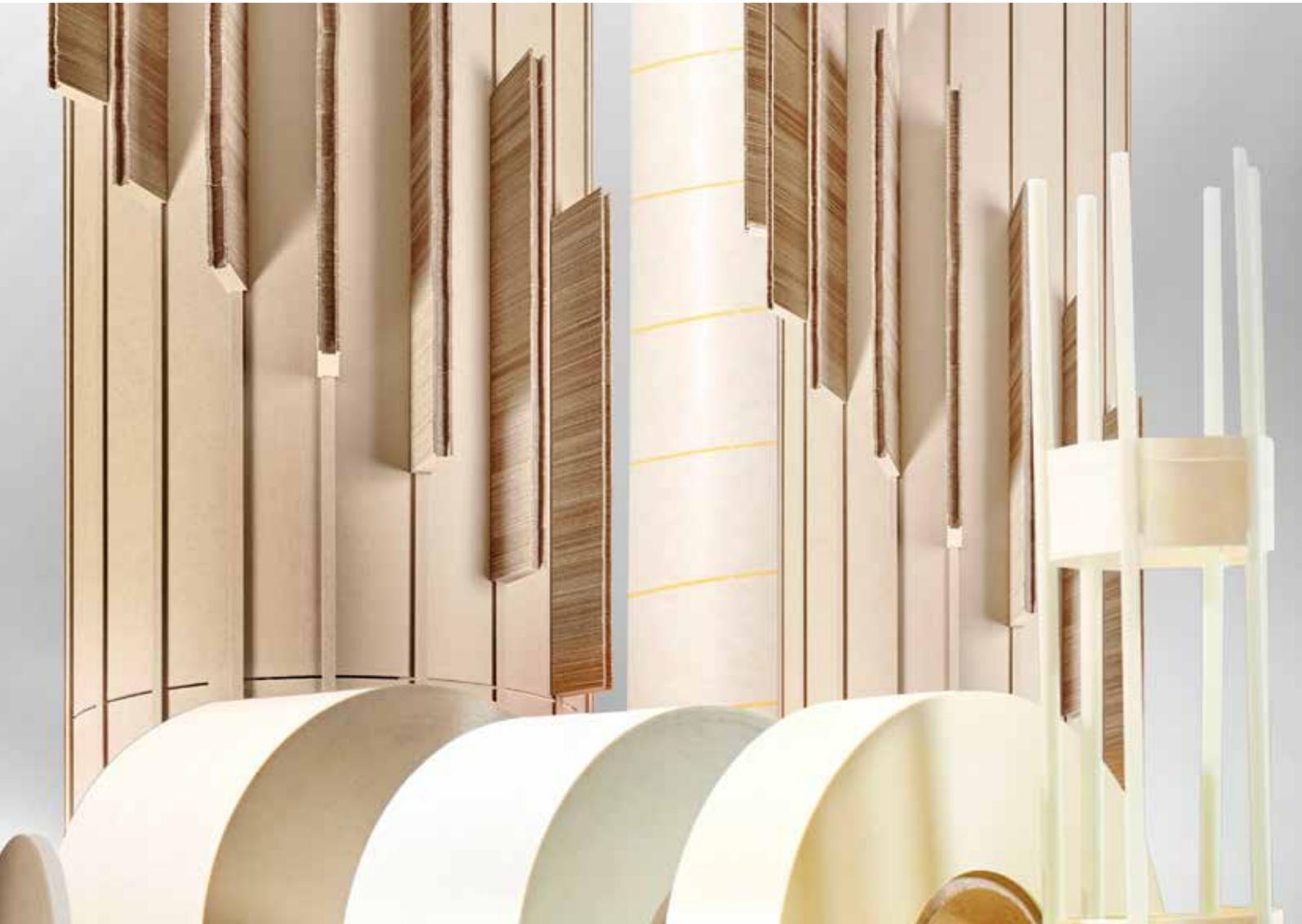


**IsoTek**

Solutions for Winding Industry



 **ISOTEK**  
Electric Insulation

# IsoTek

## Solutions for Winding Industry

As an innovative specialist in manufacturing and finishing insulating materials for the winding industry, we have always focused on the needs and requirements of our customers. Thanks to our detailed knowledge of materials, our modern machine park, innovative technologies and new developments in product technology, we always offer specific solutions to meet the requirements of the market.

