

**Interpon Redox: Powder Systems for Corrosion Protection**



# Interpon Redox: the simplest route to maximum corrosion protection

Selecting the powder coating system that meets your project's requirements can be complex. To simplify this process, we developed Interpon Redox: AkzoNobel's easy-to-use corrosion protection portfolio of multi-layer powder systems for high performance assets.

Interpon Redox is built on our long-standing insight into customer needs and industry trends. With quick access to our superior products and unparalleled technical service, this means you can be confident that your assets are protected for their expected lifecycle – and beyond.



## Interpon Redox Active

Robust primer system with excellent edge protection and a wide curing window

## Interpon Redox Plus

Durable protection for a wide variety of substrates and pre-treatment methods

## Interpon Redox PZ

The best performing powder primer for corrosion protection over blasted steel

## Interpon Redox Triplex

Extremely protective three-layer system for highly corrosive environments

# Protecting high-performance assets in harsh environments

When products need to perform safely and reliably in corrosive environments, you need to protect both their function and their exterior. We are convinced that the best solution to do so is a powder system comprising of a primer plus topcoat.

There are three types of corrosion protection:

## Passivating steel with powder

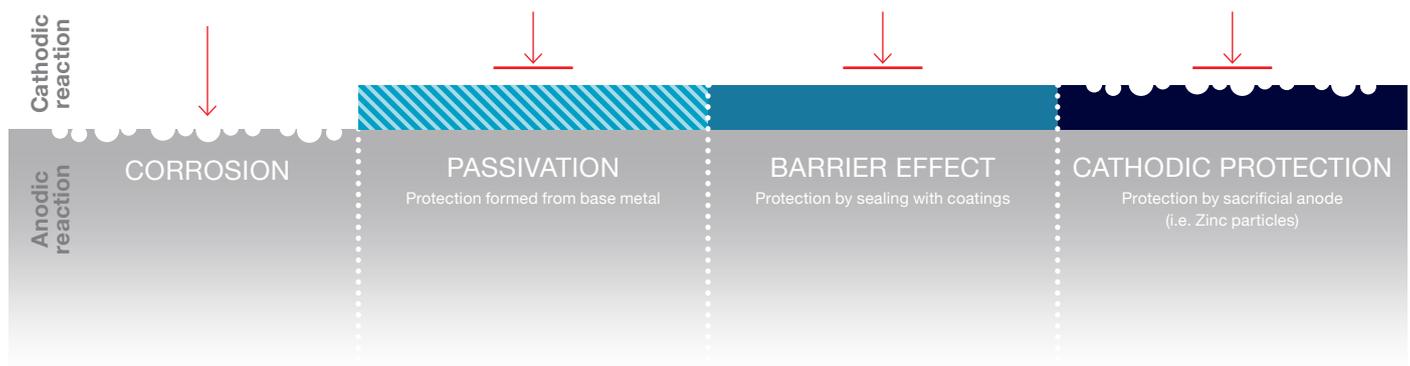
Delaying a corrosive reaction or neutralizing acid ions with corrosion-inhibiting pigments that have the capacity to passivate a steel substrate.

## Protection by barrier effect

Isolating steel from its environment with a water and airtight barrier to block direct contact with oxygen and other corrosive agents and prevent corrosion.

