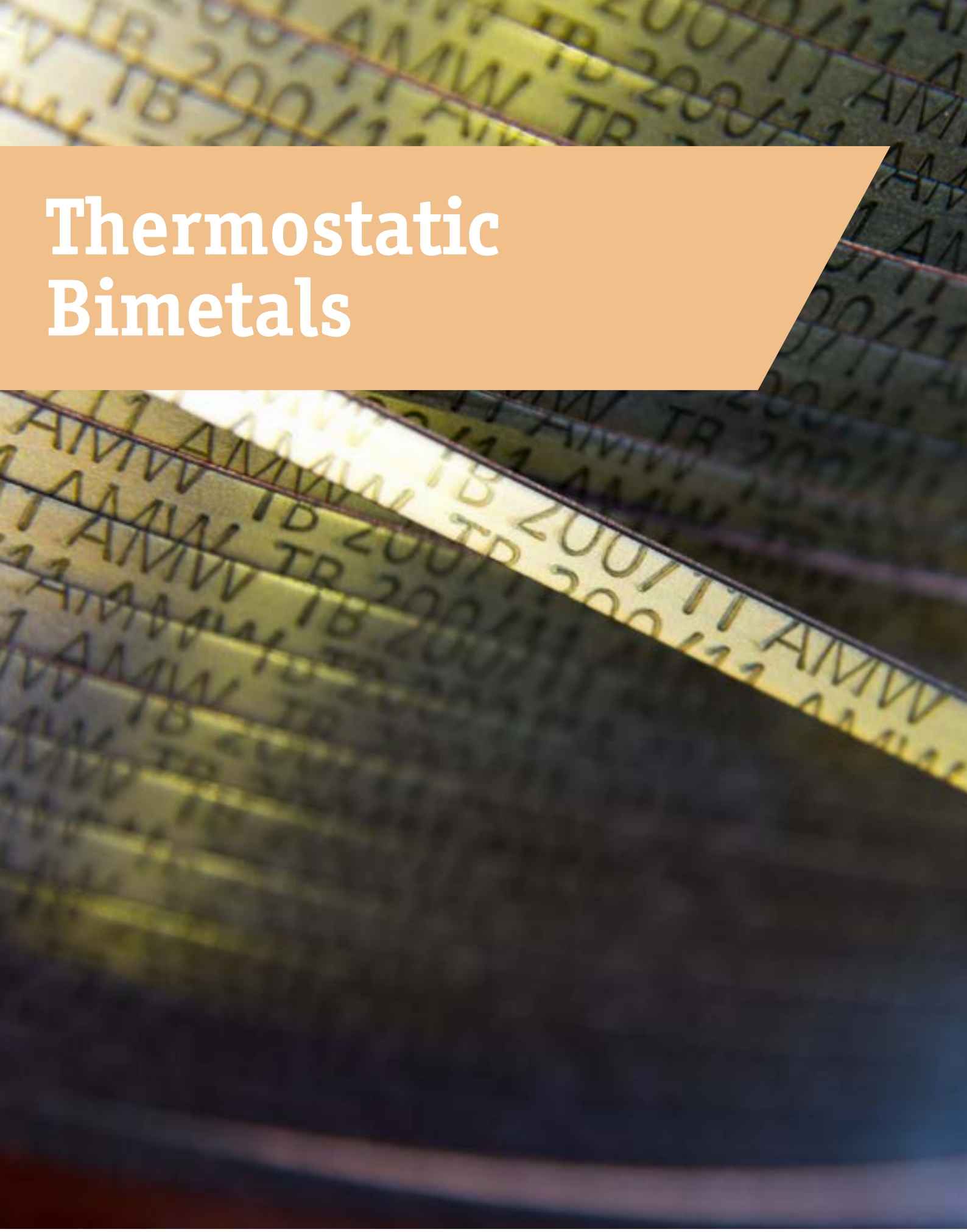
Thermostatic Bimetals



Auerhammer Metallwerk
Wickeder Group

Your expert for special alloys

For more than 500 years, Auerhammer Metallwerk has specialised in the industrial processing of metals. The company is situated in the small town of Aue in the Erzgebirge region of Germany and is therefore located in the heart of Europe.