An absolute strength of the company is to identify, assess and individually solve customer problems. In doing so, the company excels in its high flexibility and speed of handling. Examples for this include the barrier-free core cooling insulation, the purely mechanically wound clackband, which enables adhesive-free and thus lower-risk transformer construction, right down to customer-specific transformer kits.





ISOTEK

# IsoTek expertise

## For perfect results

### **Tailor-made solutions with application safety**

The high-level manufacturing quality of our products goes without saying. The same applies to durability and continual high availability.

There is no standard product in our production. All production steps are specific to the customer's order and are continually checked for practicability during the realisation phase. All production parts are subject to extensive quality controls and quality-assurance measures.

### **Well-rehearsed process cycles for perfect results**

In order to guarantee great reliability and thus a long life for our products, we only work with high-quality raw materials.

Seamless documentation lets us trace each phase of the production and reproduce the results.

IsoTek thus provides consistently high product quality and thus extremely high process stability.

### **Modern technologies for efficient production**

A state-of-the-art machine park guarantees highly-accurate production of our products. This technological advance benefits each individual customer project.

Whether modern CNC milling machines or production machines developed in-house for the efficient manufacturing of core cooling insulation, the process-related origins of IsoTek production let us respond quickly to new developments.



# Innovation with IsoTek

## Anyone can just be standard

Sophisticated applications require innovative solutions. This is why we continually develop new production processes and system solutions to positively support the realisation of your projects.

Whether barrier-free core cooling insulation that facilitates optimal oil circulation in a transformer, duct spacing with a purely mechanical structure that allows adhesive-free and thus lower-risk transformer construction, or customer-specific transformer kits - we support your most demanding projects through innovative ideas.

IsoTek's expertise is available right from the customer's first ideas about the project. Decades of experience, particularly in the field of transformer construction, let us also create ideas beyond familiar solutions. Innovative solutions are found for complex customer requirements through our knowledge and suitable production facilities.



# IsoTek service and production

## More than products – solutions

We are firmly convinced that it is no longer enough just to produce products of outstanding quality. Customers want integrated solutions to meet their requirements.

This is why we accompany you from initial project ideas and throughout the entire product lifecycle.

In the field of transformer construction, we offer you sophisticated complete solutions directly to the production line. Ready-to-use kits provide you not only with process-related advantages but often economic advantages, too.

Ready-made transformer kits made from the widest variety of materials are supplied direct to your assembly, depending on your requirements regarding the respective transformer.

IsoTek also produces duct spacing, core cooling insulation and rail mats from various materials.

### Modern machine park

Flat, refined, self-adhesive, ablated – high-quality insulated parts for the winding industry are our daily business.

We finish the widest variety of materials, high-temperature-resistant papers and laminates, flexible multi-layer laminates, films and pressboards to improve their form and function.

Our standard product range includes the following products:

- IsoTherm
- IsoBoard
- IsoCool
- IsoComp
- IsoKit



# IsoTherm Program

The IsoTherm product range involves a wide array of various flexible insulating materials.

In addition to films guaranteeing extremely high dielectric strength, you will also find composite materials such as two- or three-layer laminates, combining all the advantages of the individual materials. Depending on the temperature class, you can select from among different materials. These include products such as PFP, VPV, TFT or DMD, along with laminates such as NPN or NKN made of aramid papers.