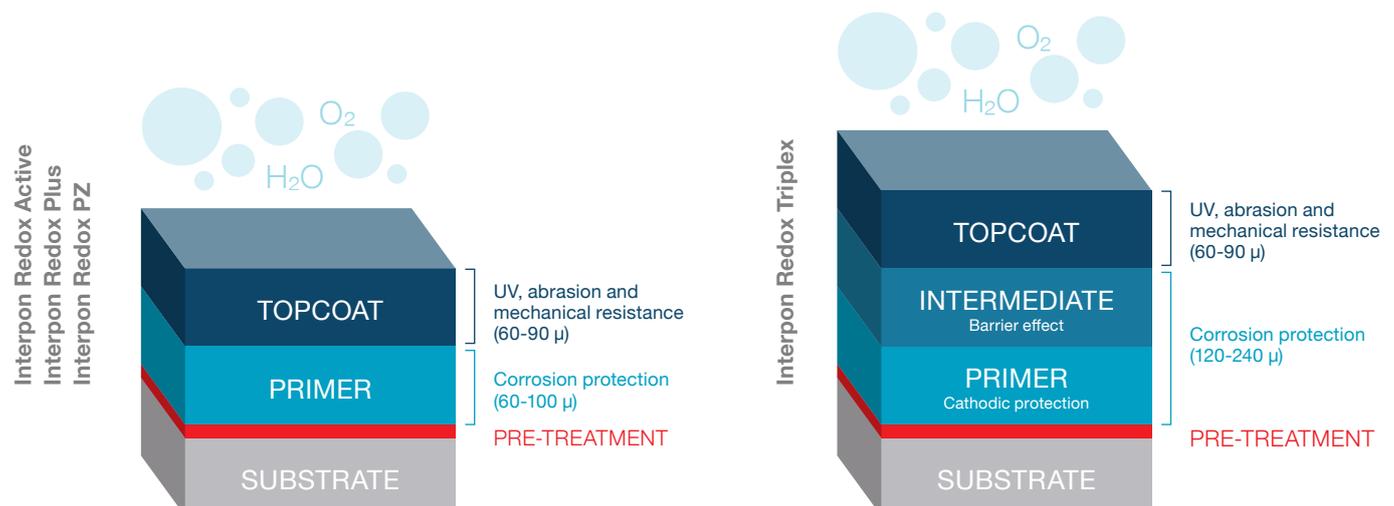
## Cathodic protection

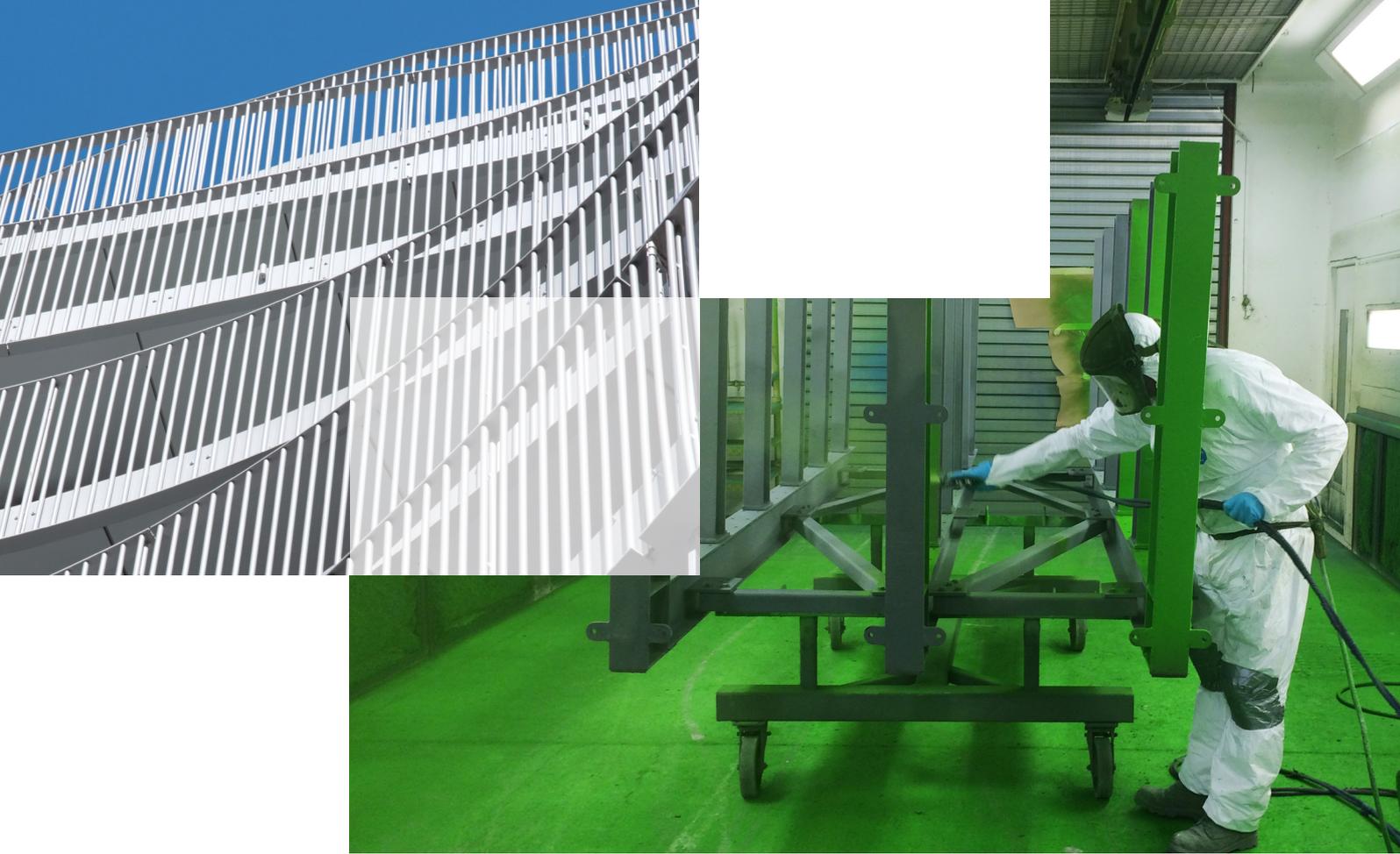
Connecting metal to a more reactive "sacrificial metal", that will corrode instead of the protected substrate.