With experience dating back to the world's first large-scale production of nickel more than 200 years ago, Auerhammer Metallwerk today manufactures a wide range of cold-rolled metal strips in a variety of special alloys within the thickness range of 0.002 mm to 2.5 mm.

Furthermore, Auerhammer Metallwerk is a renowned manufacturer of cold-clad strip in various combinations of special alloys.

Safety first...
...when it comes to electricity

Up to temperature

Thermostatic bimetals are employed whenever temperature dependent variables need to be controlled or limited. They are an essential component in many electrical devices and can also be used in a wide range of other industries.

Thermostatic bimetals consist of a clad strip of at least two separate alloys with differing coefficients of thermal expansion. Whenever the strip is heated, the two clad components expand at different rates causing the strip to bend. The greater the difference in coefficients of thermal expansion, the greater the bending force exerted.

Finding your solution

Our broad range of bimetals offers grades with the highest thermal sensitivity, custom-engineered electrical resistance, excellent corrosion resistance and reliable performance in high temperature applications. In addition to the thermostatic bimetals listed in DIN 1715, we also produce many bespoke grades. This allows us to identify exactly the best type for our customers. Thanks to many years of investment and technological improvements, Auerhammer is able to manufacture bimetal strip in the smallest dimensions with the highest quality.

Benefits

- High reliability
- Simple operation
- Excellent dimensional stability
- Individually defined tensile strength
- Reproducibility
- Effective in application
- Sample quantities for production trials

Small parts – highly effective

New solutions – for the demands of tomorrow

Electrical

Circuit breakers

Automotive

Drum brake adjustment

Measurement technology

Thermometers

Household appliances

Iron controls, Snap Discs, etc.

Due to the skilful combination of different components, thermostatic bimetals can be used in a wide range of applications.

The thermostatic bimetal strip components with higher coefficients of thermal expansion are known as the active components. These are usually alloys containing Iron, Nickel, Manganese or Chrome in various chemical compositions. A Nickel-Iron alloy called Invar, which contains 36% Nickel and exhibits very low thermal expansion, is often selected as the passive component. By adding an extra middle layer of Nickel, Copper or Steel, both the electrical resistivity can be reduced and the thermal conductivity can be increased. To distinguish the layers during the production process, we generally mark the active component with etched or stamped marking. The long-lasting capability of thermostatic bimetal for reversible curvature allows the product to be used above all in a wide range of electrical applications, such as the on/off operation of electric motor safety switches, circuit-breakers, time switches, controls for various household appliances, water heaters and heated car seats. Thin thermostatic bimetal strips of under 0.3 mm thickness are used in measurement spirals, snap-disks and starters for fluorescent tubes and energy-saving lamps.

Multiple combinations

Overview of regular products

Application requirements	Active / Passive side	
High thermal curvature	Active side Passive side	MnNiCu / FeNi MnCuNi / FeNi
Medium thermal curvature / high operating temperature	Active side Passive side	FeNiMn / FeNi FeNiCr / FeNi Stainless Steel / FeNi
Corrosion resistant + Corrosion protected	Active side Passive side	CrNi-Steel / FeNiMn / FeNi CrNi-Steel / FeNiMn / FeNi / Cr-Steel CrNi-Steel / Cr-Steel FeNiCr / MnCuNi / FeNi

