

## Lucas-Milhaupt BRAZE 999 Commercial Grade Fine Silver

Category : Metal , Nonferrous Metal , Precious Metal , Silver Alloy , Solder/Braze Alloy , Pure Element

### Material Notes:

Commercial grade fine silver (99.90% minimum silver) is widely used in numerous electrical, electronic, and industrial applications, such as contacts, fuse elements, lead wires, battery plated, and rupture discs. Fine silver is generally selected for its high thermal and electrical conductivity, as well as for its good resistance to oxidation and corrosive attack. It also exhibits excellent ductility and is easily joined by welding or brazing. Information provided by Lucas-Milhaupt, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Lucas-Milhaupt-BRAZE-999-Commercial-Grade-Fine-Silver.php](http://www.lookpolymers.com/polymer_Lucas-Milhaupt-BRAZE-999-Commercial-Grade-Fine-Silver.php)

| Physical Properties | Metric                                  | English                               | Comments |
|---------------------|-----------------------------------------|---------------------------------------|----------|
| Density             | 10.49 g/cc                              | 0.3790 lb/in <sup>3</sup>             |          |
| Vapor Pressure      | 0.00133 bar<br>@Temperature 1360<br>Å°C | 1.00 torr<br>@Temperature 2480<br>Å°F |          |

| Mechanical Properties     | Metric        | English           | Comments                      |
|---------------------------|---------------|-------------------|-------------------------------|
| Tensile Strength at Break | 165 - 207 MPa | 24000 - 30000 psi | Wire, Temper-Soft             |
|                           | 165 - 207 MPa | 24000 - 30000 psi | Strip, Temper-Soft            |
|                           | 179 - 228 MPa | 26000 - 33000 psi | Strip, Temper-1/4 Hard        |
|                           | 207 - 255 MPa | 30000 - 37000 psi | Strip, Temper-1/2 Hard        |
|                           | 207 - 255 MPa | 30000 - 37000 psi | Wire, Temper- 1/4 Hard        |
|                           | 255 - 303 MPa | 37000 - 44000 psi | Strip, Temper-Hard            |
|                           | 269 - 317 MPa | 39000 - 46000 psi | Wire, Temper- 1/2 Hard        |
|                           | 283 - 324 MPa | 41000 - 47000 psi | Strip, Temper-Ex. Hard        |
|                           | 290 - 338 MPa | 42000 - 49000 psi | Wire, Temper- Hard            |
|                           | 303 - 352 MPa | 44000 - 51000 psi | Strip, Temper-Spring          |
|                           | 317 - 365 MPa | 46000 - 53000 psi | Wire, Temper-Ex. Hard         |
|                           | 324 - 372 MPa | 47000 - 54000 psi | Wire, Temper-Spring           |
|                           | 331 - 379 MPa | 48000 - 55000 psi | Strip, Temper-Ex. Spring      |
|                           | 331 - 379 MPa | 48000 - 55000 psi | Wire, Temper-Ex. Spring       |
| Elongation at Break       | >= 1.0 %      | >= 1.0 %          | % in 2", Strip, Temper-Spring |

