

**Glass Industry:**  
Cutting-edge glass processing  
for high-quality results.

**Chemetall**  
expect more 

# Expect more from a leading global supplier of applied surface treatment technologies



Chemetall Company Headquarters: Frankfurt am Main, Germany

As one of the leading global players, Chemetall focuses on surface treatment technologies in all their facets. Quality products and services are the prerequisite of our business success. However, at Chemetall, we know that it takes more than that to be a preferred global supplier.

The chemical treatment of surfaces is Chemetall's core competence. We base the focus of our worldwide activities on the development and implementation of customized technologies and system solutions for surface treatment. The portfolio comprises technologies for cleaning, corrosion protection and sealing, as well as to improve paint adhesion and facilitate the forming and treatment of metals. Globally established technologies, i.e. **Oxsilan®**, **Gardobond®** and **Ardrox®**, are used in the most diverse market sectors from automotive to aerospace, from the appliance to architectural and construction industries. Over the past decades, Chemetall has been playing a leading role in shaping metal treatment.

## **In focus: value added for customers**

Good products and quality services are the prerequisites for a successful business. However, at Chemetall we believe that true success lies in a close and partnership-based global cooperation with our customers. We offer value-added technologies to enhance processes, combined with an excellent, globally organized technical service.





Largest surface treatment facility in the world (Jackson, MI, USA)

### **Globally active, locally based**

The global business activities of our company are based on tradition and experience dating all the way back to the 19th century. Nowadays, Chemetall is one of the leading global players in surface treatment with its headquarters in Frankfurt am Main, Germany. With more than 2,100 employees, 40 subsidiaries and 22 production sites, Chemetall is a financially strong and fast growing company with a long-term orientation, and we continue to aim high: We intend to strengthen our quality and innovation leadership even further. With sales and service teams, laboratories and warehouses at locations all around the world, we are operating in close proximity to our customers.

### **Sustainably successful**

Responsible practices and sustainable development are key principles of Chemetall. Our first priority is to consistently implement environmental protection and work safety guidelines and to continuously improve the safety of our worldwide production sites. Chemetall acts responsibly with a view to society and the environment and puts them on an equal footing with its financial targets.

### **Reliable supplier to the glass processing industry**

The core of our glass business activities is to develop optimal solutions for the float glass and the optics industry, primarily in the areas of cutting, separating and grinding. On top, we offer additional products to complete our portfolio for advanced glass processing.

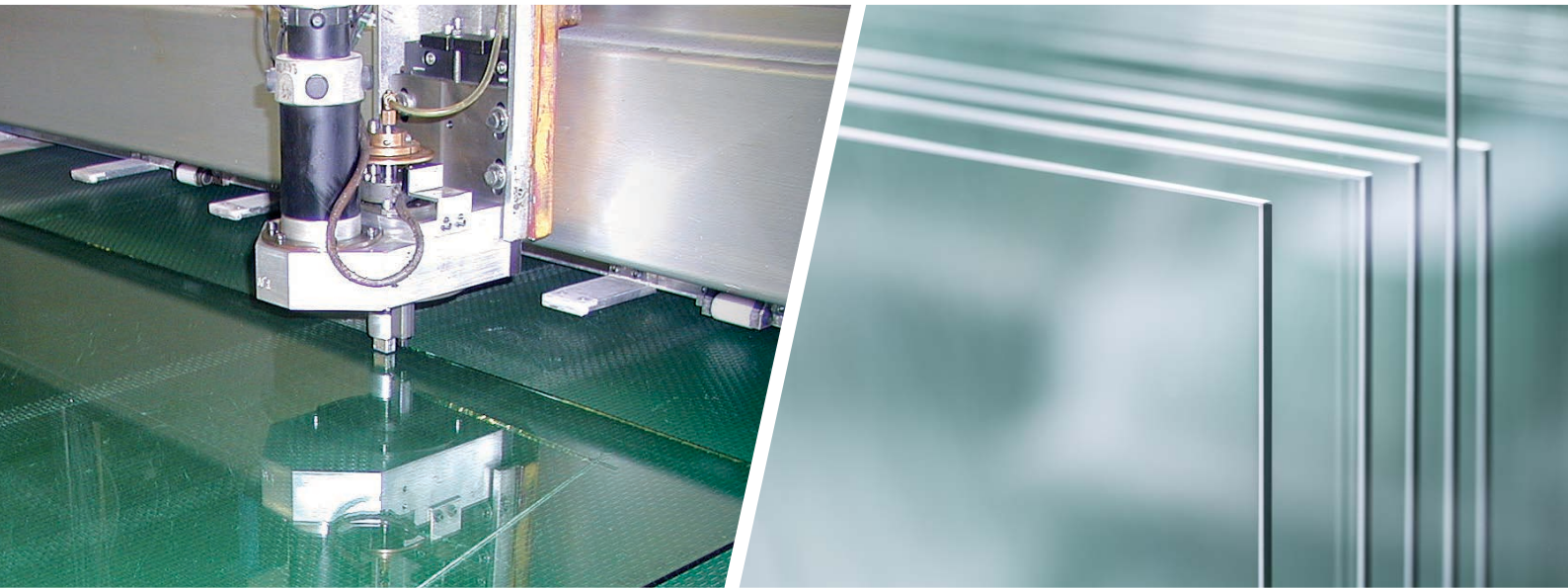
Our products are developed in our own research laboratory, which is unique in the world. On more than 400 m<sup>2</sup>, it is equipped with the most modern analyzing technology, equipment for product characterization as well as numerous devices to determine the chemical and physical parameters of liquids and solids.

