Anti-corrosion protection

Recommended coating cycles from IMPA in compliance with UNI EN ISO 12944

IMPA CONTEMPORARY IDEAS

INNOVATING SURFACES FOR INDUSTRY

Anti-corrosion protection

IMPA's solutions for the anti-corrosion cycle are certified to ISO 12944 standard, a European standard and guide used by industry professionals to ensure that specific coating cycles provide adequate protection against corrosion for metal structures and equipment in various environments and industries.

All unprotected steel structures exposed to atmospheric agents are at risk of corrosion.

To obtain effective protection against corrosion, it is important to choose the right coating solutions for each project.
The main reason for coating metals is to protect their surfaces from the effects of corrosion, with the aim of **ensuring a longer lifespan** as well as providing certain aesthetic and decorative attributes.

Before selecting a coating cycle, it is important to **consider what effect environmental corrosivity will have on the structure,** which will depend on various factors such as humidity, temperature, potential UV radiation, and exposure to chemicals including at industrial plants.
If water is present, the type and chemical composition of the water are also determining factors.

Classification

Classification of environments

Part 2 of the ISO 12944 standard classifies corrosion according to atmospheric, soil and water conditions

Classification	Exterior	Interior
C1 _VERY LOW		Heated buildings with clean atmospheres, e.g. offices, shops, schools, hotels.
C2 _LOW	Atmospheres with low level of pollution. Mostly rural areas.	Unheated buildings where condensation may occur, e.g. depots, sports halls.
C3 _MEDIUM	Urban and industrial atmospheres, moderate sulfur dioxide pollution. Coastal areas with low salinity.	Production rooms with high humidity and some air pollution, e.g. food-processing plants, laundries, breweries, dairies.
C4 _HIGH	Industrial areas and coastal areas with moderate salinity.	Chemical plants, swimming pools, coastal ship- and boatyards.
C5 _VERY HIGH	Industrial areas with high humidity and aggressive atmosphere.	Buildings or areas with almost permanent condensation and with high pollution.
CX – EXTREME	Offshore areas of high salinity. Areas of extremely high humidity and aggressive atmosphere. Areas of subtropical and tropical atmosphere.	Industrial areas of extremely high humidity and aggressive atmosphere.

Durability ranges

Durability is also an important consideration when selecting the right coating cycle. This means the expected effectiveness of the treatment applied to a crude or galvanised steel product to obtain protection against corrosion: **it is the expected time interval between installation and the first major maintenance operation.**

In the standard, **durability** is expressed in the following classes:

Range		Years
LOW	L	Up to 7 years
MEDIUM	M	7 - 15 years
HIGH	H	15 - 25 years
VERY HIGH	VH	More than 25 years

Surface preparation

Before starting any coating cycle, the product surface must be suitably prepared so that the applied coat can adhere to it well and provide effective protection. With the sandblasting Sa 2 ½, all rust flakes and 95% of mill scales are removed.

Cycles

SYSTEM 1806 + 1818 - SUBSTRATE: SANDBLASTED STEEL

1° COAT
1806 FONDO EPOX
1871 HARDENER FOR EPOX

2° COAT
1818 POLIURETANICO EXTRA L.
HARDENER

Nominal dry film thickness
190 µm

Duration without defects
240 h Salt Spray
120 h Continuos Condensation

Certified System		
C4 L	**Up to 7 years**	Environment with HIGH corrosivity
C3 M	**7 - 15 years**	Environment with MEDIUM corrosivity

SYSTEM 1913 + 1818: - SUBSTRATE: SANDBLASTED STEEL

1° COAT
1913 FONDO EPOX 2K HS GRIGIO RAL 7035
1889 HARDENER FOR FONDO EPOX 2K HS

2° COAT
1818 POLIURETANICO EXTRA L.
HARDENER

Nominal dry film thickness
185 µm

Duration without defects
480 h Salt Spray
240 h Continuos Condensation

Certified System		
C5 L	**Up to 7 years**	Environment with VERY HIGH corrosivity
C4 M	**7 - 15 years**	Environment with HIGH corrosivity
C3 H	**15 - 25 years**	Environment with MEDIUM corrosivity