| Mechanical Properties | Metric % | English  | Comments p, Temper-Ex. Spring     |
|-----------------------|----------|----------|-----------------------------------|
|                       | >= 1.0 % | >= 1.0 % | % in 2", Wire, Temper-Spring      |
|                       | >= 1.0 % | >= 1.0 % | % in 2", Wire, Temper- Ex. Spring |
|                       | >= 2.0 % | >= 2.0 % | % in 2", Strip, Temper-Ex. Hard   |
|                       | >= 2.0 % | >= 2.0 % | % in 2", Wire, Temper- Hard       |
|                       | >= 2.0 % | >= 2.0 % | % in 2", Wire, Temper- Ex. Hard   |
|                       | >= 3.0 % | >= 3.0 % | % in 2", Strip, Temper- Hard      |
|                       | >= 4.0 % | >= 4.0 % | % in 2", Wire, Temper- 1/4 Hard   |
|                       | >= 4.0 % | >= 4.0 % | % in 2", Wire, Temper- 1/2 Hard   |
|                       | >= 8.0 % | >= 8.0 % | % in 2", Strip, Temper-1/2 Hard   |
|                       | >= 18 %  | >= 18 %  | % in 2", Strip, Temper- 1/4 Hard  |
|                       | >= 25 %  | >= 25 %  | % in 2", Strip, Temper-Soft       |
|                       | >= 25 %  | >= 25 %  | % in 2", Wire, Temper-Soft        |
| Reduction of Area     | 0.00 %   | 0.00 %   | Strip, Temper-Soft                |
|                       | 0.00 %   | 0.00 %   | Wire, Temper-Soft                 |
|                       | 11 %     | 11 %     | Strip, Temper-1/4 Hard            |
|                       | 21 %     | 21 %     | Strip, Temper-1/2 Hard            |
|                       | 21 %     | 21 %     | Wire, Temper-1/4 Hard             |
|                       | 37 %     | 37 %     | Wire, Temper-1/2 Hard             |
|                       | 37 %     | 37 %     | Strip, Temper-Hard                |
|                       | 50 %     | 50 %     | Strip, Temper- Ex. Hard           |
|                       | 60 %     | 60 %     | Strip, Temper-Spring              |
|                       | 60 %     | 60 %     | Wire, Temper- Hard                |
|                       | 69 %     | 69 %     | Strip Temper, Ex. Spring          |
|                       | 75 %     | 75 %     | Wire, Temper-Ex. Hard             |
|                       | 84 %     | 84 %     | Wire, Temper-Spring               |
|                       | 90 %     | 90 %     | Wire, Temper-Ex. Spring           |

| Thermal Properties     | Metric                                                 | English                                                   | Comments |
|------------------------|--------------------------------------------------------|-----------------------------------------------------------|----------|
| CTE, linear            | 19.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 10.6 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$  |          |
|                        | @Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$      | @Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$          |          |
| Specific Heat Capacity | 0.2343 J/g $\cdot\text{Å}^\circ\text{C}$               | 0.05600 BTU/lb $\cdot\text{Å}^\circ\text{F}$              |          |
|                        | @Temperature 20.0 $\text{Å}^\circ\text{C}$             | @Temperature 68.0 $\text{Å}^\circ\text{F}$                |          |
| Thermal Conductivity   | 418 W/m-K                                              | 2900 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$ |          |
|                        | @Temperature 20.0 $\text{Å}^\circ\text{C}$             | @Temperature 68.0 $\text{Å}^\circ\text{F}$                |          |
| Melting Point          | 960.8 $\text{Å}^\circ\text{C}$                         | 1761 $\text{Å}^\circ\text{F}$                             |          |
| Boiling Point          | 2210 $\text{Å}^\circ\text{C}$                          | 4010 $\text{Å}^\circ\text{F}$                             |          |

| Component Elements Properties | Metric           | English          | Comments |
|-------------------------------|------------------|------------------|----------|
| Aluminum, Al                  | $\leq 0.0020 \%$ | $\leq 0.0020 \%$ |          |
| Bismuth, Bi                   | $\leq 0.0010 \%$ | $\leq 0.0010 \%$ |          |
| Cadmium, Cd                   | $\leq 0.0050 \%$ | $\leq 0.0050 \%$ |          |
| Copper, Cu                    | $\leq 0.080 \%$  | $\leq 0.080 \%$  |          |
| Iron, Fe                      | $\leq 0.0050 \%$ | $\leq 0.0050 \%$ |          |
| Lead, Pb                      | $\leq 0.025 \%$  | $\leq 0.025 \%$  |          |
| Nickel, Ni                    | $\leq 0.0020 \%$ | $\leq 0.0020 \%$ |          |
| Other, total                  | $\leq 0.15 \%$   | $\leq 0.15 \%$   |          |
| Silver, Ag                    | $\geq 99.95 \%$  | $\geq 99.95 \%$  |          |
| Zinc, Zn                      | $\leq 0.0050 \%$ | $\leq 0.0050 \%$ |          |

| Electrical Properties  | Metric                                     | English                                    | Comments |
|------------------------|--------------------------------------------|--------------------------------------------|----------|
| Electrical Resistivity | 0.000001642 ohm-cm                         | 0.000001642 ohm-cm                         |          |
|                        | @Temperature 20.0 $\text{Å}^\circ\text{C}$ | @Temperature 68.0 $\text{Å}^\circ\text{F}$ |          |

| Chemical Properties | Metric | English | Comments |
|---------------------|--------|---------|----------|
| Atomic Mass         | 107.87 | 107.87  |          |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China