

WELCOME TO THE  
WORLD OF  
**KABE FARBEN**



**KABE**  
**REACTIVE®**



**Powder coatings**  
kabe-farben.ch



**KARL BUBENHOFER AG**



# MDF POWDER COATING FOR MAXIMUM PRODUCTIVITY AND PERFORMANCE.

Our MDF coating represents a major advance in the design, development and planning of new furniture and fittings. It can be used to coat components of almost any shape and size, together with 3D surfaces, edge profiles, cavities and cut-outs. Its applications are almost unlimited.

The technology offers many different benefits. The powder coating is completely seamless and covers every area of the item of furniture. It gives designers of furniture, interiors, fixtures and fittings a broad range of design options. To allow for maximum creativity, it comes in a wide variety of different colors. For perfect surfaces and perfect interiors.

If furniture comes into contact with moisture when it is in use, this presents a problem for wood-based substrates. A powder coating is the ideal protective solution. It creates a smooth, sealed finish on the edges and its flexibility prevents cracks from forming in small areas when working.

This makes the MDF powder coating the perfect answer for kitchen and bathroom furniture.

## **Benefits at a glance**

- The KABE REACTIVE® PES-75 range is completely non-hazardous
- Reliable and user friendly
- Seamless edges
- Variety of design and color options
- Tough surface finish
- High levels of productivity
- Low environmental footprint
- Good storage stability at < 25° C



## Applications and substrates

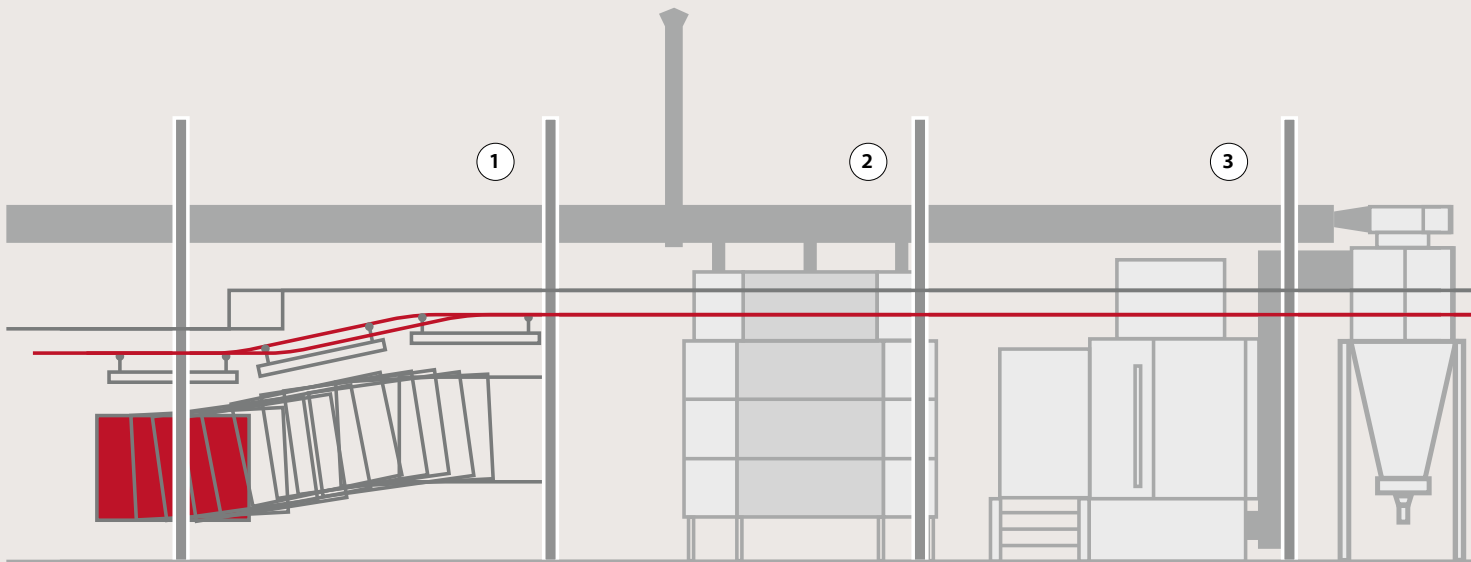
### Typical applications

- Kitchen fronts
- Bathroom fronts and furniture
- Office furniture
- Exhibition stands/shop fittings
- Furniture for living rooms and children's rooms
- Toys and design items

### Possible substrates

- MDF and HDF
- Solid wood and plywood
- Wood composite panels
- Plastics
- Other heat-sensitive substrates (fibreboard, plasterboard etc.)





