

## Some Properties of Ag Based Contact Materials

The following table lists just a few **Ag** based alloys that are obtained by a *sintering process* for specific contact uses

The melting point is always around **960 °C**

Alloy	$\rho$ [ $\mu\Omega\text{cm}$ ]	<u>Brinell Hardness</u> [kp/mm <sup>2</sup> ]	Uses
<b>Ag (60 ... 90) % Ni (40 ... 10) %</b>	2,8...2,0	50 ... 130	Low Voltage circuit breakers
<b>Ag 88% CdO 12%</b>	2,4	60 ... 70	Circuit breakers
<b>Ag 95% SnO<sub>2</sub> 5%</b>	2,5	50 ..60	High load relays
<b>Ag 98 % C 2 %</b>	2,5	35 ... 45	Welding resistant contacts
<b>Ag (10 ... 30) % W (90 ... 70) %</b>	5,0 ... 4,0	105 ... 230	Low voltage high power switches

The next table lists just a few **Ag** based alloys that are obtained by *melting* the constituents

The melting point varies from **(800 - 1030) °C**

Alloy	$\rho\mu\Omega\text{cm}$	Brinell Hardness (kp/mm <sup>2</sup> )	Uses
<b>Ag 85 % Cd 15 %</b>	4,8	40...78	Welding resistant DC contacts
<b>Ag (72 ...97) % Cu (28...3) %</b>	1,8 ... 2,1	40...140	Heavy duty relay contacts
<b>Ag 95% Ni 5%</b>	1,9	50	Contacts in communication technology
<b>Ag (70..50) % Pd (30...50) %</b>	15,6...32	70...190	Contacts in communication technology
<b>Ag 20 % Au 80 %</b>	10	37...90	Fine contacts
<b>Cu ca. 95 % Co (...2,5) % Be (1..3) %</b>	3,5...10	100...400	Brushes, pantographs

<sup>1)</sup> S = Siemens = 1/ $\Omega$