As one of the world's leading manufacturers of auxiliary chemical materials for the glass industry, our customers can benefit both from our high quality products accompanied by comprehensive technical services and our extensive physical and chemical knowledge of glass and its surface – acquired over many decades. Until mid this year, the glass business was operating under the umbrella of the Aachener Chemische Werke (ACW). Effective July 1, 2014 the glass division of ACW was integrated into the Chemetall organization.

➤ More to read on [www.chemetall.com](http://www.chemetall.com)

# Modern glass processing with high quality technologies

## Cutting & Separating



### Cutting fluids for best shape

The cutting process is the elementary processing step in glass treatment – this applies to the manufacture of float glass sheets as well as to further processing. With exact cutting and perfectly cut edges, adverse effects on subsequent production processes can be avoided, thereby achieving noticeable savings in processing costs. For this reason, the choice of suitable cutting fluids is of great importance.

Over time, Chemetall has developed a wide range of special cutting fluids to meet modern production processes and which are characterized by low consumption rates. They are produced from the purest components. In particular, the content of aromatic compounds, components liable to form a resin and low volatile contaminants has been drastically reduced. This enables us to achieve maximum material compatibility.

The criteria for choosing the ideal cutting fluid are numerous – Chemetall is glad to assist you in selecting the right product for your application.

### Advantages of our evaporating cutting fluids:

- + Complete evaporation without leaving any residues
- + No interference with subsequent process
- + Excellent cutting and snapping characteristics
- + Reduced processing costs
- + No danger of damage to the coating
- + Adjusted evaporation time
- + Consistent evaporation characteristics

### Advantages of our washable cutting fluids:

- + Complete washability
- + Excellent cutting and breaking characteristics even with thick glass and shape cutting
- + Reduced production costs



#### **Interleaving powders for optimal glass separation**

During the transport of float glass, adhesive forces and chemical reactions can cause the panes to stick together so strongly that they cannot be separated again later on. Furthermore, transportation or storage creates a risk of glass surface corrosion. Chemetall's innovative interleaving powders can effectively counter adhesion or scratching of panes as well as surface corrosion.

In addition to traditional powder products providing corrosion protection, we offer liquid products which can be sprayed onto the float glass in the form of an aqueous solution. For the whole product range, Chemetall ensures the use of only first-class raw materials and continually monitors quality control so that our customers can profit from our know-how for a particularly long time.

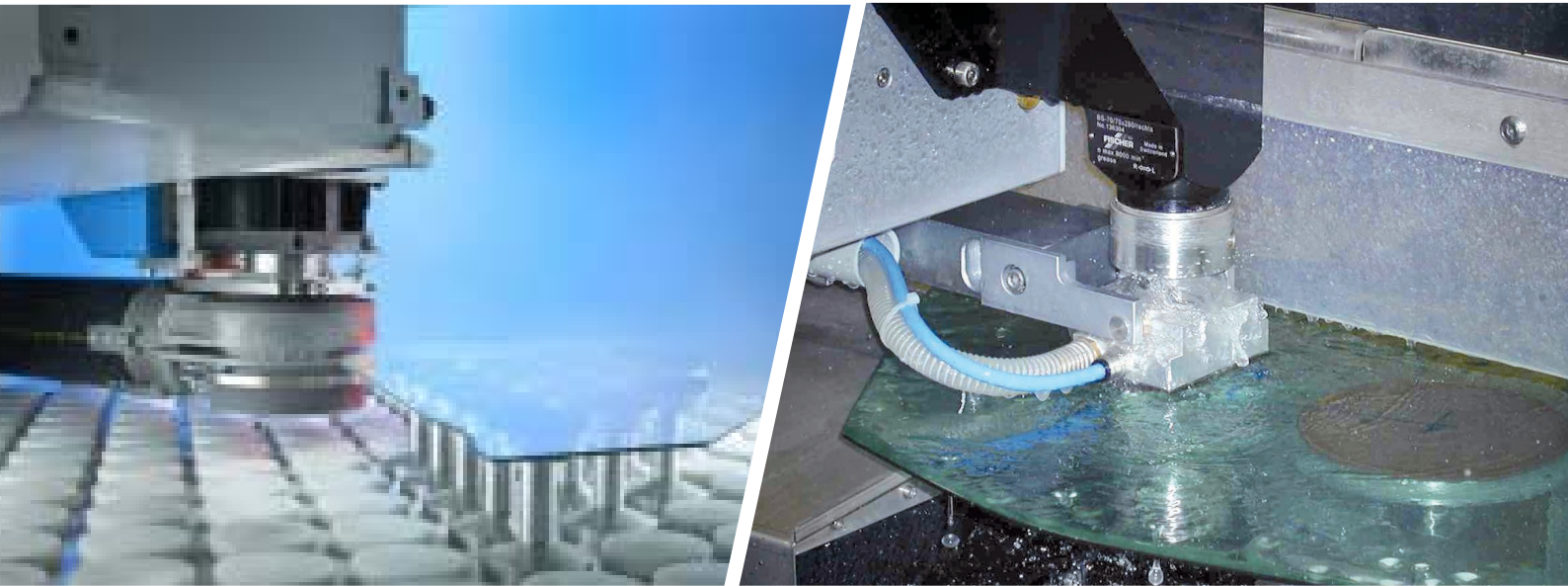
#### **Advantages of our interleaving powders:**