**Simple,  
fast, reliable  
and efficient.**

**1. Hanging up and cleaning**

Factors such as a vertical position, good earthing and maintaining a minimum distance between the items to be coated are just as important as the final cleaning of the items with compressed air or flame treatment.

**2. Activating (pre-heating)**

During the activation phase, the surface of the MDF is pre-heated with infrared radiation, without heating the core of the component. This increases the electrical conductivity of the MDF components that are being coated.

# AN OVERVIEW OF THE MDF POWDER COATING PROCESS: HIGH PRODUCTIVITY AND SHORT THROUGHPUT TIMES.

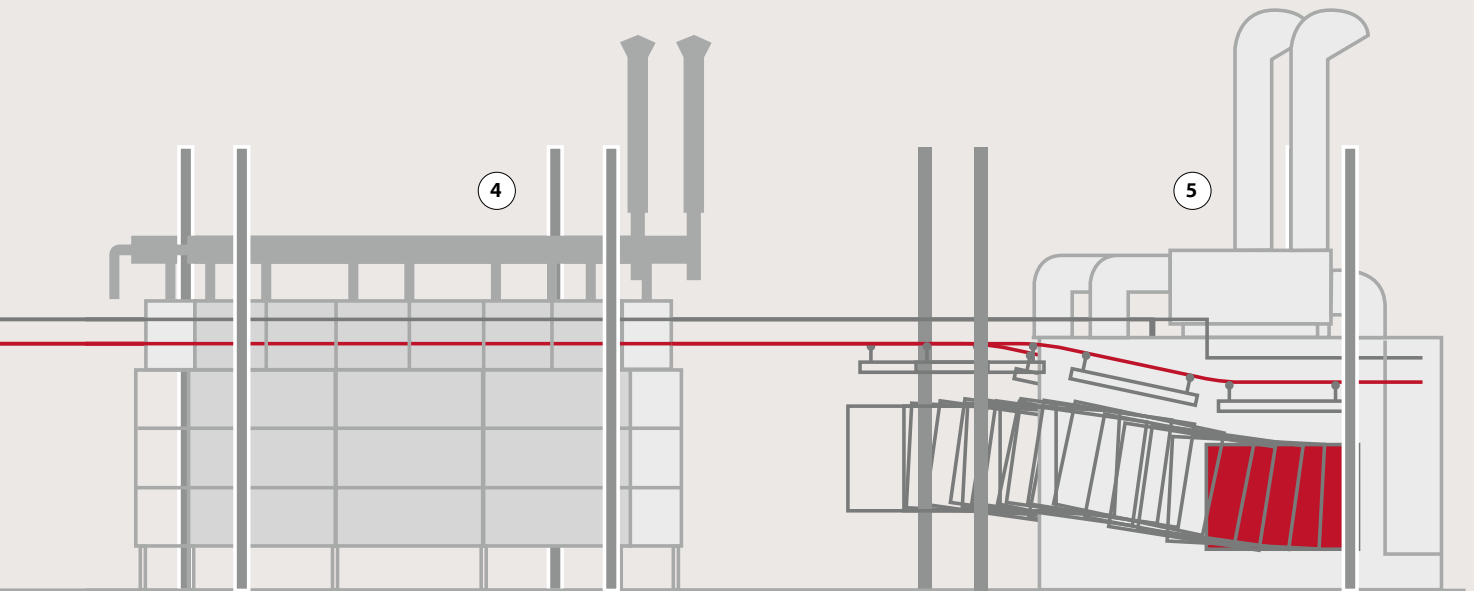
**High-tech powder coating plant in the KABE Farben powder coating technical centre.**

KARL BUBENHOFER AG has modernised its powder coating technical centre and invested in a high-tech powder coating plant, among other things. With its ultra-modern application equipment and flexible curing options, the new plant allows the technicians to run practical coating tests, evaluate newly developed products and provide high-quality training.

A spacious plastic spray booth with a state-of-the-art extraction system is fitted on both sides with automatic spray guns on reciprocators that are arranged one above another. The plant has been equipped with counter-electrodes and with highly advanced software specifically for coating MDF and other non-metallic materials.

