | 1.0 | 2.2 Cr 0.01 Ti 0.02 Zr | 0.02 P 0.04 C 3.0 Cr 0.015 S 0.25 Si 0.20 Ti 0.35 Zr | active |
| C72000 Copper-Nickel Alloy | | Rem ⁽¹⁾ | | 0.05 | | | | 0.30 | 1.5 | 2.5 | 40.0 | 43.0 ⁽³⁾ | 0.8 | 1.7 | | | inactive 02/71 |
| C72150 | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | | | 0.20 | | 0.10 | 43.0 ⁽³⁾ | 46.0 | | 0.05 | | 0.10 C 0.50 Si | active |
| C72200 | | Rem ⁽¹⁾⁽⁸⁾⁽⁹⁾ | | 0.05 ⁽⁸⁾ | | | | 1.0 ⁽⁸⁾ | 0.50 | 1.0 | 15.0 ⁽³⁾ | 18.0 | | 1.0 | 0.30 Cr | 0.7 Cr 0.03 Si 0.03 Ti | active |
| C72400 Copper Nickel | | Rem ⁽¹⁾ | | 0.05 | | 0.05 | | 0.50 | | 0.10 | 11.0 | 15.0 ⁽³⁾ | | 1.0 | 1.5 Al 0.05 Mg | 2.5 Al 0.40 Mg 1.0 Hg | inactive 03/92 |

| UNS # | Cu | | Pb | | Sn | | Zn | | Fe | | Ni | | Mn | | Other Named Elements | | Status |
|--|------|-------------------------|------|----------------------|------|------|------|------|------|------|---------------------|---------------------|------|------|----------------------|--|-------------------|
| | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | Min% | Max% | |
| C72420 | | Rem ⁽¹⁾⁽¹⁰⁾ | | 0.02 | | 0.10 | | 0.20 | 0.7 | 1.2 | 13.5 ⁽³⁾ | 16.5 | 3.5 | 5.5 | 1.0 Al | 0.01 P 2.0 Al 0.05 C 0.50 Cr 0.05 Mg 0.15 S 0.15 Si | active |
| C72500* | | Rem ⁽⁹⁾⁽¹⁾ | | 0.05 | 1.8 | 2.8 | | 0.50 | | 0.6 | 8.5 ⁽³⁾ | 10.5 | | 0.20 | | | active |
| C72600* Copper Nickel | 91.0 | 93.0 ⁽¹⁰⁾⁽¹⁾ | | | 3.5 | 4.5 | | 0.50 | | 0.20 | 3.5 ⁽³⁾ | 4.5 | | 0.20 | | 0.05 P | inactive 03/92 |
| C72650* | | Rem ⁽¹⁰⁾⁽¹⁾ | | 0.01 | 4.5 | 5.5 | | 0.10 | | 0.10 | 7.0 ⁽³⁾ | 8.0 | | 0.10 | | | active |
| C72660* | | Rem ⁽²⁾ | | .02 | 4.5 | 5.5 | | .50 | | .50 | 7.0 | 8.0 ⁽¹¹⁾ | .05 | .30 | | .15 Mg | active |
| C72700* | | Rem ⁽¹⁰⁾⁽¹⁾ | | 0.02 ⁽¹²⁾ | 5.5 | 6.5 | | 0.50 | | 0.50 | 8.5 | 9.5 ⁽³⁾ | 0.05 | 0.30 | | 0.15 Mg 0.10 Nb | active |
| C72800* | | Rem ⁽¹⁰⁾⁽¹⁾ | | 0.005 | 7.5 | 8.5 | | 1.0 | | 0.50 | 9.5 ⁽³⁾ | 10.5 | 0.05 | 0.30 | 0.005 Mg 0.10 Nb | 0.005 P 0.10 Al 0.001 B 0.001 Bi 0.15 Mg 0.0025 S 0.02 Sb 0.05 Si 0.01 Ti 0.30 Nb | active |
| C72900* | | Rem ⁽¹⁰⁾⁽¹⁾ | | 0.02 ⁽¹²⁾ | 7.5 | 8.5 | | 0.50 | | 0.50 | 14.5 | 15.5 ⁽³⁾ | | 0.30 | | 0.15 Mg 0.10 Nb | active |
| C72950* | | Rem ⁽¹⁰⁾⁽¹⁾ | | 0.05 | 4.5 | 5.7 | | | | 0.6 | 20.0 ⁽³⁾ | 22.0 | | 0.6 | | | active |
| C73100* Copper Zinc Nickel Alloy | | Rem ⁽¹⁾⁽²⁾ | | 0.05 | | 0.10 | 18.0 | 22.0 | | 0.10 | 4.0 | 6.0 | | 0.50 | | | active |
| C73150* Copper Nickel | | Rem ⁽¹⁾ | | 0.10 | | | 9.0 | 15.0 | | 0.25 | 4.0 | 7.0 | | 0.50 | | | active |
| C73200* Copper Nickel | | Rem ⁽¹⁾ | | 0.05 | | | 3.0 | 6.0 | | 0.6 | 19.0 | 23.0 | | 1.0 | | | inactive 03/92 |

* = are alloys registered with the U.S. EPA as Antimicrobial.

(1) = Cu value includes Ag.

(2) = Cu + Sum of Named Elements 99.5% min.

(3) = Ni value includes Co.

(4) = Ag Includes B

(5) = The following additional maximum limits shall apply: Si 0.015% S 0.003% Al 0.002% P 0.001% Hg 0.0005% Ti 0.001% Sb 0.001% As 0.001% Bi 0.001% Co 0.05% Mg 0.10% and Oxygen 0.005% Oxygen. For

C70690, Co shall be 0.02% max.

(6) = The following additional maximum limits shall apply: Si 0.15% S 0.024% Al 0.05% and P 0.03%.

(7) = Includes P 0.02% max.; Si 0.25% max.; S 0.01% max.; Ti 0.02 - 0.50%.

(8) = The following additional maximum limits shall apply: When the product is for subsequent welding applications and is so specified by the purchaser Zn 0.50% P 0.02% Pb 0.02% S 0.02% (0.008% S for C71110) and C 0.05%.

(9) = Cu + Sum of Named Elements 99.8% min.

(10) = Cu + Sum of Named Elements 99.7% min.

(11) = Includes Co.

(12) = 0.005% Pb max. for hot rolling.