



# Heating Element Laminates

**Skultuna Induflex develops and manufactures a complete range of flexible laminates** for the flexible heater industry. Technical laminates are typically suitable for roll-to-roll etching processes. By combining different materials, we make customized laminates that perform well in our customers' unique solutions. Other than producing "traditional" laminates for heating elements, we can laminate carrier films toward thin materials to make the thin material user-friendly in process, after the final process the carrier film can be removed. For etched products we do have adhesives that are non-sticky when etched laminates are stored on roll.

Our extensive experience in manufacturing technical laminates in small to large volumes ensures access to a consistent supply of laminates at the agreed, uniform quality. Laminates can be supplied in reels, sheets or other special formats.

## General Technical Data

Conductive foils	Thicknesses (µm)	Resistivity (Ωmm <sup>2</sup> /m)
Al	9, 12, 20	0.029
Cu RA	10, 15, 20, 35, 50	0.017
CuZn (Brass)	≥12	0.067
CuNiZn (German silver)	20	0.330
CuNi	25	0.490
Insulating materials	Thicknesses (µm)	
PET	23, 50, 75, 125, 250	
PET hs*	36, 50, 75, 125	
PET ehs**	23, 36, 50, 75	
PEN	4, 50, 75, 125	
PEN hs	50, 75	
PI	25, 50, 75, 125	

\* heat stabilized film \*\* extra heat stabilized film  
Other thicknesses and raw materials are also available.

Skultuna Induflex laminates metal foils in thicknesses from 6–100 µm and polymer films from 4–250 µm from roll-to-roll. Paper, cardboard and other thin materials on reels can also be used. In our standard product range, laminates can consist of 2–3 layers but 4 and 5 layers are also possible. We can add functional coatings/primers from 1 µm up to approximately 20 µm.

### Covers

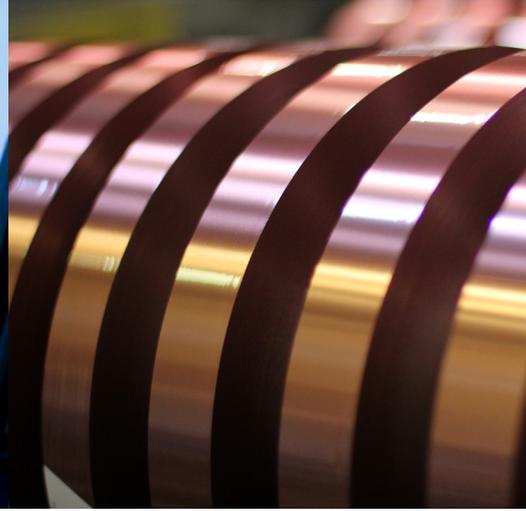
Our cover materials are used for protection of circuits and correspond to our other laminates. Cover materials from above insulating materials can be manufactured with thicker adhesive layer or heat sealable materials upon customer requests.

### Adhesives

Materials are put together with one or two component high performance adhesives with optimum chemical and/or temperature resistance according to specific requirements. The adhesives are tailor made for each material and requirement and can be colored as well as containing different additives and flame retardants.

### Customer specific laminates

We develop and manufacture laminates according to your specific requests. Laminates can be supplied in a variety of combinations using any material as long as it comes on reels. We can find cost effective material solutions that fulfill your requirements, give good durability and mechanical properties in the intended environments.



# Our core business is flexible laminate perfection

Skultuna Induflex innovates and delivers technical flexible laminate applications for products that makes people's everyday life easier. We do it by utilizing our expertise and tech competence from our three locations in Sweden, Belgium and China.

By combining and laminating materials such as paper, paperboard, plastic films and metal foils, we create an almost infinite number of flexible laminates. This makes it possible to solve problems in new ways, whether it's for shielding, barrier, conduction, reflection, appearance or other purposes.

Please contact us for more information or visit [skultunainduflex.com](http://skultunainduflex.com)

**Skultuna Induflex** 

**INNOVATING FLEXIBLE LAMINATE PERFECTION**