The powder coating is supplied by a semi-automatic powder centre with an integrated control unit and an ultrasonic sieve that all the new and recycled powder passes through. A closed circuit makes it possible to identify how different types of powder will behave.

The curing oven has been specially developed for KARL BUBENHOFER AG. The coated components are moved into the batch oven where the powder coating is cross-linked using medium-wave infrared heaters in a controlled process. If necessary, the heating elements can be replaced with long-wave infrared heaters or UV heaters. The oven can also be operated in recirculated air mode or combined mode. With this range of different options available, the development engineers can cross-link any type of powder coating reliably.



### 3. Coating

The components are coated with powder on both sides using automatic corona spray guns. The use of a counter-electrode ensures that the powder is evenly distributed over all areas of the components.

### 4. Curing

In this phase, the powder is cross-linked and cured in an infrared oven. The duration and temperature of the curing process depend on the type of powder. The temperature is generally between 130°C and 150°C and the curing phase takes between three and five minutes.

### 5. Cooling and unloading

The last phase involves cooling the coated components using either a natural or an active cooling process. The components can then be stacked immediately.





# KABE REACT!VE® PRODUCTS

**KABE REACT!VE® is a versatile product that can be applied in one or two layers on heat-sensitive substrates. This is made possible by the low curing temperature and short curing time of the powder coating.**

The powder coating can be used in a single layer for protective and decorative purposes. It can also be applied as part of a two-layer system either with two layers of the same coating, which means that no color change is needed, or in the form of a primer and a top coat to give even greater resistance to mechanical impacts.

All the products in the KABE REACT!VE® range are highly flexible and provide a durable coating on a variety of substrates

and in different climatic conditions without forming cracks. The polyester system has excellent resistance to UV light, which means that it can be used for outdoor applications. The surface finishes that are currently available range from fine-textured through to peach skin (deep matt).

All the KABE REACT!VE® powder coatings are classified as non-harmful to the environment and the hybrid coatings are completely non-hazardous.

The KABE REACT!VE® product range complies with the strict, internationally recognised regulations concerning the migration behaviour of paints and coatings used on furniture.

## Single-layer systems

<b>Hybrid (PES-75)</b>	From rough-textured to PeachSkin	From silk gloss to dull matt	Custom shades for individual customers
<b>Polyester (PES-125)</b>	From rough-textured to PeachSkin	From silk gloss to dull matt	Custom shades for individual customers

## Two-layer systems

<b>MDF-Primer (PES-75)</b>	Silk matt in a light and a dark shade
----------------------------	---------------------------------------

Can be combined with many other coating systems  
(with all the KABE REACT!VE top coat systems; other powder coatings and paints must undergo individual tests)

# KABE REACTIVE® PROPERTIES

KABE REACTIVE® certified by

TÜV Süd

TÜV Rheinland

CATAS

## Technical properties










	Standard	KABE REACTIVE® Hybrid (PES-75)	KABE REACTIVE® Polyester (PES-125)
Coating thickness		100 – 120 µm	100 – 120 µm
Cross-cut	EN ISO 2409 - 2mm	GT 0	GT 0
Chemical resistance	DIN 68861 - 1	B	B
Abrasion	DIN 68861 - 2	B – C	B – C
Scratching	DIN 68861 - 4	B – C	B – C
Dry heat	DIN 68861 - 7	A	A
Moist heat	DIN 68861 - 8	A	A
Light resistance	DIN EN 15187	> 6	> 6
Concealed hinge test (EGGER-MBPL 25 mm)	VDI Norm Concealed hinge test	≥ 48 h	36 h – 48 h
Resistance to alternating atmospheres	DIN 68930	No visible changes	No visible changes
Resistance to water vapour	DIN 68930	No visible changes	No visible changes
Resistance to damp atmospheres	AMK-MB 005 Module 2	No visible changes	No visible changes
Migration behaviour	Bisphenol A-S-F	Complies	Complies
IKEA IOS-Mat-0066	Lead content	Complies	Complies
	Tin content	Complies	Complies

## The MDF powder coating offers unparalleled environmental advantages

KABE REACTIVE® powder coatings are classified as non-harmful to the environment. The MDF powder coating process is an environmentally friendly alternative to traditional paints, laminating or film coating. The CO<sub>2</sub> emissions per square metre of coated surface are much lower for powder coatings than for conventional UV-cured and water-based paints. In addition, powder coatings contain no solvents. The powder recovery system extracts overspray and returns it to the powder circuit, resulting in a minimal environmental footprint.