SYSTEM 1913 + 1914 + 1818: - SUBSTRATE: SANDBLASTED STEEL

1° COAT
1913 FONDO EPOX 2K HS GRIGIO RAL 7035
1889 HARDENER FOR FONDO EPOX 2K HS

2° COAT
1914 INTERMEDIO EPOX 2KST GRIGIO
1915 HARDENER FOR INTERMEDIO EPOX 2K ST

3° STRATO
1818 POLIURETANICO EXTRA L.
HARDENER

Nominal dry film thickness
380 µm

Duration without defects
480 h Salt Spray
240 h Continuos Condensation

Certified System		
C5 L	**Up to 7 years**	Environment with VERY HIGH corrosivity
C4 M	**7 - 15 years**	Environment with HIGH corrosivity
C3 H	**15 - 25 years**	Environment with MEDIUM corrosivity

SYSTEM 1200 + 1914 + 1818: - SUBSTRATE: SANDBLASTED STEEL

1° COAT
1200 ZINCANTE EPOX 2K GRIGIO
1888 HARDENER FOR ZINCANTE EPOX 2K

2° COAT
1914 INTERMEDIO EPOX 2KST GRIGIO
1915 HARDENER FOR INTERMEDIO EPOX 2K ST

3° STRATO
1818 POLIURETANICO EXTRA L.
HARDENER

Nominal dry film thickness
260 µm

Duration without defects
1440 h Salt Spray
720 h Continuos Condensation

Certified System		
C5 H	**15 - 25 years**	Environment with VERY HIGH corrosivity
C4 VH	**More than 25 years**	Environment with HIGH corrosivity

SYSTEM 1806 + 1818: - SUBSTRATE: GALVANIZED SHEET

1° COAT
1806 FONDO EPOX
1871 HARDENER FOR EPOX

2° COAT
1818 POLIURETANICO EXTRA L.
HARDENER

Nominal dry film thickness
160 µm
without galvanisation

Duration without defects
240 h Salt Spray
120 h Continuos Condensation

Certified System		
C4 L	**Up to 7 years**	Environment with HIGH corrosivity
C3 M	**7 - 15 years**	Environment with MEDIUM corrosivity

Products

1200
ZINCANTE EPOX 2K

TWO-COMPONENT EPOXY GALVANISER

Two-component galvaniser based on epoxy resin and polyamide hardener with **metallic zinc content over 80% higher** than dry film.

Curing ratio: 100:10 in weight
Hardener B: 1888 for ZINCANTE EPOX 2K

Dry film appearance:	matt
Pot-life:	2 h
Dust free:	15 - 20 min
Touch dry:	1 - 3 h
Through drying:	8 - 12 h
Recoating	min12 h, no time limit
Recommended thickness:	50 - 70 µm dry film
→ Dilution :	20% - 30% with 1612 DIL EPOX
→ Cover rate:	2,5 – 3,5 m²/kg with 50 - 70 µm dry film

1914
INTERMEDIO EPOX 2K ST

TWO-COMPONENT EPOXY INTERMEDIATE

Two-component high solid epoxy paint, especially suggested for high-thickness applications in anti-corrosion cycles. Can be recoated with most coating products.