Particular highlights are products from the company's own production, such as SynTherm® APA or SynTherm® AHA. All materials are available in various thicknesses and can be trimmed, printed, laminated, impregnated or coated according to your individual needs. Depending on the request, we can also shape these materials into phase insulations, slot insulations or punched parts. The possibilities are virtually endless. We can gladly develop individual solutions for you, please do not hesitate to contact us.

- Foils
- PFP
- VPV
- DMD
- TFT
- NPN
- NKN
- SynTherm® APA
- SynTherm® AHA
- SynTherm® YT
- Nomex®

# IsoBoard Program

The category of IsoBoard involves all types and shapes of board materials. The materials offer a wide spectrum of possible uses. From a basic pressboard panel for low-temperature applications, all the way to high-end aramid boards or fiber-reinforced laminates for high-temperature applications, IsoTek offers you a comprehensive product portfolio.

The suitable material is chosen based on the desired customer specification. Afterwards, the product is manufactured in

IsoTek's modern machine park. From simple cut pieces to machining on our CNC lathes or our state-of-the-art 5-axis CNC machining centers, there are no limits on your ideas.

Our individual warehousing of products guarantees rapid order processing. We are also glad to assist you in the production of sample series or small quantities.

- Pressboard
- Aramid Board
- CeQuin Board
- Laminated Wood
- Glass fibre reinforced laminate
- Polyester Resin Sheets
- Nomex® Board

# IsoComp Program

IsoComp is involved with all components individually manufactured for you. The manufacturing possibilities run the gamut from simple cuts, through winding of pipes, right down to 3D punched parts or CNC milled parts. Cylinders, profiles, spacers, moulded parts and crepe tubes are but a few examples of our comprehensive product portfolio in the field of transformer insulation and insulation kits.

Yet another area where you can rely on our know-how is punching technology for insulations of high-performance electronics. Here, our experience ranges from the most basic punched parts to sophisticated, pre-formed 3D punched components.

In the field of electrical motors, we would be delighted to advise you on our capabilities in the production of phase insulations and slot linings. Service-mindedness and flexibility are always our main focus.

- Cylinder
- Strips
- Spacers
- Moulded Parts
- Crepe Paper Tubes
- Crepe Paper Tubes, MA
- CNC Milled Parts
- Slot Closure
- Slot Liner
- 3D Stamped Parts
- Stamped Parts



# IsoKit Program

Specially designed for use in oil-cooled transformers, IsoTek offers insulation KITS fine-tuned to customer needs. They enable a significant increase in efficiency for winding production in the construction of transformers. This gain in efficiency is achieved through the pre-assembly of all insulation parts required for producing the winding.

Be sure to also see our IsoComp line.

The insulation KITS can be adapted to the specific order-based applications of the project, both in terms of the configuration and the choice of material.

## The advantages of using insulation KITS are:

- minimum set-up times
- reduction of process costs for material procurement, logistics and warehousing
- boost in production capacity
- bottom-line advantages thanks to decreased production time



