

**Interpon W:** Powder on wood, without limits



# All we see are endless powder coating possibilities

At AkzoNobel, we never limit ourselves, because we believe that new and inspiring opportunities are always ahead. Due to this determination we can proudly say that the number of solutions for various materials are growing rapidly. This way we are able to open up new opportunities in many different industries such as interior design, architecture, leisure & lifestyle, automotive and aviation amongst others.

So when you are looking for the best solutions when it comes to powder coatings, we are here to service you, every step of the way! We don't compromise on integrity, while at the same time cost efficiency and the highest level of performance are always on our mind in order to make the end product as durable and long-lasting as possible. All because we don't believe in boundaries but in embracing new possibilities together.



Plywood



Assembled Metal Components



Plasterboard



Building Materials



OSB  
Oriented Strand  
Board



Engineered  
Wood-based  
Products



Plastic Composites



MDF  
Medium Density  
Fiberboard



Massive  
Hard Wood



Multi-layer  
Natural Wood



# VOC-free coatings for heat-sensitive substrates

More than 15 years ago, we imagined how we could paint heat-sensitive substrates such as wood and plastics, without using VOCs. We started experimenting with powder coatings to develop a sustainable alternative to paints and lacquers. Through trial and error, we created smart powder coating systems to coat a variety of heat-sensitive materials in a durable, sustainable and more efficient manner.



For the architectural, interior design and automotive industries, we have developed primers and powder coating systems for heat sensitive substrates, such as:

- MDF
- Engineered wood-based products
- Multi-layer natural wood
- Natural wood
- Plasterboard
- Building materials
- Assembled metal components
- Plastic composites

Our powder coating systems are based on Ultraviolet (UV) or Ultra Low Bake (ULB) curing processes. Interpon W powder coatings are available for indoor and outdoor applications across a broad range of markets. Interpon W Liquid Primers deliver a high quality service preparation as part of the complete package incorporating both Interpon W UV or Interpon W ULB powder coatings.

# Applications in any shape

Interpon W powder coatings and Interpon W Liquid Primers are an ideal solution for coating heat-sensitive substrates in a durable, efficient and more sustainable process for both indoor and outdoor use.

**Interpon**<sup>®</sup>  
POWDER COATINGS



## Industries

Our powder coating systems are applicable in several industries as a sustainable surface coating alternative to paints, PVC, vinyl or melamine foils, laminates and lacquers. Our Interpon W Liquid Primers ensure high-quality surface preparation with excellent sealing properties.

### Interior Design

Furniture production for education, points of sale, retail, age care, hospitals and hospitality, greatly benefits from high-quality powder coating solutions. This includes shelving, kitchen, bathroom, office and shop furniture.

### Architecture

Their durability makes powder coatings a solution, exceptionally suitable for use on public and institutional buildings from wooden wall cladding and acoustic panels to a custom-designed application.

### Automotive

Covering various applications such as: fuel tanks with pre-installed electrical components, assembled gas struts, Interpon W powder coatings are an ideal solution for coating plastic trim and electric motors.

### Meeting the standards

AkzoNobel's range of Interpon W powder coatings meets the international performance standards of DIN / FIRA / IKEA for MDF and other wood-based materials. There are also special solutions for anti-microbial surfaces and food contact.





# Interpon W Efficient and emission-free

Customers increasingly request designers, architects and builders to create eco-friendly living spaces. That meet and even exceed VOC legislation, environmental and health regulations. Materials primed and powder coated with Interpon W fulfil this demand.

## **Environmental advantages**

That is why an increasing number of manufacturers are switching from traditional surface coatings, such as PVC foils, laminates and solvent-based liquids, to powder coatings that are naturally free of VOCs and other harmful substances. The use of powder coatings results in an emission-free ecosystem: cleaner powder production, powder coating application and living spaces.