## Multi-layered protection

As shown below, our powder systems are layered to offer the highest level of protection.





# The benefits of using Interpon Redox Systems

## Superior longevity

Our durable coating systems are environmentally friendly and can deliver superior longevity for C4/5 environments compared to other coating solutions.

## High level of clarity

Our selection guide is based on ISO 12944 corrosivity categories combined with more than 25 years of field experience. With our consulting services and design tools you can be certain you make the right choices.

## Maximum efficiency

Our multi-layer powder coating systems are easy to apply, and the shorter curing times allow for faster project completion.

Powder coating is the ecological answer, the essential coating of **Sustainable Development:** it's VOC-free and contains no solvents or toxic components.

# The right powder solution for every project

There are multiple variables that influence the speed of corrosion, such as the material of a product and the environment in which it is located. Interpon Redox systems each have their own characteristics that answer to these variables. They cover substrates in multiple levels of corrosivity, for different lifetime expectations, allowing us to perfectly meet each product's specific protection requirements and application limitations.



Category	Exterior	Interior
<b>C1</b>		Heated buildings with a clean atmosphere such as offices, shops, schools, hotels
<b>C2</b>	Mainly rural regions	Buildings which are not heated (storage facilities, halls)
<b>C3</b>	Industrial areas and inshore areas of low salinity	Production halls to facilities (laundries, breweries, dairies)
<b>C4</b>	Industrial areas and inshore areas of medium salinity	Chemical plants (swimming pools, ship yards)
<b>C5</b>	Industrial areas of high humidity and aggressive atmosphere	Areas of almost constant condensation and high contamination.
<b>CX</b>	Offshore areas of high salinity or industrial areas of extremely high humidity	Buildings and areas of almost constant condensation and aggressive contamination

## Identify which Interpon Redox system meets your protection requirements

	C1	C2	C3	C4	C5
<b>Chemical pre-treatment</b>					
<b>Interpon Redox Active</b>	██████████	██████████	██████ H ██████	██████ M ██████	██████ L ██████
<b>Interpon Redox Plus</b>	██████████	██████████	██████████	██████ H ██████	██████ M ██████
<b>Interpon Redox PZ</b>	Not recommended				
<b>Interpon Redox Triplex</b>	Not recommended				
<b>Mechanical pre-treatment</b>					
<b>Interpon Redox Active</b>	██████████	██████████	██████ H ██████	██████ M ██████	██████ L ██████
<b>Interpon Redox Plus</b>	██████████	██████████	██████████	██████ H ██████	██████ M ██████
<b>Interpon Redox PZ</b>	██████████	██████████	██████████	██████ H ██████	██████ M ██████
<b>Interpon Redox Triplex</b>	██████████	██████████	██████████	██████████	██████ H ██████

Durability ranges based on the ISO 12944 standard

- Low (L)** up to 7 years
- Medium (M)** 7 to 15 years
- High (H)** 15 to 25 years
- Very High (VH)** more than 25 years

# Interpon Redox Active

Robust primer system with excellent edge protection and a wide curing window



CORROSION PROTECTION

**Interpon Redox Active** is a powder primer with active anticorrosive pigments that cause a passivation effect to protect the substrate. It has been formulated to offer the best adhesion for the topcoat – powder or liquid.