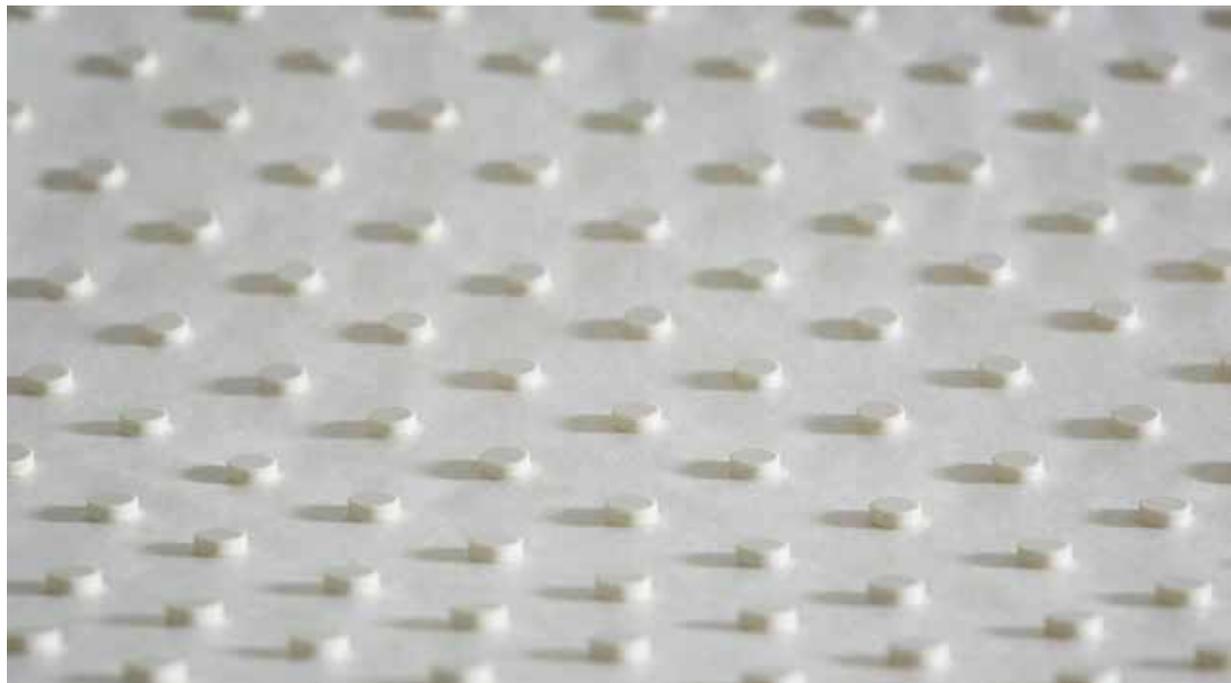
# IsoCool Program

Products in the IsoCool range enable the improvement of cooling effectiveness in liquid-cooled electrical machinery.

The aim of the products is to form a cooling channel in which the cooling medium can circulate. IsoTek is dedicated to creating added value for you through consistent new and further development of existing products. The focus here is in lowering throughput or production times, yet also in the prevention of existing safety hazards within the final product. Each product is manufactured individually according to your needs.

Our pill carpet is used in core cooling of oil-cooled high-performance transformers, thereby boosting your productivity by dramatically lowering throughput times. Profile mats and clackbands are used to form a cooling channel and provide a useful added value for your production, thanks to their easy handling and dimensional stability.

- Pill Carpet
- GFK Profile Mats
- PSP Profile Mats
- Clack Band glued
- Clack Band joined



# IsoCool

## Product highlights

### Clackband

The subject of „distancing“ is very important in the sector of oil-cooled power and distribution transformers especially. Distances are provided in a wide variety of shapes to create space radially in and between the conductors and axially between the windings. IsoTek clackband is particularly popular for these applications.

Directly in the winding, the dimple tape supports the cooling by allowing the barrier-free flow of oil. Completely without the use of adhesives, the IsoTek clackband offers a high degree of procedural safety.

The IsoTek clackband is delivered completely premade. No on-site assembly or adjustment is required, which significantly speeds up the winding process.

### Pill carpet

Maintaining established standards permanently is one of the most important characteristics of IsoTek. This also applies to core cooling insulation in transformer construction. IsoTek provides a more efficient process for the market.

IsoTek produces what is called the „pill carpet“ as a core cooling insulator. The material properties of the aramid paper processed here together with the spacers of silicate ceramics provide an optimum combination for core cooling in oil-cooled distribution transformers as well as large traction transformers.

Due to the use of the core cooling mats, effective heat distribution can be ensured by the barrier-free oil flow in the transformer. Due to the extremely low shrinkage properties of the materials used, noise is significantly reduced while operating the transformer.

The core cooling mats are assembled individually into customer-made KITS, which can then be inserted into the respective application in a fit and form accurate manner. The project-specific geometry is of course incorporated, which means that even large transformers can be equipped with custom-fit core cooling mats.