## **Processing time reduced from days to minutes**

Moreover, powder coatings offer diverse process benefits, resulting in significant cost savings. With a requirement for a single layer coating that is cured immediately, the processing time of a durable coating is reduced from days to minutes.

When applying a primer is necessary before curing it with a powder coating, the Interpon W Liquid Primers also ensure short drying cycles. The primers are resistant against thermal stress and have a high humidity function. The primers have multi-adhesion properties to a broad range of top coatings.



## Environmental and efficiency benefits



- No emissions, solvents or hazardous substances: VOC-free
- 99% powder utilization\*
- Less energy consumption possible (up to 50% per part)



- 1 layer coating process
- 3D geometrics
- Full automatic application



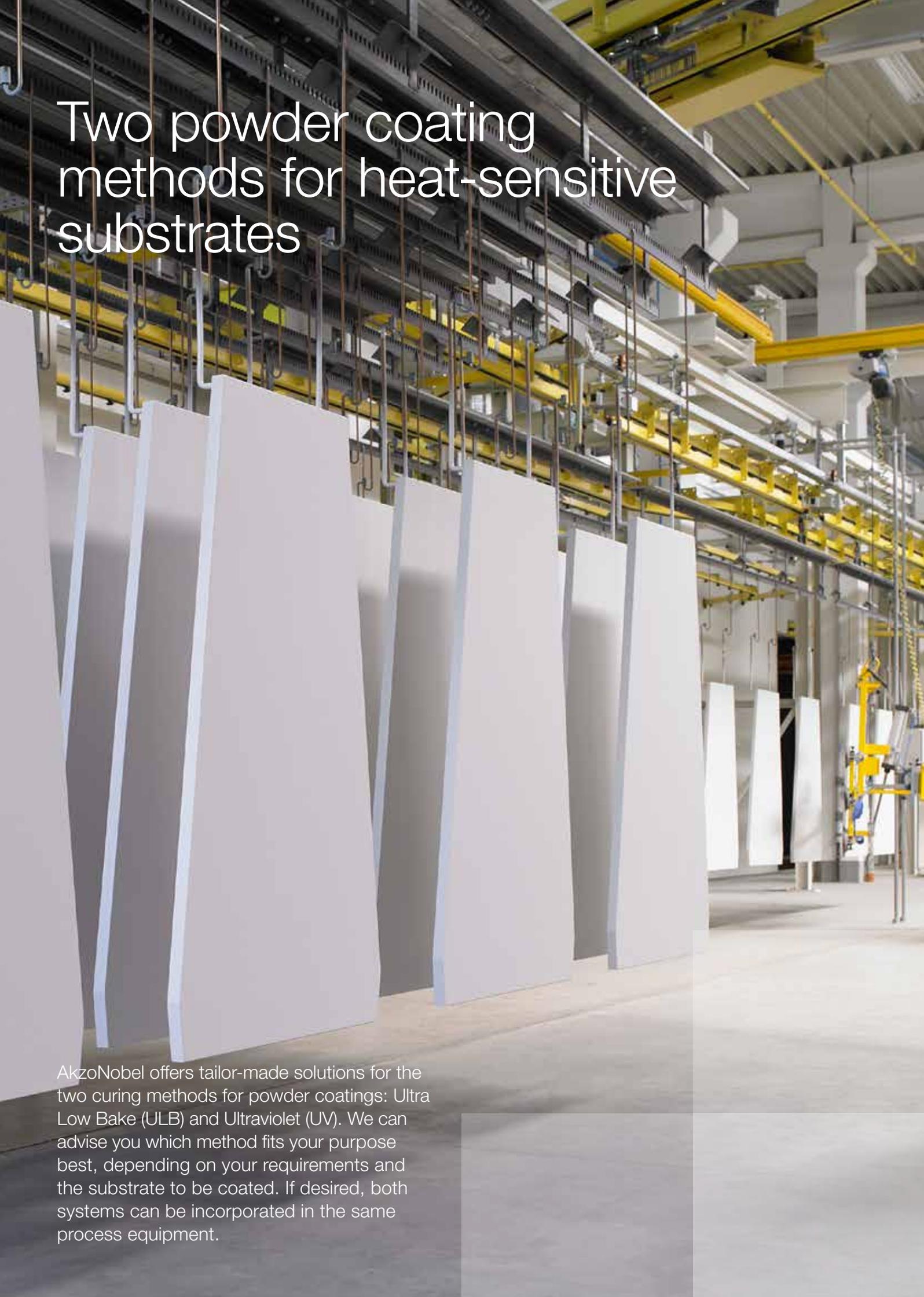
- Up to 6 times faster in process time
- No drying time, so immediate packing and shipping
- Significantly lower lead time