This versatile and zinc-free primer offers robust protection, even with varying thickness levels of the substrate within one project. It can be formulated in different colors to approach the color of the topcoat and be used as a holding primer for up to six weeks. And because it is easy to apply, offers excellent edge coverage, and allows a wide curing window, this system is especially suitable for complex objects.

## Characteristics and advantages

- Robust corrosion protection performance up to 7 years in corrosivity level C5 for steel
- Known and appreciated for its ease of application on complex objects
- Suitable for objects with varying levels of substrate thickness
- Performs well across a variety of curing schedules
- Provides excellent edge coverage
- Designed for use with chemical and mechanical pre-treatment
- Can be used as holding primer for up to 6 weeks
- Available in a broad variety of colors
- Compatible with a wide range of topcoats
- VOC-free, solvent-free, and zinc-free



# Interpon Redox Plus

Durable protection for a wide variety of substrates and pre-treatment methods



**Interpon Redox Plus** provides superior performance and excellent barrier protection in any kind of situation. It can be used on multiple substrates, and on surfaces with chemical or mechanical pre-treatment.

This two-layer system is made up of a pure epoxy primer overcoated with a topcoat (powder or liquid). It incorporates barrier effect agents and achieves a high level of cross-linking in the polymer matrix. This combination significantly enhances the performance when compared with other systems, such as normal epoxy primers.



## Characteristics and advantages

- Strong protection against corrosion and rust, up to level C5
- Extra tough and durable – high resistance to damage
- Ease of application: spray as conventional powder coatings
- Offers a smooth finish to different substrates
- Systems available for both porous and non-porous metal substrates
- Designed for use with chemical and mechanical pre-treatment
- Can be used as holding primer
- Compatible with a wide range of topcoats
- VOC-free, solvent-free, and zinc-free

# Interpon Redox PZ

The best performing powder primer for corrosion protection over blasted steel



**Interpon Redox PZ** is a barrier effect primer enriched with long lasting cathodic protection: a cost-effective combination that enables safe operation for grounded and submerged metal structures. Our unique blend of zincs ensures the highest level of conductivity to create cathodic cells that protect the metal substrate. This primer is ideal for harsh environments, or areas where components can be subject to mechanical damages.

The two-layer system consists of a zinc-rich primer overcoated with an Interpon topcoat of choice. It is specifically designed to protect surfaces pre-treated through grit or shot blasting, and it offers a more aesthetic and defect-free finish than other metal zinc protection systems.



## Characteristics and advantages

- Excellent performance and corrosion prevention up to C5 environments
- Best performing powder primer for corrosion protection over blasted steel
- Aesthetic, defect-free finish, particularly in comparison to other metal zinc protection such as galvanizing or zinc metal spraying
- Designed for use with mechanical pre-treatment
- Compatible with wide range of topcoats
- VOC-free and solvent free

# Interpon Redox Triplex

Extremely protective three-layer system for highly corrosive environments



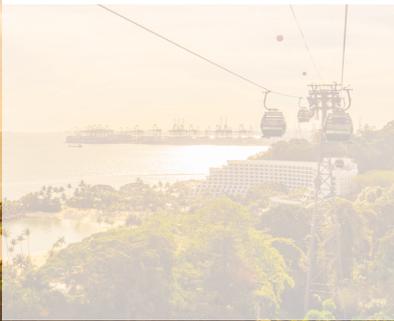
CORROSION PROTECTION

**Interpon Redox Triplex** offers the benefits of both cathodic and enhanced barrier protection. This three-layer system combines the zinc-rich primer **Interpon Redox PZ** with the barrier-protective primer **Interpon Redox Plus** – finished with the Interpon topcoat of your choice. It is intended mainly for protection of steel objects that are pre-treated through grit or shot blasting and is ideal for environments with high humidity or salinity.

This system is recommended in highly-aggressive environments like C4 or C5.

