



RELIABLE LONG-TERM CORROSION PROTECTION

IGP-KORROPRIMER - the right primer for every surface.





Optimal protection

The environmentally friendly and highly durable powder coating systems from IGP provide a high level of corrosion protection in compliance with industrial and construction standards such as DIN 55633 (coating materials, corrosion protection of steel structures by powder coating systems).

Their efficacy is further ensured via product certifications and compliance with the Qualisteelcoat guidelines. Especially in metal construction this is an important component in meeting the strict requirements of DIN EN 1090 (design of steel and aluminum supporting structures).

Corrosion factors

The best-known type of corrosion is the formation of rust on iron. Iron oxide is a solid that continues to grow on the metal as a bulky, porous coating, negatively affecting its load-bearing capacity, strength, and toughness. However, corrosion is not limited to steel substrates. Due to the influence of chlorides in combination with high humidity, it also occurs on coated aluminum substrates as filiform corrosion.

FACTORS, EFFECTS, AND SOLUTIONS

THE CAUSES OF CORROSION

According to estimates by the World Corrosion Organization, the annual cost of corrosion and its effects in industrialized countries is as much as 3.5% of gross national income.

According to DIN 50900, corrosion is defined as "the destruction of metals through chemical or electrochemical reactions with their environment". This environment results from natural conditions such as the atmosphere, precipitation frequency, and proximity to rivers or the sea. Corrosion can also be caused by residues from the individual metalworking stages, which no primer can prevent.

Corrosion on steel and aluminum structures can be prevented by applying organic coating systems. IGP's two-coat powder coating systems specifically protect substrates such as steel, galvanized steel, and aluminum from the various forms of corrosion. These systems consist of **IGP-KORRO-PRIMER**, a corrosion-inhibiting and adhesion-promoting powder primer, and a weather-proof, UV-resistant powder coating.



Leidschenveen Bridge, The Hague



Tip

The lower the temperature during curing, the less exhalation will occur. This is why **IGP-KORROPRIMER 1808** (minimum curing temperature 140°C) is also a beneficial option for exhalating substrates.

Zinc-free

ECOLOGICAL AND ECONOMICAL
The **IGP-KORROPRIMER** range does not contain zinc. There is a simple reason for this: The zinc content in powder coatings is never high enough to ensure active corrosion protection. Therefore, zinc, as a heavy metal subject to labeling, actually makes powder coatings uneconomical due to its high specific weight – without increasing their protective effect.

PRODUCT OVERVIEW

THE RIGHT PROTECTION FOR EVERY SUBSTRATE

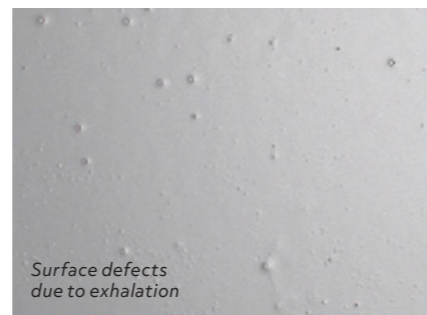
ADVANTAGES AND AREAS OF APPLICATION

CORROSION PROTECTION ON ALUMINUM AND STEEL

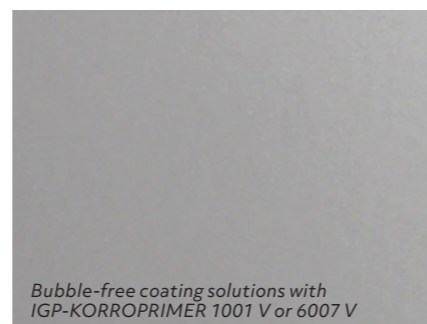
The corrosion-inhibiting **IGP-KORROPRIMER** range is particularly impressive thanks to its excellent resistance to chemicals and very good mechanical properties. These primers are suitable for finishing with all IGP powder coatings as well as other top-coat systems.

IGP-KORROPRIMER FOR EXHALATING SUBSTRATES

The V versions of the IGP primers are specifically designed for galvanized steel and other exhalating substrates, and are suitable for most common pretreatments. They allow the porous zinc surface to exhalate before cross-linking, resulting in smoother surfaces with fewer imperfections.



Surface defects due to exhalation



Bubble-free coating solutions with IGP-KORROPRIMER 1001 V or 6007 V

IGP-KORROPRIMER 10


A classic modern primer based on epoxy resins – specially developed for steel substrates. Its strong cross-linking characteristics ensure excellent adhesion to the substrate and, thanks to its barrier effect, it also guarantees the highest possible corrosion protection. We recommend 1001 V for use on galvanized steel (or other exhalating substrates).

IGP-KORROPRIMER 18

The thicker the substrates, the greater the benefits of using a low-temperature epoxy primer. Thanks to its excellent corrosion protection properties, the innovative **IGP-KORROPRIMER 1808** offers enormous potential savings. With curing conditions from 140°C, it can both reduce energy costs and optimize process times. In combination with low-temperature top coats, it thus creates the basis for an ecologically sound coating system for solid structural steel components.