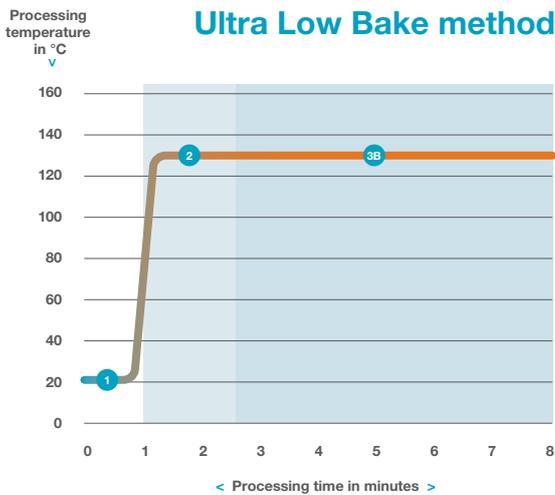
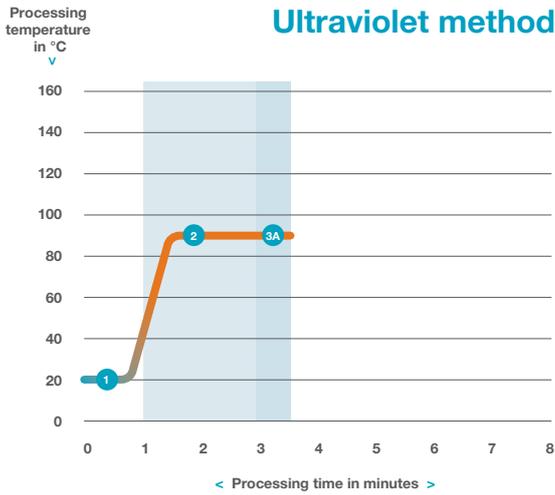
- Up to 80% reduction in process, cleaning- and maintenance costs
- 30% lower costs per piece
- Less inventory and no cleaning agents needed

\*thanks to powder reclamation, virtually no powder is wasted.

# Two powder coating methods for heat-sensitive substrates



AkzoNobel offers tailor-made solutions for the two curing methods for powder coatings: Ultra Low Bake (ULB) and Ultraviolet (UV). We can advise you which method fits your purpose best, depending on your requirements and the substrate to be coated. If desired, both systems can be incorporated in the same process equipment.



## 1 Coating

Our powder coatings are fluidized with air. The powder particles then are transported to the spray gun. Passing through the spray gun cascade, the particles are electrostatically charged and deposited onto the surface of the material (1), which is earth grounded.

## 2 Melting

A vertical conveyor transports the coated substrate to the melting zone, where the heating of the particles instantly starts. Due to the low heat process, this process gradually melts the particles onto the substrate (2) and forms a regular closed film.