## Characteristics and advantages

- Ultra-strong corrosion protection performance up to C5 environments
- Combination of barrier and cathodic protection
- Ideal for high-humidity environments
- Provides excellent edge coverage
- Designed for use with mechanical pre-treatment
- Compatible with a wide range of topcoats
- VOC-free and solvent-free



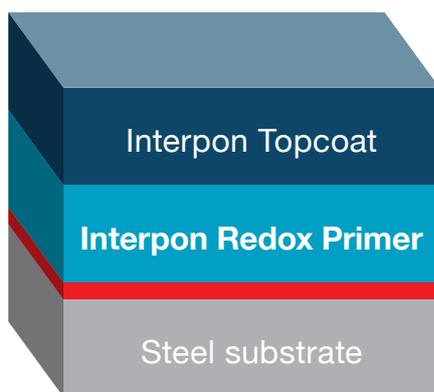
# Interpon Redox: the one-stop shop for powder systems

We offer a full range of materials and resources to help you succeed with your project: from product selection, color coordination, and project specifications, to choosing an accredited applicator and ongoing care and maintenance advice.

## The Interpon Redox system

Our range of topcoats →

- **Interpon 700 series**
- **Interpon 600 series**
- **Interpon D1000 series**
- **Interpon D2000 series**
- **Interpon EC**



- ←
- Chemical pre-treatment
  - Mechanical pre-treatment

*For superior corrosion protection in aggressive environments, shot/grit blasting is recommended*

## Select the solution that suits your project

Interpon Redox powder systems enable you to perfectly meet specific protection requirements and application limitations for your project. After you have identified the corrosivity of the environment and the desired longevity of protection, selecting the right system takes three steps:

1. Identify the substrate and pre-treatment of your assets
2. Determine which other criteria the system has to account for
3. Select your topcoat

### 1. Substrate and pre-treatment

The performance of the system is closely dependent on its substrate and surface preparation.

Substrate	Pre-treatment	Interpon Redox Active	Interpon Redox Plus	Interpon Redox PZ	Interpon Redox Triplex
Steel	Chemical	✓	✓		
	Mechanical	✓	✓	✓	✓
HDG Steel	Chemical		✓		
	Mechanical		✓		
Zintec	Chemical		✓		
	Mechanical		✓		
Stainless Steel	Mechanical		✓		
Aluminium	Chemical	✓	✓		

## 2. Protection criteria

These selection criteria help you find the system that keeps your assets protected from corrosion:

Range	Interpon Redox Active	Interpon Redox Plus	Interpon Redox PZ	Interpon Redox Triplex
Edge protection (sharp edges)	● ● ●	● ●	●	● ● ●
Multiple color options	● ● ●	●		
Re-coating time	● ● ●	● ●	●	●
Easy to apply (application point of view)	● ● ●	● ●	●	●
Suitable for complex objects	● ●	● ●	●	●
Different metal thickness on same object or oven	● ● ●	● ●	●	●
Curing range	● ●	● ● ●	● ●	● ●
Suitable for sea environment		●	● ●	● ● ●
Surface smoothness	● ● ●	● ● ●	●	● ●
Zinc-free system	✓	✓		
Cathodic protection			✓	✓
Compatibility with liquid topcoat	✓	✓	✓	✓
CMR-free label	✓	✓		

Corrosion protection

- Robust
- ● Strong
- ● ● Excellent

## 3. Topcoat selection

Find the Interpon topcoat to finish your designs:

Range	Interpon 700	Interpon 610	Interpon EC	Interpon D1036	Interpon D2525
Indoor use	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Outdoor use (UV durability)		●	● ●	● ●	● ● ●
Chemical resistance	● ●	●	● ● ●	●	●
Resistance to overbaking	●	● ●	● ● ●	● ●	● ●
Paint flexibility	● ● ●	● ●	●	● ●	●
Paint hardness	● ●	● ●	● ● ●	● ●	● ●
Protection against graffiti			● ● ●		
Curing window	● ● ●	● ●	●	● ●	● ●
Gloss range	● ● ●	● ●	●	● ●	● ●

## Standards in corrosion protection

Our selection guide provides you with all information about the available systems and the performance they deliver, based on the ISO 12944-2018 standard for corrosivity categories.

Visit [www.interpon.com](http://www.interpon.com) to discover all options and possibilities.

For more information please contact your local representative or visit [www.interpon.com](http://www.interpon.com)



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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.

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