



Plascoat®

THE ART OF PROTECTION

Plascoat PPA 571

Corrosion protection for metal

Protection contre la corrosion des métaux

Korrosionsschutz für Metall

Protezione anticorrosiva dei metalli

Protección contra la corrosión de los metales

حمایه للتآكل المعادن

金属防腐

 PPA571

www.plascoat.com

BPA
FREE

VOC
FREE

PHTHALATE
FREE

How good is the protection given by Plascoat® PPA 571..?



Plascoat® PPA 571 will outlast most, if not all, traditional coating powders in providing long-term protection for metal against harsh climates without damaging the environment. It has a proven track record of unbeatable performance in a wide range of applications.

The corrosion protection given by Plascoat® PPA 571 is second to none and it is amongst the most versatile and durable coatings available on the market today.



Developed by Plascoat Systems, the world leader in thermoplastic powder technology, Plascoat® PPA 571 is amongst the most versatile and durable coatings available on the market today.

Whatever the application, Plascoat® PPA 571 provides:

- Excellent environmental credentials – no bisphenol A (BPA free), no VOCs, no TGIC, no phthalates, no isocyanates, no halogens and no heavy metals

- Approvals for contact with food and drinking water
- Superior resistance to salt, sea, sand and sun
- Vandal and graffiti resistance
- Sound and electrical insulation properties
- Excellent coverage of edges and welds
- No requirement for a primer
- Very low smoke in event of fire.



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Fencing



The abrasion rate of Plascoat® PPA 571 is half that of standard coatings and the fading rate is 1/20th.



▲ Successful 15-year field test in Dubai.

Thousands of kilometres of fencing in the harsh climates of the USA, Middle East and Australia have been successfully coated with Plascoat® PPA 571.

In this environment, resistance to high UV, intense heat, salt, sea and desert storms is key. Traditional coatings in these conditions do not last well, as many long-term field tests have shown.

▼ Gas pipeline protection fence in the Middle East after 12 years.



▲ Aluminium fencing coated in green polyester after just 18 months by the sea in Brisbane, Australia.

Live tests in the US have shown that the salt spray corrosion rate and the abrasion rate of Plascoat® PPA 571 are half those of standard coatings and the fading rate is 1/20th.

Plascoat® PPA 571 is used all over the world for chain link, ornamental and security fencing and meets all the requirements of ASTM F1063, 668 and 626.

▼ The same fence re-coated in Plascoat® PPA 571 after 15 years.



Potable water pipes and fittings



Winning world-wide water industry support.



Plascoat® PPA 571 and PPA 571H have been approved for contact with potable water in the UK, USA, Australia, Germany, Belgium, Hong Kong and France. Pressure loss of PPA 571 lined pipes is nearly half that of concrete.



Plascoat® PPA 571 is used extensively for the external and internal coating of water pipes, from the Swiss Alps for carrying drinking water and snow-making to gas pipes in the Pacific North West.

The Swedish Corrosion Institute has provided test results from an 11-year field test that demonstrates the exceptional performance of coatings such as Plascoat® PPA 571.

▶ Rusting	Zero
▶ Blistering	Zero
▶ Cracking	Zero
▶ Flaking	Zero
▶ Spread of defects from circular hole	Zero
▶ Adhesion	100%

These results have indicated a buried pipe lifetime of over 200 years.



▲ Ductile iron pipe with deteriorated PVC tape wrap after 5 years.

▼ Plascoat® PPA 571 after 5 years.



▲ Plascoat® PPA 571 withstands UV, sulphuric acid, chlorides and slurries for a ferric cure line in Arizona.

▼ Coated water fittings in the Arctic.



▲ PPA 571 coatings on slurry and sewage pumps and fittings.



Plascoat® PPA 571 has a wide range of potable water approvals such as NSF/ANSI 61 and conforms to the requirements for FDA food contact.

▼ Plascoat® PPA 571 lined pipes for desalination plants.



Playgrounds



Safe, tough and graffiti resistant.

Automotive



Plascoat has its own facilities for cyclic corrosion (CCT), salt spray and stone chip testing.



▲ The coating used in the playground at the Jumeirah Beach Hotel in Dubai has sailed through a 6-year field test.



▲ Playground in San Sebastian, Spain withstands Atlantic rollers and salt conditions after 8 years.

The equipment found in children's playgrounds is often prone to harsh climatic conditions as well as the wear and tear of rigorous and continual use.

Plascoat® PPA 571 is ideal in these environments. It is durable but also smooth to touch and graffiti can be easily wiped clean.*

▼ Plascoat® PPA 571 provides a smooth, rolling surface for skateboards.

▼ Graffiti can be wiped clean.*



*Using appropriate cleaners



Plascoat® PPA 571 is used in automotive applications because of its high resistance to chipping and corrosion from salt and grit. However, it also has a tactile quality, which makes it ideal for coating interior or exterior fittings such as steering wheel or seat adjustment handles. This provides comfort as well as protection.

Comprehensive testing is undertaken for salt corrosion, collision resistance, chemical and UV resistance as well as performance under extreme heat and cold and in a "gravelometer" (SAE J400).