## 3 Curing

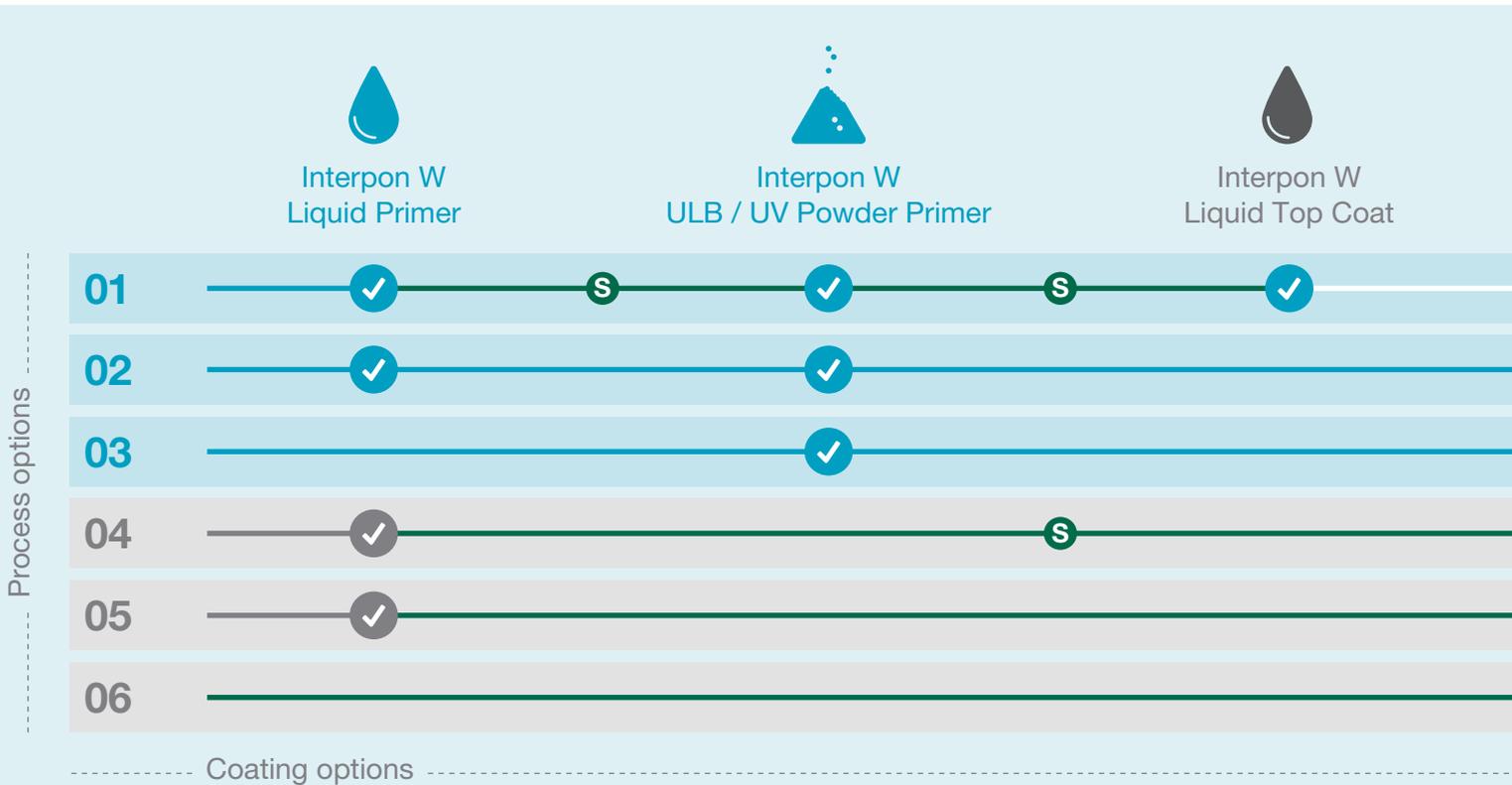
During the ULB process, the product remains in the heating zone for an additional 5 to 6 minutes (depending on the coating functionality) for optimal curing (3B). For the UV process, the powder immediately starts to crosslink when entering the UV zone (3A) and is cured in a few seconds, allowing for a significant reduction in process temperature and time.