IGP-KORROPRIMER 60

This universal primer is the perfect product for a wide range of applications. Thanks to its polyester resin base, it offers high UV resistance, very good corrosion protection, and perfect edge coverage. The V version is also suitable for use on exhalating substrates.

Product overview				
Substrate	IGP corrosion protection systems	Curing conditions (object temperature)	Shades	IGP article number
Steel	IGP-KORROPRIMER 10 1001	190°C / 10 – 15 min 180°C / 20 – 25 min	Light gray approx. RAL 7035 Traffic gray B approx. RAL 7043	1001A70354A00 1001A70434A00
	IGP-KORROPRIMER 10 1001 V for galvanized steel	190°C / 10 – 15 min 180°C / 20 – 25 min	Iron gray approx. RAL 7011 Tele gray 4 approx. RAL 7047	1001A70114V00 1001A70474V00
	IGP-KORROPRIMER 18 1808 Low-temperature system 	150°C / 10 – 15 min 140°C / 15 – 20 min	Light gray, approx. RAL 7035	1808A70354A00
Steel & Aluminum	IGP-KORROPRIMER 60 6007 V for galvanized substrates	190°C / 8 – 12 min 180°C / 10 – 15 min 170°C / 15 – 20 min	Pebble gray, approx. RAL 7032 Iron gray, approx. RAL 7011	6007A70324V00 6007A70114V00

READY FOR ANY CORROSIVE LOAD

The DIN 55633 standard takes into account all key factors for adequate corrosion protection by means of powder coating systems. It thus complements and closely relates to the DIN EN ISO 12944 standard, which deals exclusively with protection by means of liquid coating systems. Both standards characterize atmospheric environments in terms of corrosion categories based on mass loss data for uncoated steel in the first year of weathering. The following table will help you select the correct coating structure.

Tips

For areas with lower protection requirements in accordance with corrosion category C2, single-coat IGP interior and exterior grades can be used. For galvanized surfaces, chemical pretreatment (phosphating or organosilicon coating) is recommended.

For coating of spray-galvanized parts, **IGP-KORROPRIMER 1001 (V version)** is the first choice to obtain a smooth surface.



Corrosion category	Examples (exterior)	Examples (interior)	Duration of protection**		Test method in hours		Recommended structure			
			Class	Years	DIN EN ISO 6270-2 Water condensation	DIN EN ISO 9227 NSS	Iron phosphating	Blasting SA 2½	Hot-dip galvanizing + sweep blasting	Hot-dip galvanizing + passivation
C3 moderate	Urban and industrial atmospheres with moderate sulfur dioxide pollution; coastal areas with low salinity	Production rooms with high humidity and some air contamination, e.g. food processing plants, laundries, breweries, dairies	Low	Up to 7	48	120	○ 80 µm TC	● 80 µm TC	● 80 µm TC	● 80 µm TC
			Medium	7-15	120	240	○ 80 µm Primer + 70 µm TC	● 80 µm TC	● 80 µm TC	● 80 µm TC
			High	15-25	240	480	Must be tested individually	● 80 µm Primer + 70 µm TC	● 80 µm TC	● 80 µm TC
			Very high	> 25	480	720	Not recommended	Not recommended	○ 60 µm Primer + 70 µm TC	● 80 µm TC
C4 severe	Industrial and coastal atmospheres with a moderate salt load	Chemical plants, swimming pools, coastal shipyards, and boat harbors	Low	Up to 7	120	240	○ 80 µm Primer + 70 µm TC	● 80 µm Primer + 70 µm TC	● 80 µm TC	● 80 µm TC
			Medium	7-15	240	480	Must be tested individually	● 80 µm Primer + 70 µm TC	● 60 µm Primer + 70 µm TC	● 80 µm TC
			High	15-25	480	720	Not recommended	● PE-0015	● 60 µm Primer + 70 µm TC	● 60 µm Primer + 70 µm TC
			Very high	> 25	720	1440	Not recommended	Not recommended	Must be tested individually	● 60 µm Primer + 70 µm TC
C5 extreme	Industrial areas with high humidity and an aggressive atmosphere and coastal atmospheres with a high salt load	Buildings and areas with almost permanent condensation and high pollution	Low	Up to 7	240	480	Not recommended	● 80 µm Primer + 70 µm TC	○ 60 µm Primer + 70 µm TC	● 80 µm TC
			Medium	7-15	480	720	Not recommended	Not recommended	● PE-0017/18	● 60 µm Primer + 70 µm TC*
			High	15-25	720	1440	Not recommended	Not recommended	● PE-0017/18	● 60 µm Primer + 70 µm TC
			Very high	> 25	-	-	Not recommended	Not recommended	Not recommended	Not recommended

PE-0015 **IGP-KORROPRIMER 1001**
 PE-0017 **IGP-KORROPRIMER 1001**
 PE-0018 **IGP-KORROPRIMER 6007**

Underlying standards:
 DIN 55633-1:2021-03
 DIN EN ISO 12944-2:2018-04 (Classification of environmental conditions)
 DIN EN ISO 9227:2017-07
 DIN EN ISO 6270-2:2018

● recommended in accordance with DIN 55633
 ● IFO tested and approved
 ○ in-house tests according to DIN EN ISO 9227
 TC = top coat

* Single-coat alternative: PE-0183/0160/0159 HD1 C4H, chemical
 **The duration of protection is the expected time until the first major repair. It is not a warranty period.



