shieldex

Ag | Cu | Ni | Sn

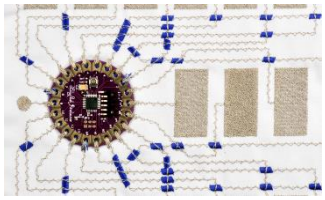
Bonding methods

For the Shieldex materials, especially for the yarns, there are various possibilities for bonding. For example, the yarns can be sewn and knitted, and electrodes made of conductive yarns can be connected with snap fasteners. Shieldex's conductive hook-and-loop tapes and zippers also offer solution-oriented and reliable options for bonding materials. Below we give you a brief overview of the different bonding possibilities. If you have any questions, please do not hesitate to contact us.

Statex Produktions- und Vertriebs GmbH
Kleiner Ort 9-11
28357 Bremen, Germany

Contact
Tel. +49 421 27 50 47
Fax +49 421 27 36 43
info@shieldex.de

shieldex

Suture/Embroidering	• Possible with almost all Shieldex yarns • Normal embroidery head • However, no universal solution for every application • Very complex topic • **Recommendation:** directly contact the embroidery machine manufacturer	
Contact with push buttons	• Well-suited in body-near applications • It is best to use a conductive fabric under the push button to increase the contact / conductivity • Bonding of conductive textiles and conductor tracks • Push button adapter	 
Crimping	• Joining process • 2 components are connected by plastic deformation (Beading, bruising, curling or wrinkles, e.g., ferrules) • High electrical and mechanical safety • Often used in the field of RF electronics and telecommunications • Conductivity depends on the materials used	
Conductive adhesive	• Electrically and / or thermally conductive adhesive • Mainly for heat sink bonding or dissipation of heat • Less conductive than a solder joint (Elastic and therefore mechanically highly resistant) • Leadfree and therefore more environmentally friendly	

Statex Produktions- und Vertriebs GmbH
Kleiner Ort 9-11
28357 Bremen, Germany

Contact
Tel. +49 421 27 50 47
Fax +49 421 27 36 43
info@shieldex.de

	• Conductive adhesives consist of adhesive (resin) and inorganic, electrically conductive fillers • Proportion of the filler is about 30 percent by volume • Silver, gold, palladium, nickel, and platinum
Conductive zipper	• Shieldex® Zip Fasteners • Fully silver-plated and thus highly conductive • Our zipper is metallized with 99% pure silver • Application possibility e.g., Smart Textiles or EMC Enclosures 
Conductive tapes	• Shieldex Velcro® Tapes • Fully silver-plated and thus highly conductive • Our tapes are metallized with 99% pure silver • Application possibilities e.g., Safety Pouches or EMC Enclosures 
Reflow soldering	• Soft soldering process for soldering SMD components (SMD: Surface-Mounted-Device) **Approach** • Soft solder is applied in the form of solder paste before placement on the board / circuit board • Components are equipped • The printed circuit board is heated enough to melt the solder in the solder paste • At the same time, the elevated temperature activates the flux in the gel of solder paste

Statex Produktions- und Vertriebs GmbH
Kleiner Ort 9-11
28357 Bremen, Germany

Contact
Tel. +49 421 27 50 47
Fax +49 421 27 36 43
info@shieldex.de

shieldex

	Common reflow soldering methods • Infrared radiators • Full convection reflows soldering • Vapor phase soldering • Vacuum vapor phase soldering • Soldering by laser beam
Cold soldering	• Falsely referred as soldering • No heat as in soldering • A form of sticking (adhesion)
Ultrasonic welding	• In general, the principle is based on the inherent motion of the particles • HF mechanical oscillations in the range of 20 to 35 kilohertz cause the particles to vibrate. • Friction between the particles generates heat • The material boundaries are broken • Particles of one material become entangled with the particles of the other material because of the movement = stable bond • Preferred for thermoplastics, aluminum, or copper • In general, the harder a material, the less suitable it is for ultrasonic welding

Have you not yet found the right bonding solution for your application?

Please do not hesitate to contact us if you have any questions.

Statex Produktions- und Vertriebs GmbH
Kleiner Ort 9-11
28357 Bremen, Germany

Contact
Tel. +49 421 27 50 47
Fax +49 421 27 36 43
info@shieldex.de