## POLYFLEX® range overview

Indoor application		
Functional epoxy powder coating		EP-20 GU
Functional epoxy powder coating		EP-25-NT / UNT
Hybrid powder coating with high resistance to cleaning agents		PES-20 GU
Hybrid powder coating with extremely high resistance to cleaning agents (anti-graffiti)	 *	PES-20-Power
Hybrid powder coating with good resistance to cleaning agents		PES-50-NT / UNT GU
Hybrid thin-film powder coating with good resistance to cleaning agents		PES-50-DS / NT
Hybrid powder coating with good resistance to cleaning agents		PES-55-NT / UNT
Thin-film powder coating with good resistance to cleaning agents		PES-55-DS / NT
Hybrid powder coating with very good all-round properties		PES-75-NT
Polyester powder coating for indoor applications with very good all-round properties		PES-96-NT
External use in industry		
Polyester powder coating		PES-136 GU
Polyester powder coating with extremely high resistance esp. to chemical textile finishing agents		PES-138-Power
Polyester powder coating		PES-166-NT GU
Thin-film polyester powder coating		PES-166-NT-DS
Polyurethane powder coating		PUR-125 GU
External application on facades		
Deep-matte facade polyester powder coating		PAC-135
Highly weather-resistant polyester powder coating		* PAC-140-SD
Polyester powder coating Class 1 / standard	  	* PES-135 GU
Highly weather-resistant polyester powder coating Class 2 / HWF	 	* PES-140-SD NT
Polyester powder coating with popular wrinkle effect		PES-150
Polyester powder coating LT Class 1 / standard	 	* PES-165-NT GU
Polyurethane powder coating with extremely high resistance to cleaning agents		PUR-151
Specialities		
High-reactivity powder coatings for use on thermally-sensitive substrates in indoor areas		REACTIVE PES-75
High-reactivity powder coatings for use on thermally-sensitive substrates in indoor and outdoor areas		REACTIVE PES-125
High-reactivity powder coatings for use on thermally-sensitive substrates in outdoor areas, highly weather-resistant		REACTIVE PES-225

\* Approvals available depending on version.

### Degree of gloss versions

Gloss, silk gloss, silk matte, matte (flat matte)

### Surfaces

Smooth, coarse structure, fine structure

### Color shades

RAL, RAL-Design, NCS, MCS, Pantone, other color systems or according to your specifications

### Special effects and finishes

Hammered finish, metal effect, speckled effect, Decorative effect, 3D effect, transparent, soft-touch

### Metallics


Pearl Metallics, Metallics


### Special versions with various technical properties of the powder coatings


- Electrically conductive powder coatings, ESD+
- Calorific value-optimised powder coatings
- Antimicrobial powder coatings (STERIDUR)
- Anti-graffiti powder coatings
- Powder coatings with resistance to textile finishing agents
- GU versions for off-gassing substrates
- Thin-film powders
- Non-slip versions for improved printing capability e.g. with screen printing
- Increased abrasion-resistance and resistance to cleaning agents
- Many LT (low-temperature cure) products
- Special powders for vertical application systems


If you have additional requirements, please contact your technical sales consultant. They will be happy to give you further advice.

**Powder coatings** | Paints + plasters | Facade insulation | Industrial coatings

 **KARL BUBENHOFER AG** | Hirschenstrasse 26 | 9201 Gossau SG, Schweiz  
T +41 71 387 41 41 | info@kabe-farben.ch | kabe-farben.ch

 **KABE Pulverlack Deutschland GmbH** | Sofienstrasse 36 | 76670 Graben-Neudorf, Deutschland  
T +49 7255 99 161 | info@kabe-pulverlack.de | kabe-pulverlack.de

 **Farby KABE Polska Sp. z o.o.** | ul. Śląska 88 | 40-742 Katowice, Poland  
T +48 32 609 57 40 | proskowe@farbykabe.pl | farbykabe.pl

A company which is part of **KABE SwissGroup** 



**KARL BUBENHOFER AG**