



Electrical Contacts

Empowered connections for energy distribution and e-mobility applications

What makes Heraeus special:

Our core competencies at a glance

- › We offer customized solutions from semi-finished products to functional components
- › We innovate materials for your next-gen application: unique combination of material expertise, application and manufacturing know-how
- › We customize our products to your needs: from material choice to final design

Your Benefits:

Specialized in contact and joining technology

- › Broad portfolio of precious metal based materials with tailored functional property
- › Consistent and stable high quality standard, fast delivery
- › Long experience in different markets such as power electronics, sensors, control modules and energy distribution

Easy Access:

Product insights

- › Suitable precious metals and alloys for your specific application



Heraeus
Material
Database



Choksi Heraeus
Silver Electrical
Contacts

Need personal advice?

Contact our experts at Heraeus

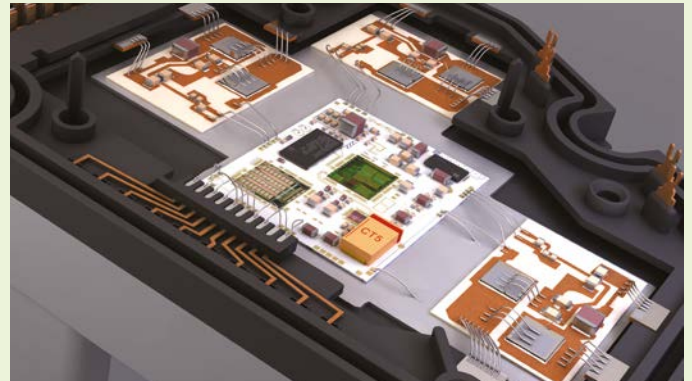


Simply scan the QR code and
get in touch with our sales team.

Get to know:

Our Electrical Contacts Portfolio

Roll Clad Materials



With our roll cladding technology we offer flexible solutions for compound strips. These are applied as electrical connections in Li-ion batteries and e-mobility applications (e. g. electrical connections, battery tabs, housings).

Compound Materials

Commonly used Cu alloys, such as:

- › Cu OFE
- › Cu ETP
- › CuFe2P
- › CuSn0,15
- › CuSn6

Special Cu alloys, such as:

- › Stol76
- › K55

Commonly used Al alloys, such as:

- › Al99,5
- › AlSi1

Commonly used steels, such as:

- › 1.4310
- › 1.4016

Other materials, such as:

- › FeNi
- › Nickel
- › all precious metals

Layout		Thickness [mm]	Width [mm]	Compound zone
Multilayer		0.03–2	3–220	Full
Double		0.03–2	3–220	Full
Edgelay		0.5–2.5	25–220	5–15
Side-by-side		0.3–2	25–220	4–25
Inlay & Onlay		0.3–2	2–240	3–25

Sliding Contacts



Our wide selection of contact materials and designs for sliding contacts, along with specially adapted contact layer systems on slip ring surfaces, allows for a wide variety of design options for your contact system in a slip ring transmitter.

	AgCu20	Au70Ag-20Cu10	PdAg Alloy	PdAg Alloy
Product name	Hera 340	Hera 238	Hera 648	Hera 649
Density [g/cm³]	10.13	15.03	11.80	10.85
Electrical Resistivity [Ohm*mm²/m]	0.022 – 0.025	0.137 – 0.138	0.338 – 0.359	0.253 – 0.255
IACS [%]	70	12.46	4.8 – 5.1	6.6 – 7.0
Young's Modulus [GPa]	85	87	108	106
Melting Range [°C]	779 – 820	865 – 895	1130 – 1180	1070 – 1130
Hardness [HV]	130 – 190	280 – 340	330 – 400	320 – 390
UTS [MPa]	450 – 700	850 – 1100	1100 – 1400	1000 – 1300
Yield Strength [MPa]	450 – 600			
Elongation [%]	2 – 4	< 5	< 3	< 3



Silver Contact Materials



Silver-based alloys and composite materials are essential when it comes to controlled switching of electrical loads in the low voltage range as well as the switchgear, automotive and telecommunication industry. Our range comprises different sizes and shapes.

Contact Materials

Molten alloys

- › Ag
- › Ag Ni 0.15
- › Ag Pd (1-60%)
- › Ag Cu (3-10%)

Infiltrated alloys

- › Ag W
- › Ag WC
- › Cu W

Powder

metallurgical alloys

- › Ag Ni (10-40%)
- › Ag CdO
- › Ag SnO₂
- › Ag ZnO
- › Ag C (3-5%)



Switching Contacts



Wires, Strips & Tapes



Contact Assemblies