▲ Plascoat® PPA 571 is particularly resistant to road salt and low temperature conditions.

▼ Petrol tank filler pipe coated in Plascoat® PPA 571 for stone chip protection.



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Street furniture



Many items of street furniture have benefited from Plascoat® PPA 571, which has consistently out-performed traditional coatings.

Lampposts



Plascoat® PPA 571 is one of only three out of 52 corrosion protection systems that can extend the life of a lamppost by up to 50 years.

◀ Lampposts in Bilbao after 10 years.



▲ Grill coated in Plascoat® PPA 571.



▲ Grill coated in polyester.

Bus shelters, cycle racks, benches, waste bins, road culverts, balustrading and many other items of street furniture have benefited from Plascoat® PPA 571, which has consistently out-performed traditional coatings in these applications.

Telephone boxes by the sea in Australia after 6 years.

▼ Plascoat® PPA 571 coating still as new after 6 years.



▼ Deteriorated polyester coating after 6 years.



▼ A Plascoat® PPA 571 coated bench by the sea in Australia still looks new after 5 years.



Lampposts in particular need extra protection at ground level where dogs frequently contaminate the environment. Trials at the Swedish Corrosion Institute have proved that thermoplastic coatings such as Plascoat® PPA 571 are one of only three out of 52 corrosion protection systems that can extend the life of a lamppost by up to 50 years.



▲ Graffiti and fly-poster resistant lampposts in Sweden.

▼ Lampposts in particular need extra protection at ground level, where dogs frequently contaminate the environment.



Construction



It is essential that steel and aluminium in construction projects are resistant to corrosion; Plascoat® PPA 571 achieves this goal.



▲ Stadium seating in Bahrain.

► Suspension cable covers after 10 years in northern Spain.

▼ Concrete reinforced piles in Scandinavia.



It is essential that steel and aluminium in construction projects are resistant to corrosion for many years without costly maintenance programmes. Plascoat® PPA 571 achieves this goal through a unique combination of performance benefits provided by a low-smoke, zero-halogen, non-toxic coating system.

Typical uses range from balustrades to concrete reinforcement piles and suspension bridges.

In the event of fire, the smoke generation from Plascoat® PPA 571 is both low and slow. In addition, the smoke is of extremely low toxicity. This makes Plascoat® PPA 571 often the coating of choice in tunnels and enclosed public buildings.



◀ Plascoat® PPA 571 in good condition after 20 years.

◀ Footbridge in San Sebastian, Spain.

◀ Liquid paint re-coated three times.

▼ No corrosion under the coating after 12 years



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Hand rails for the disabled



Swimming pools



Offshore and sub-sea



In many public buildings around the world there is a growing requirement for hand rails to provide grip and a warm 'feel'.

Legislation around the world is requiring that swimming pools are secure to avoid accidents. Plascoat® PPA 571 is resistant to the fumes from chlorinated pools.

Plascoat® PPA 571 is one of the few coatings that can be used successfully in marine environments and can withstand years of battering from sea spray and waves.

The rate of fouling from marine life and seaweed is slower compared with many alternative coatings.

Plascoat® also produce a performance range of flame spray Polypropylene and Polyethylene coatings for pipeline field joints.



A wider world of applications



Whatever the application, Plascoat® PPA 571 has long-term field tests to back its credentials.

Technical performance

Plascoat® PPA 571 is a thermoplastic coating powder that can be applied by either fluidised bed dipping or by electrostatic spraying. The following laboratory and field tests have been performed on suitably pre-treated metal:

- Salt spray testing to ASTM B117 has exceeded 20,000 hours with no blistering, cracking, corrosion or flaking.
- Under-film corrosion from a scribe tested to ASTM B117 for 1,000 hours on suitably pre-treated steel is between 0 and 0.5mm.
- Loss of adhesion on testing to ASTM D 3359-A is zero.
- After 2,000 hours QUV ASTM G154-06 (which supercedes ASTM G53), Xenon arc (ASTM G26) or five years in Florida at 45 degrees to the sun by the sea, there is no significant change in colour, gloss or mechanical properties.
- At suitable coating thickness, Plascoat® PPA 571 and PPA 571H will protect metal from impact of stones to automotive specifications (e.g. SAE 400), to water industry standards (WIS 4 52 01 or AS/NZS 4158) and from aggregate slurries (ASTM A926-94).
- Plascoat® PPA 571 has been tested to ASTM A 926-94 (salt and grit). After one million cycles all other coatings (including fusion-bonded epoxy and galvanising) were completely stripped. Over half of Plascoat® PPA 571 coating still remained.
- Independent test results are available from SGS Belgium N. V. which may help to make items coated in Plascoat® PPA 571ES eligible for an insurance-based guarantee scheme as follows:

Rural, urban, industrial, coastal (C1-C4 as defined in ISO 12944 Part 2)
– 10 year minimum.