Salt spray test according to DIN EN ISO 9227

AUTHORIZED INSPECTORS

CORROSION PROTECTION – TESTED AND CERTIFIED

Professionally executed corrosion protection measures help to prevent damage. IGP's DIN-certified coating inspectors provide advice and training for IGP's customers. They are authorized to carry out corrosion protection measures, repair corrosion damage, and certify the results. Thanks to standardized testing equipment, IGP's specialist personnel are also able to carry out corrosion tests on coating structures in the company's own laboratory.

TEST STANDARDS

The material tests are carried out in accordance with DIN 55633 or DIN EN ISO 12944 and documented for the customer.



OVER 50 YEARS OF EXPERIENCE

EXPERTISE AND KNOWLEDGE TRANSFER

IGP has been involved in the field of corrosion protection for over 50 years. This includes continuous product development based on the latest findings, as well as certification of IGP's products and services in accordance with official standards. The company's own specialist personnel receive ongoing training and further education to ensure the quality of all products and processes. IGP's customers can also benefit from their many years of experience at specialist seminars and on customized training courses. We would be happy to provide you with further details of these offers.

IGP's know-how and the advantages for you

- Process reliability with **IGP-KORROPRIMER** systems
- Maximum efficiency, adapted to the specific process parameters
- Sustainability through optimum coating system structures
- Certified products and services in accordance with official standards

IGP quality standards

QUALISTEELCOAT

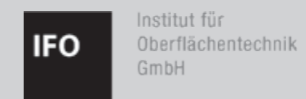
The IGP corrosion protection systems have successfully passed Qualisteelcoat tests with the ST2 and HD2 system structures. The **IGP-KORROPRIMER** 10 and 60 systems are approved with various IGP top coats. IGP will gladly provide the corresponding certificates for these corrosion protection systems on request.



IGP quality standards

INSTITUT FÜR OBERFLÄCHENTECHNIK

The **IGP-KORROPRIMER** range is additionally tested for quality assurance by the DIN EN ISO/IEC 17025-accredited laboratory of the Institut für Oberflächentechnik (Institute for Surface Technology). IGP will gladly provide the corresponding test reports upon request.



IGP quality standards

QUALICOAT INTERNATIONAL – CERTIFICATION BODY

The **IGP-KORROSYSTEM 60** system is a Qualicoat-certified two-coat system (No. P-1165) for aluminum substrates consisting of **IGP-KORROPRIMER 60** and a freely selectable, Qualicoat-tested IGP top coat.



EFFICIENT, PRODUCTIVE, AND FLEXIBLE

HELPFUL TIPS FOR APPLICATION

“GELLING” OF THE PRIMER COAT

Two-coat application processes are laborious and costly. IGP uses the term “gelling” to describe the first point at which the object reaches the recommended object temperature in accordance with the IGP technical data sheets. Gelling does not involve complete bonding of the primer coat, which nevertheless remains stable (no more edge loss). Direct application of the top coat reduces both the time and cost of the coating process. The corresponding processing guidelines are available on the IGP website (igp-powder.com).

“POWDER-IN-POWDER” COATING PROCESS

IGP-KORROPRIMER 10 is particularly suitable for the “powder-in-powder” coating process in combination with IGP-DURA[®]face 5807. Applying the top coat onto the uncured primer coat and subsequently curing both layers simultaneously results in an extremely efficient process. The corresponding processing guidelines are available on the IGP website (igp-powder.com).



Substrate thickness and required time / temperature combinations				
Furnace – circulating air temperature 200°C				
Required object temperature for gelling	140°C	160°C	180°C	200°C
Substrate thickness 0.8 mm	2.2 min	3.2 min	4.4 min	7.9 min
Substrate thickness 3.0 mm	6 min	7.3 min	11.1 min	~25 min
Substrate thickness 20.0 mm	16 min	22 min	33 min	>60 min

For each substrate thickness, the table shows the required combination of circulating air temperature in the furnace and curing time until the specific object temperature is first achieved (gelling).

	Coverage	
	IGP-KORROPRIMER	Zinc-based primer
Specific weight	1.6 g / cm ³	3.2 g / cm ³
Coating thickness	70 µm	70 µm
Coating result	8.9 m ² / kg	4.4 m ² / kg

DURABLE SURFACES

REFERENCES



Town hall
Volketswil, Switzerland

Architect:
Müller Sigrist Architekten
Coater:
Jürg Hofstetter AG
Year of construction:
2014
Powder:
IGP-KORROPRIMER 1001,
IGP-DURA[®]xa/
4201E90066A3F

Photographer: Roger Frei



Bus station
Winterthur, Switzerland

Architect:
Stutz + Bolt Partner AG
Year of construction:
2012 / 2013
Powder:
IGP-KORROPRIMER 1001,
IGP-HWFclassic 5903/5909

Photographer: Hans Ege



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