



Kova®

The high-strength, beryllium-free alloy

Kova is a 'beryllium-free' alloy made of copper, nickel, silicon and chromium (CuNiSiCr). Kova is the perfect replacement for harmful beryllium copper alloys.

Kova is a very high-strength, beryllium-free precipitation hardening alloy with medium-high electrical and thermal conductivity.

Advantages

- No harmful ingredients
- Easy disposal
- Easy to machine and form
- High strength with moderate thermal and electrical conductivity
- Extended use due to hardness

Applications

- Adaptors
- Shanks
- Projection welding electrodes



About Luvata

Luvata is a world leader in metal solutions manufacturing and related engineering services to industries such as renewable energy, automotive, healthcare, and power generation and distribution. The company's continued success is attributed to its longevity, technological excellence and strategy of building partnerships beyond metals. Employing over 1,400 staff in 7 countries, Luvata works in partnership with customers such as ABB, CERN, Siemens and Toyota. Luvata is a group company of Mitsubishi Materials Corporation.

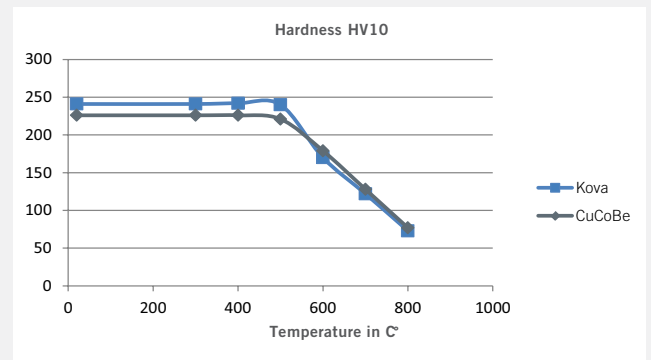
Specification

| | | | |
|---|--|----------------------------|--|
| Alloy | Kova® NK203 is a RWMA class III alloy | | |
| Chemical composition | Ni 1.8 - 3.0%; Si 0.4% - 0.8%; Cr 0.1 - 0.8% Fe 0.15% max; Cu balance | | |
| Physical, electrical and thermal properties | Density | 8.8 kg/dm ³ | |
| | Coefficient of linear expansion | 0.0000175 1/K | |
| | Specific heat | 380 J/(kg x K) | |
| | Melting temperature | 1020-1040°C | |
| | Electric conductivity | 22-24 MS/m | |
| | Electrical conductivity (% IACS) | 38-42% | |
| | Electrical resistivity (mass) | 0.37-0.41 g/m ³ | |
| | Thermal conductivity (20°C) | 220 W/Km | |
| Documentation | Acceptance test certificate EN-CEN/TS 13388:2008 | | |

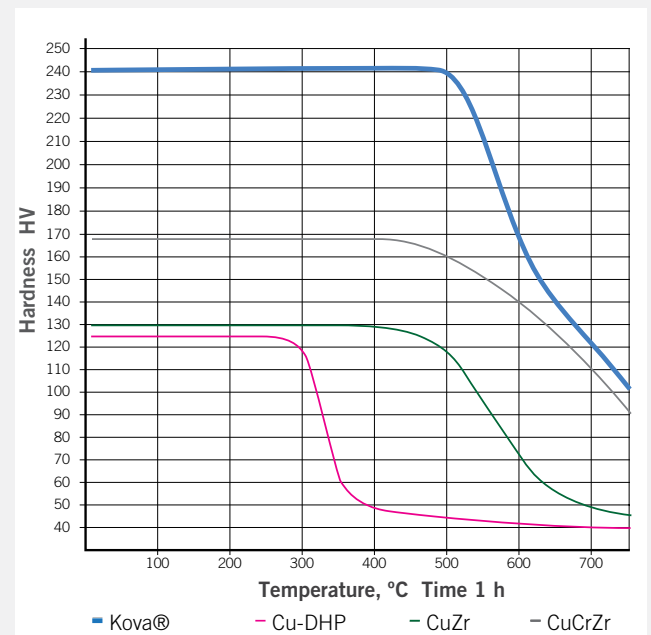
Errors and omissions excepted. Values given are industry standards.

Mechanical Specifications

| Form of supply | Tensile strength [N/mm ²] | 0.2% Offset yield strength [N/mm ²] | Elongation AS [%] | Hardness HV |
|----------------|---------------------------------------|---|-------------------|-------------|
| Adaptors | 650-800 | 600-750 | 9-15 | 220-250 |



Kova hardness comparison



Kova softening behavior - resistance against softening

Room temperature hardness is presented in the figure above as a function of annealing temperature. Material at hard or aged temper.

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