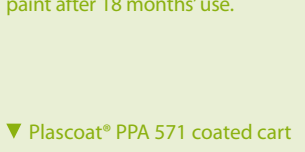
Aggressive industrial, offshore (C5-1, C5-M as defined in ISO 12944 Part 2)
– 5 year minimum.



How long does your coating last..?



▲ Storage cart coated in liquid paint after 18 months' use.



▼ Plascoat® PPA 571 coated cart after 18 months' use.



Plascoat® PPA 571 thermoplastic powders are being used for a wide variety of applications – including fire extinguishers, battery boxes, fan-guards, tanks, school furniture, shopping trolleys, stadium seating and submersibles.

Whatever the application, Plascoat® PPA 571 has undergone long-term field tests to prove that it can provide:

- A long life with superior corrosion and abrasion protection.
- Excellent grip, feel and electrical insulation.
- Resistance to chipping and attack from light, pollutants, chemicals and vandals.
- An attractive, environmentally-friendly finish.

Fire properties



In the event of fire Plascoat® PPA 571 has low smoke density and toxicity properties.

Low mould growth and fouling rate



Plascoat® PPA 571 contains no reactive ingredients and provides little 'anchor' or food for seaweed, barnacles, mildew and lichen.

Plascoat® PPA 571 and PPA 571ES are composed almost entirely of compounds of carbon, hydrogen and oxygen. Unlike many paints, they contain:

- no reactive ingredients
- no phthalates
- no bisphenol A
- no halogens
- no isocyanates
- no heavy metals.

On burning, therefore, the fumes are principally made up of carbon dioxide and water. As a result, the toxicity of the fumes in a fire situation is extremely low. For instance:

- The index of toxicity of the smoke generated is 1.78 according to test method NES 713. This is well below the Royal (British) Navy requirement of 5.

- The index of toxicity of the smoke according to the test method BS 6853:1999 used for projects in the London Underground is 0.21. This is well below even the most stringent requirements of an index of 1.

Furthermore, the rate of generation of smoke and the density of the smoke are relatively low:

- The US Railroad requires that the smoke generated should be less than an index of 100 at 1.5 minutes, 200 at 4 minutes etc. The smoke index generated from PPA 571 when burning is only 110 after 20 minutes.
- The smoke density index according to the test method BS 6853:1999 used for projects in the London Underground is 1.13 (A0 (ON)) compared to a requirement of 2.6.

Under BS 476, Plascoat® PPA 571 can be considered to be Class 0 and though not specifically flame retardant, more than meets the requirements for coatings in tunnels, enclosed buildings and on passenger trains.

Certificates are available for Plascoat® PPA 571 or PPA 571ES. Please contact Plascoat for copies.

▼ Handrail in the London Underground.



Plascoat® PPA 571 contains no reactive ingredients and provides little 'anchor' or food for seaweed, barnacles and lichen. Whilst not specifically anti-fouling, the rate of growth of algae, fungus, mildew and marine flora or fauna is slower than on many other coatings.

As a result the coating will look like new for many years.

Further details can be obtained from Plascoat.

▼ Polyester coated fence with lichen after 10 years.



▼ Plascoat® PPA 571 coated fence with no lichen after 15 years.



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Overspray



▲ A 1mm plate coated in Plascoat® PPA 571 and polyester after an impact of up to 12 Joules.

Given the correct procedures, Plascoat® PPA 571 can be over-sprayed with polyester powder to provide an exceptional coating, offering:

- High scratch resistance
- Flexibility
- High impact strength
- An almost infinite variety of colours and finishes.



► Most of our technical datasheets, material handling datasheets and guides are available on the Plascoat website. For any other requests please contact Plascoat.

Graffiti removal



Many metro, subway and city authorities around the world including the Paris Metro and Stockholm City have confirmed that graffiti and fly-poster adhesives can easily be removed from Plascoat® PPA 571 coatings.

Plascoat® PPA 571 is impermeable to paints. Therefore, often you can wipe the graffiti off with just a cloth (but a small amount of solvent on the cloth will help).

Standard water-based graffiti removal products remove the paint within just a few wipes!

Pre-treatment

Plascoat® PPA 571 is a high-performance coating. If the coating is required to last for many years, it is essential that the pre-treatment is also designed for long-term protection.

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Plascoat® PPA 571 will survive many years outside in adverse environments if undamaged. However, should damage through to the metal occur at any stage it is necessary that the pre-treatment allows the coating to continue to adhere to the metal for as long as possible.

All metal items should therefore be clean, degreased and free from rust. ISO 12944 parts 3 and 4 provide useful information on design and metal preparation. Plascoat® recommend the use of grit-blasting at least to Swedish Standard 2 1/2 for dip coating or the use of Zinc Phosphate systems for

spray coating. Certain chromates (if compliant with local authority legislation) and resin-based systems can also be used.

If iron phosphate is used, Plascoat® recommend the use of a suitable rinse. Plascoat® have found exceptional results with certain silane-based rinses and pre-treatments.

Further information can be obtained from Plascoat®.





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Plascoat® has a policy of exceeding market expectations in terms of quality and technical liaison with customers world wide for all its products and services.

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