## Characteristics compared: Ultra Low Bake (ULB) versus Ultraviolet (UV)

ULB		UV
6 to 8 minutes	<b>Process time</b>	3 to 5 minutes
130 - 140°C	<b>Process temperature</b>	80 - 110°C
Suitable for indoor surfaces	<b>Application options</b>	Suitable for indoor & outdoor surfaces
Lower capital investment	<b>Business key benefit</b>	Energy & time saving
Limited	<b>Range of finishes</b>	Broad
No	<b>Food contact material approval</b>	Fully approved

# AkzoNobel Coating Solutions

To achieve the best quality with AkzoNobel's coatings solutions, there are in general 6 process options to choose from, but all customizable and applicable on any kind of substrate to your every need.



## 01 Cost efficient option



- Enables a less complex start-up and transition to powder utilizing existing liquid top coat



- Low temp easy cure ULB/UV Technology



- Reduced process steps



- Discussion Points: Liquid primer application optional, depending on quality of substrates, e.g. routed and profiled MDF

## 02 / 03 Premium coatings options



- Full powder system - Primer optional



- Low temp easy cure ULB/UV technology



- Excellent 3D surface uniformity



- Significant reduction in process steps



- Less energy



- No intermediate sanding in production



- Discussion Points: Liquid primer application optional, depending on quality of substrates, e.g. routed and profiled MDF



# Interpon W product overview

AkzoNobel provides Interpon W powder coating product ranges for heat-sensitive substrates to be used for indoor and outdoor application. The Interpon W UV range includes the radical initiated UV powder coating principle, while the Interpon W ULB range applies to the thermal curing powder coating principle.

In addition to single layer Interpon W ULB or UV powder coatings AkzoNobel's Interpon W Liquid Primers cover a broader spectrum of different applications. Both Interpon W ULB and UV range, comprise top coats and finishes and are preferably applied as a one layer system.

## Surface improvement

Interpon W Primers are specified to improve surface aspects, general properties and uniformity of inhomogeneous substrates. AkzoNobel has a range of product combinations to merge both liquid and powder into a single system.

The Interpon W ULB and UV portfolio can be customized with properties such as gloss, surface smoothness and special effects. Technical properties can also be adjusted to meet end user demands such as chemical and scratch resistance, hardness and flexibility.

## Overview of finish options

Type	Name	Technology	Curing temperature	Indoor	Outdoor	Clear
<b>Primer</b>						
	Interpon W Liquid	Water-based	>10°C	✓	✓	✓
	Interpon W ULB	Thermosetting powder	<140°C	✓		
	Interpon W UV	UV curing	>75°C	✓	✓	✓
<b>Top Coats</b>						
	Interpon W Liquid TC	Water-based	>10°C	✓	✓	✓
	Interpon W ULB	Thermosetting powder	<140°C	✓		
	Interpon W UV	UV curing	>75°C	✓	✓	✓



## Overview heat-sensitive substrates

Type	Name	Technology	Wooden Materials	Plastic Materials	Assembled Metal Components	Mineral-based Material	Natural Wood
<b>Primer</b>							
	Interpon W Liquid	Water-based	✓	✓		✓	✓
	Interpon W ULB	Thermosetting powder	✓		✓		
	Interpon W UV	UV curing	✓	✓	✓	✓	✓
<b>Top Coats</b>							
	Interpon W Liquid TC	Water-based	✓	✓		✓	✓
	Interpon W ULB	Thermosetting powder	✓		✓		
	Interpon W UV	UV curing	✓	✓	✓	✓	✓

Pigmented	3S - Silky Satin Smooth	Smooth	Micro texture	High gloss	Semi gloss	Low gloss
✓		✓				✓
✓	✓	✓		✓		✓
✓	✓	✓		✓		
<b>Unpigmented</b>						
✓		✓		✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓

