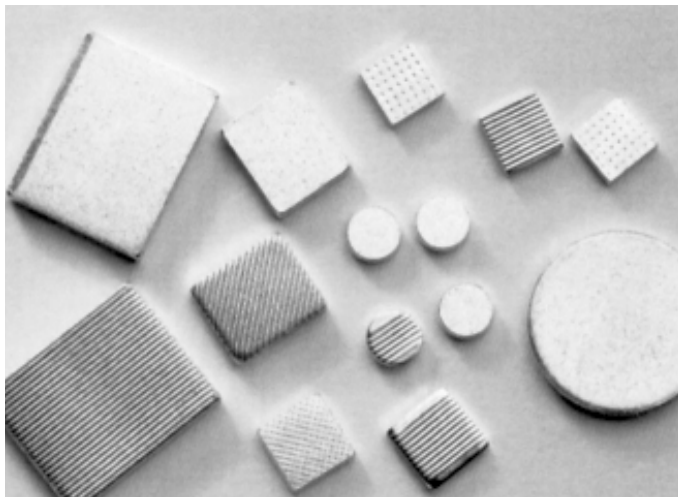


Silver Cadmium Oxide Contact

SILCADOX /MODURIT

MODISON offers complete range of Silver Cadmium Oxide Contacts in diverse forms manufactured by Internal Oxidation as well as Powder Metallurgy to meet customer's specific requirements. These contact materials have high resistance to contact welding and arc erosion with low contact resistance.



MATERIAL TYPES

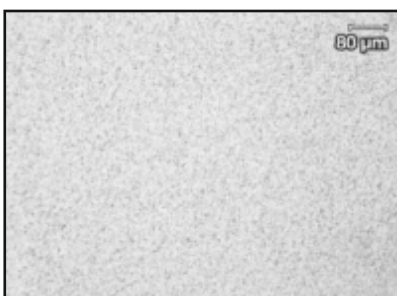
MODURIT ZH : Produced by Internal Oxidation of silver and cadmium molten alloy from one side. Under high temperature & pressure, oxygen diffuses and oxidises the cadmium. CdO particles precipitate in silver matrix. CdO Particles at the surface are very fine and the particle size increases gradually and is coarse grained towards the end. This material has excellent homogeneity without any depletion zone. CdO free backing of AgCd Alloy (10 to 30% of the thickness) is available which has 100% bond with AgCdO top layer by use of special Internal oxidation process. MODISON started production of this material under Licence from DODUCO GmbH, Germany with whom we had technical collaboration from 1983 till 1996.

SILCADOX-CP : This is produced by Powder Metallurgy, i.e. extrusion of sintered Silver Cadmium Oxide Billets to desired shapes and sizes. Silver backing (10 to 20% of thickness) is provided to facilitate Brazing / Welding.

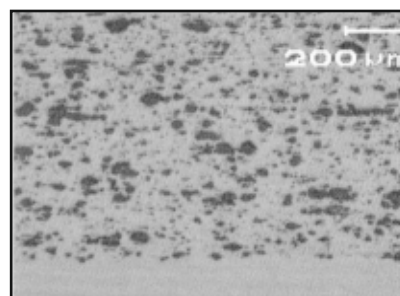
SILCADOX-LG : Produced by Powder Metallurgy having large grain size of CdO (50~60 μ) for special applications. Large particle size Cadmium Oxide is produced by special process and mixed with silver, and sintered billet is extruded to desired shapes and sizes. Silver backing (10 to 20 % of thickness) is provided to facilitate Brazing / Welding.



MODURIT ZH



SILCADOX-CP



SILCADOX-LG

Silver Cadmium Oxide - Contact materials

| MATERIAL | CONTACT PROPERTIES | APPLICATION | HOW SUPPLIED | PRODUCTION PROCESS | METALLURGICAL PROPERTIES |
|----------------|--|--|--|---|--|
| MODURIT 10 ZH | Standard material for small and mid size contactors . Good arc moving properties. Solderable backing. | Control switches, medium size contactors , cam operator switches, railway switchgear. | Solderable sheets, strips , tips, top lay and seam welded strips and stamped parts, large brazed rivets . Also available with additional clad brazing alloy backing . | Internal oxidation of sheets from one side. | Homogeneous fine grains with oxidation min. 2/3 of total thickness, no depletion area , solderable backing of Ag Cd alloy. |
| MODURIT 15 ZH | Higher welding resistivity excellent arc moving properties , low arc erosion. | Large switches and contactors , even with poor magnetic arc blowing. | Same as MODURIT 10 ZH | Same as MODURIT 10 ZH | Same as MODURIT 10 ZH but less ductile. |
| SILCADOX 10 CP | High welding resistance. Uniform arc erosion. | Control switches, medium size contactors , cam operator switches. | Strips, plates, finished contact parts with silver backing for brazing. Also available in wire form. | Powder Metallurgy | Uniform fine grain, good ductality |
| SILCADOX 12 CP | Standard material for small and mid size contactors . High welding resistance. Uniform arc erosion. | Small and mid size contactors, circuit breakers, railway switches. | Strips, plates, finished contact parts with silver backing for brazing. Also available in wire form. | Powder Metallurgy | Uniform fine grain, good ductality |
| SILCADOX 15 CP | Excellent welding resistance. Low arc erosion. | Large size contactors, capacitor contactors. | Strips, plates, finished contact parts with silver backing for brazing. | Powder Metallurgy | Uniform fine grain, low ductality |

| Material Name | Type of Oxide (Main Content) | Oxide Content (Wt. %) | Silver Content (Wt. %) | Density (g/cm ³) | Electrical conductivity | | Hardness HV 10 (soft cond.) | Metal Oxide Thickness (% of Total Thickness) |
|----------------|------------------------------|-----------------------|------------------------|------------------------------|-------------------------|-----------|-----------------------------|--|
| | | | | | m/ mm ² | %I.A.C.S. | | |
| MODURIT 10 ZH | CdO | 10 | 90 | 10.2 | 49 | 84 | 65 | 70 - 90 |
| MODURIT 15 ZH | CdO | 15 | 85 | 10.1 | 44 | 76 | 75 | 70 - 90 |
| SILCADOX 10 CP | CdO | 10 | 92* | 10.3* | 50 | 86 | 60 | 80 - 90 |
| SILCADOX 12 CP | CdO | 12 | 90* | 10.3* | 48 | 83 | 65 | 80 - 90 |
| SILCADOX 15 CP | CdO | 15 | 87* | 10.2* | 45 | 77 | 70 | 80 - 90 |
| SILCADOX 10 LG | CdO | 10 | 92* | 10.2* | 49 | 84 | 60 | 80 - 90 |

*including silver backing layer.

MODISON
THE SILVER PEOPLE

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