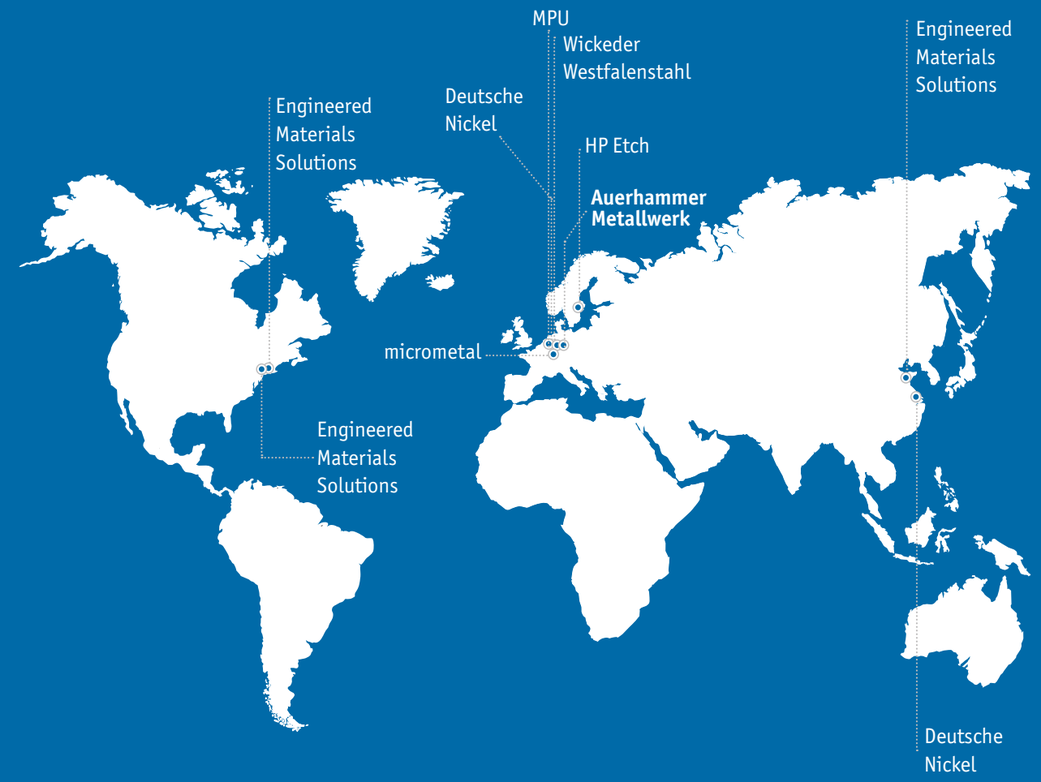
Size range
Thickness: 0.1 - 2.0 mm Width: 3.0 - 250 mm

Layer thicknesses and component combinations are determined upon receipt of the customer's requirements for electrical resistance, specific thermal curvature and product operating temperature. The specific electrical resistivity can be adjusted with an additional middle layer of Copper, Nickel or Steel.

Further options upon request.

Best of metal.

The metal specialists of the Wickeder Group have combined their strengths to offer you the best of metal. On three continents, Europe, North America and Asia, there is a wide range of standard and bespoke solutions available. Through our product and service-oriented business model, it is possible to provide the highest quality standards, flexibility and fast reaction times. Ultra-modern production lines, professional knowledge and innovative solutions have all helped to ensure the success of the Wickeder Group.



// Auerhammer Portfolio

- › Clad Strip
- › Thermostatic Bimetals
- › Sealing and Expansion Alloys
- › Soft-Magnetic Alloys
- › Coinage Strip
- › Temperature and Corrosion Resistant Alloys
- › Welding Alloys
- › Metal Foils

// Portfolio of Wickeder Group :

- › Clad Materials
- › Thermostatic Bimetals
- › Metal Strips & Metallic Foils
- › Bars & Wires
- › Precision-etched Micro Components
- › Toll Working
- › Waterjet Cutting / Centrifuges and Screens
- › Punching, Bending, Welding

www.wickeder-group.com

Wickeder Group

www.auerhammer.com

Auerhammer Metallwerk GmbH
Hammerplatz 1
08280 Aue (Sachsen), Germany
Phone +49 3771 272-0
info@auerhammer-metallwerk.de