- ⊕ Prevent glass panes from sticking together
- ⊕ Complete washability without leaving any residues
- ⊕ Specially defined grain size distribution
- ⊕ Also available with corrosion protection



# Complete and aligned portfolio for best performance

## Grinding & glass processing related products



### Cooling for optimized grinding results

The grinding process using diamond tools calls for the use of coolants which meet the particular requirements of glass processing. As glass is a brittle material, special attention must be paid to the cooling parameters. Cooling with water or a coolant from the metal industry is not sufficient to meet today's demands on productivity and quality. Chemetall's coolant concentrates have special properties to optimize grinding results and to increase processing efficiency.

Due to their positive effect on the grinding mechanism, the energy consumption required for grinding is lowered. An increase of 30 – 50 % in feed speed can thus be achieved. Moreover, special ingredients slow down the flattening of the tool's diamonds. This, in turn, makes it possible to speed up processing and to increase tool life by up to 30 %. Chemetall offers a wide range of different coolants for all fields of application in glass processing.

### Advantages of our coolants:

- + Increased productivity
- + Improved edge quality
- + Extended lifetime of diamond tools
- + Lower energy consumption
- + Corrosion protection for machines
- + Lower maintenance costs



### **Glass processing ancillary products**

Chemetall supports the glass industry with additional product solutions covering all aspects of the modern production process, such as

#### **Washing and cleaning**

The washing and cleaning process is an important procedural step in glass processing – particularly in the finishing process. Our special detergents ensure that no contamination of any kind remains on the glass surface that might lead to rejection of the glass later on. For cleaning we also recommend our special glass and equipment cleaners which, unlike the usual domestic cleaners, do not contain silicone.

#### **Polishing**

Polishing agents are used wherever brilliant glass edges are required. We offer qualities of cerium oxide with a defined grain size distribution in order to ensure a perfect polishing result.

#### **Coating**

Surface coating technologies from Chemetall simplify the glass-cleaning process, are easy to apply and offer protection against corrosion and staining.

#### **Marking**

In most float glass plants the glass is checked using automatic defect detection. For these systems, Chemetall offers quick-drying marking inks of various colors which leave no residue after washing. For marking by hand we provide special marking chalk.

#### **Flocculation**

During the grinding process, small particles of glass enter the grinding solution thereby gradually reducing the quality of the process. Chemetall offers flocculants in powder and liquid form for cleaning the grinding solution, making it useable for a longer period.

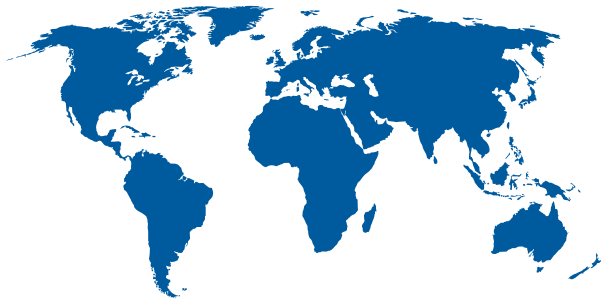
#### **Insulating glass products**

In close cooperation with customers, Chemetall has developed a range of products especially for the insulating glass industry. These include solvents, freezer liquids, separating agents for stillage supports and machinery parts, as well as lubricants for bending the spacer bars.

# Chemetall at a glance

Chemetall is a leading global surface treatment company, headquartered in Frankfurt, Germany. With our 2,100 employees, 40 subsidiaries and 22 production sites, we are a financially strong and fast growing company with a long-term orientation. Our aim is to further strengthen our quality and innovation leadership. With our own sales offices, production facilities, service teams, laboratories and warehouses at locations all around the world, we are operating in close proximity to our customers.

The chemical treatment of metal, glass and plastic surfaces is our core competence: Our products are developed for cleaning, giving corrosion protection, sealing, improving paint adhesion, and facilitating the forming and treatment of surfaces. Our globally established technologies are used in the most diverse industry sectors and have played a leading role in shaping metal treatment.



## Excerpt from our references



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