Some Properties of Ag Based Contact Materials

Illustration

- 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	ρ [μΩcm]	Brinell Hardness [kp/mm²]	Uses
Ag (60 .... 90) % Ni (40 ... 10) %	2,8...2,0	50 ... 130	Low Voltage circuit breakers
Ag 88% CdO 12%	2,4	60 ... 70	Circuit breakers
Ag 95% SnO_2 5%	2,5	50 ..60	High load relays
Ag 98 % C 2 %	2,5	35 ... 45	Welding resistant contacts
Ag (10 ... 30) % W (90 ... 70) %	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	ρμΩcm	Brinell Hardness (kp/mm²)	Uses
Ag 85 % Cd 15 %	4,8	40...78	Welding resistant DC contacts
Ag (72 ...97) % Cu (28...3) %	1,8 ... 2,1	40...140	Heavy duty relay contacts
Ag 95% Ni 5%	1,9	50	Contacts in communication technology
Ag (70..50) % Pd (30...50) %	15,6...32	70...190	Contacts in communication technology
Ag 20 % Au 80 %	10	37...90	Fine contacts
Cu ca. 95 % Co (...2,5) % Be (1..3) %	3,5...10	100...400	Brushes, pantographs

[1] S = Siemens = 1/Ω