Curing ratio: 100:15 in weight
Hardener B: 1915 for INTERMEDIO EPOX 2K ST

Dry film appearance:	matt
Pot life:	4 h
Dust free:	50 - 60 min
Touch dry:	5 - 6 h
Through drying:	24 - 36 h
Recoating:	after 12h
Max chemical resistance	after 7 gg
Recommended thickness:	150 - 200 µm dry film
→ Dilution :	5% max with 1612 DIL EPOX
→ Cover rate:	2,0 - 3,0 m²/kg with 2 coats

1913
FONDO EPOX 2K HS

TWO-COMPONENT, ANTI-CORROSION EPOXY PRIMER

Two-pack epoxy-polyamide primer. Universal type anti-corrosion product, based on zinc phosphate, recoatable with most of the surface coatings. The high content of zinc phosphate ensures excellent protection against corrosion and rust.

Curing ratio: 100:20 in weight
Hardener B: 1889 for FONDO EPOX 2K HS

Dry film appearance:	matt
Pot-life:	2 h
Dust free:	30 - 40 min
Touch dry:	4 - 5 h
Through drying:	24 - 36 h or 30 min at 80 - 100°C
Max chemical resistance:	after 7 gg
Recoating:	from 24 h to 10days
Recommended thickness	80 - 120 µm dry film
→ Dilution :	15 - 20% with 1612 DIL EPOX
→ Cover rate:	3 - 4 m²/kg with 2 coats

1806
FONDO EPOX

ANTI-CORROSION EPOXY PRIMER

Two-pack epoxy-polyamide primer. Universal type anti-corrosion product, based on zinc phosphate, recoatable with most of the surface coatings.

Curing ratio: 100:20 in weight
Hardener B: 1871 for EPOX

Dry film appearance:	matt
Pot-life:	4 h
Dust free:	30 - 40 min
Touch dry:	4 - 5 h
Through drying	24 - 36 h or 30 min at 80 - 100°C
Max chemical resistance:	after 7 gg
Recoating:	between 6 - 36 h without sanding
Recommended thickness:	80 - 120 µm dry film
→ Dilution :	spray gun: 15 - 20% with 1612 DIL EPOX roller, brush: 10% with 1612 DIL EPOX
→ Cover rate:	3 - 4 m²/kg with 2 coats

1818
POLIURETANICO EXTRA LUCIDO

TWO-PACK POLYURETHANE TOP COAT

Gloss polyurethane finishing coat based on polyester resin and isocyanate adduct.

Curing ratio: 100:50 in weight
Hardener B: 1873 for ACRYLIC/PU NON-YELLOWING
1882 for ACRYLIC/PU NON-YELLOWING RAPID

Dry film appearance:	glossy
Pot-life:	4 h
Dust free:	20 - 30 min
Touch dry:	5 - 6 h
Through drying:	24 h or 30 – 60 min at 60°C
Max chemical resistance	after 7 gg
Recommended thickness:	40 - 50 µm dry film
→ Dilution :	5% max with 1611 DIL EXTRA PU, 1653 DIL X ACRILICI
→ Cover rate:	5 - 6 m²/kg with 2 coats

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Founded in 1962 in San Pietro di Feletto (Treviso), in the heart of the North East, IMPA is today one of the most important Italian companies in the market of paints and varnishes. A modern company standing out for the professionalism, creativity and commitment with which it has developed services and products of excellence for over 60 years in the decorative, industry and car refinish market sectors.

MARKET SECTORS

BUILDING

We embrace the construction sector by providing professionals with products for every area of construction. We meet requirements for building performance as well as the health of occupants.

FIRE PROTECTION

The research and development lab is constantly working to address and anticipate regulatory requirements in the personal safety sphere. This drive towards innovation has led to the creation of the Barrier range, a product line dedicated to fire protection.

CAR REFINISH

We support the automotive sector by researching products that meet the requirements of large groups and small workshops alike.

NAUTICAL

Research in diverse sectors has always made us stand out: our combined expertise in the bodywork and industrial sectors has now led to the creation of a product line dedicated to the nautical sector, ensuring exceptional performance in extreme conditions.

INDUSTRY

Modern dynamic manufactures have an exceptional resource in our industrial range, with products designed for large coating

IMPA CONTEMPORARY IDEAS

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