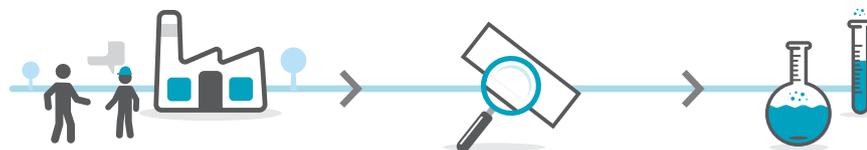
# Creating the system that fits your purpose

Working closely with our strategic partners, we integrate powder coating systems and chemistry into one package. That is why we can offer you tailor-made powder coating systems and off-the-shelf solutions. We will support you in selecting and setting-up the best powder coating application system to meet your requirements and individual specifications.

AkzoNobel offers the most comprehensive support package in the market to assist customers in making the transition to powder coating. In cooperation with you, we create your specific powder coating process and coating requirements. We evaluate the results at the AkzoNobel Center of Excellence under full-scale processing conditions, using your own substrates. This way of working enables you to make an investment decision based on accurate feasibility reports rather than on theoretical evaluations.

## How your powder coatings system is created

Our 7-step working process guarantees a tailor-made, turnkey solution. As quickly as necessary. We can progress from a lab to production scale in days, instead of months or years.



**1**

### Understanding your challenges

By visiting your site and talking with the engineers, we will gain insight into your processes and challenges.

**2**

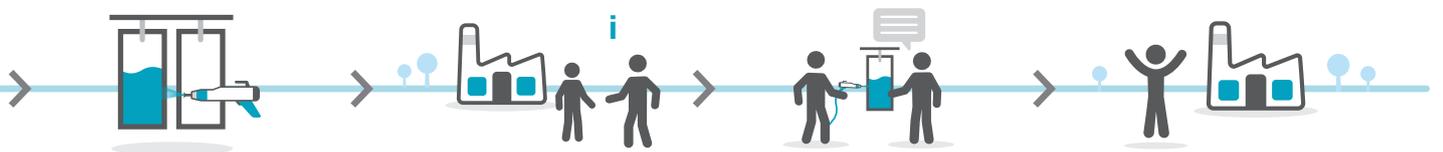
### Substrate analysis

No material is the same; we will analyze your substrate at our Center of Excellence.

**3**

### Powder formulation

Our unrivaled chemists will develop a tailor-made ULB or UV powder formula to meet your requirements.



**4**

**Production process pilots**

In our Center of Excellence, we will replicate your powder coating process in order to run full-scale process pilots with your substrates to fine-tune the formula and process.

**5**

**Start-up production**

In close cooperation with our equipment partner, we will assist you during the start-up of the production at your site.

**6**

**Training**

We will provide training for your employees in powder coating application and will share our know-how to turn your employees into experts.

**7**

**Quality control support**

As part of our service, we will help you work out quality control procedures. We will fine-tune your production process and keep your employees' know-how up-to-date.

# The power of AkzoNobel

We've been one of the pioneers in powder coatings and we have the track record to prove it. With more than 40 years of experience in over 100 countries, we operate on a truly global level. This means we can offer you more choice, with an impressive selection of technologies and a wide range of colors and finishes for all your powder coating needs – wherever you are.



**Regional Development  
and Application Center  
for Interpon W;**  
Reading, USA

**Center of Excellence  
for Interpon W;**  
Como, Italy

## Sparking innovation

Leveraging our vast knowledge and experience, our powder coating technology is recognized as the best in the world. We pride ourselves on the superior quality of our products and unparalleled technical service, so you can be confident that your products are protected for their expected lifecycle – and beyond.

## Global footprint

- 29 Manufacturing sites in 20 different countries
- 28 R&D sites in 20 countries
- Offices and representatives in more than 70 countries worldwide
- 60 warehouses

**AkzoNobel Powder Coatings**

HQ Amsterdam, Netherlands



**Regional Development  
Center Interpon W;**  
Shanghai, China

**Application Center  
for Interpon W:**  
Victoria, Australia



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