

Product Data Sheet V3 08.17.2023

DESCRIPTION	PERMACORR® hybrid polymeric phosphate-cementitious coating is a waterborne single-coat protective coating which forms two layers, a protective iron phosphate and a cementitious coating.
RECOMMENDED USES	PERMACORR® is specifically designed for use on carbon steel as an anti-corrosive coating
PRODUCT FEATURES	Carbon steel substrates are passivated to form a non-rusting, insoluble metal phosphate and a tough cementitious layer forms over the passivated carbon steel. The cementitious layer exhibits properties of a self-healing coating: it may be scratched or damaged down to the steel substrate surface without re-rusting of the exposed steel.

TECHNICAL DATA

COMPONENTS	Two (Part A, Part B)
MIXING RATIO	1:1 (See application details; plural feed application only)
VOLUME SOLIDS	85%* (*because of the chemical reaction, final thickness is greater than the solids volume would indicate)
DRYING TIMES	Touch: 0.5-5 minutes Overcoat: 8-12 hours with solvent-based, 4 hours with waterborne Full cure: 24 hours
COLOR	Gray (RAL 7047*), Light Gray (RAL 9018*) White (RAL 9010*). *Note: Approximate colors; color changes during cure.
COVERAGE	128 sq ft per gallon* (3.5M ² per liter) at 10 mil/250micron
DFT Recommendation	10 mil/250-micron minimum, 15mil/380-micron single coat
VOC	Less than 1g/l
HAPS CONTENT	Zero
WEIGHT PER GALLON	14lbs (Mixed) 1.3kg/l
POT LIFE	Approx. 1-2 minutes
PACKAGING	4.5-gallon plastic pails (9-gallon unit; 2 pails, Approx. 50lbs per pail) 18L
SHELF LIFE	12 months from date of manufacture
STORAGE	Protect from frost and sun, do not store below 32°F, or above 85°F.
THINNER/CLEANER	Thinning is not recommended. Use PERMACORR® Gun cleaner
OUTLINE APPLICATION DETAILS See separate application instructions	Spray: Plural feed high pressure proportioner with an impingement mixer gun (e.g. Graco Fusion, PMC PX7*). Pressure: 180-210 bar spray (Approx. 3000psi) nozzle: 20-24 thou. *All Stainless/acid resisting components and lowers. (Contact Advanced Polymerics Inc. for details) Cartridge gun: e.g. Medmix Mixpac spray, Mixcoat Flex. Atomization air pressure 75-80psi (Contact Advanced Polymerics Inc. for details) Note: The mixed components are semi-transparent and turn fully opaque on curing. Curing involves an exothermic chemical reaction; the substrate can become measurably warmer to the touch. Due to pot-life limitations, the product cannot be applied by brush or roller.

APPLICATION INSTRUCTIONS

Application Conditions:

Temp/Humidity:

Material: PERMACORR® Parts A and B should be held before use at temperatures between 50°F Minimum and 85°F Maximum (Material should be protected from direct sunlight)

Substrate Surface: 40°F Minimum, 120°F maximum (3°C or 5°F above dew point). At temperatures between 100°F and 120°F Permacorr needs to be sprayed wet, by adjusting the distance to substrate and the speed of traverse. Spraying at higher temperatures may result in a more textured finish. Do not apply at temperatures above 120°F. Applying over 120°F could stop the passivation reaction. Visibly wet surfaces or rain precipitation is not allowed. Air temperature Max 100°F.

Note: Permacorr® is only to be applied to carbon steel. Stainless, high-alloy and galvanized steels do not form the required passivation interaction. Do not apply over zinc-epoxy or zinc silicate.

Surface Preparation:

Grit blast: NACE 3 / SSPC-SP 6 / Swedish/ISO Std Sa2 (Hand tool cleaning by agreement)

Water Jetting, Wet Abrasive Blasting, Vapor Blasting: is acceptable by agreement.

Light to Moderate flash rust with damp surface is accepted. (See NACE No. 5/SSPC-SP 12)

Visible mill scale is not accepted. Loose or powdery flash rust residue is not accepted.

Airless Spray:

1:1 ratio plural spray pump with 30:1 ratio or above (Graco XP35*, Wiwa Duomix 230* or equivalent)

Note: Mixed components have a very short pot-life. Mixing manifold and/or whip-lines are not recommended.

Note: *Airless pumps should be specified acid resistant (Stainless steel components, valves, screens, and hoses) wherever possible. Unused materials should not be left in the equipment for prolonged periods and should be flushed with water daily)

Other equipment as recommended by manufacturer.

Gun: Graco Fusion AP or PMC PX7 or equivalent with impingement mixing.

Spray Tip: 20/20 24/24 thou aperture (Others by agreement)

Cleaning/flushing procedure: Equipment should be cleaned/flushed with clean water for a minimum of 30 minutes followed by flushing with Permacorr Gun cleaner. Acidic residues will damage pump seals and eventually metal components.

Hoses: Standard ¼" or ½" pressure hoses are suitable with standard connectors. Metal parts and connectors (unless stainless) can become clogged during use, due to an accumulation of reactive components. Connections should be visibly checked during cleaning to remove such accumulations. Always purge hoses with water prior to first use.

Low Pressure Spray: Low Pressure plural component spray systems by agreement. (Contact Advanced Polymerics Inc. for details)

Cartridge Gun Application: (Small areas only)

Medmix MIXPAC/MIXCOAT FLEX SPRAY; Nordson EFD (or equivalent) with air atomizer and shortest mixer tube (For details contact Advanced Polymeric Inc.)

Note: PERMACORR® cures with an exothermic reaction. There will be a noticeable rise in temperature on the substrate of a few degrees shortly after application. When purging material through lines and spraygun, the residue may become very hot and give off steam. Take care when handling or use thermal gloves. Any off gassing is in the form of water vapor and is non-hazardous.

TOPCOATS:

Top coating of PERMACORR® with approved topcoats is recommended. Not all topcoats are suitable for use over PERMACORR® Only use topcoats approved by Advanced Polymeric Inc. Whilst the cementitious layer hardens very quickly, it can still release moisture for several hours after application. It is important to follow recoat intervals especially when using solvent-borne topcoats.

Repair Procedure:

Damage, misses, welds etc.

Chip back to firm edge using suitable tools and wire brush. Do not burnish the underlying steel. Re-apply PERMACORR® according to original specifications/application instructions. Feather edges of repair prior to applying topcoat. For small field repairs, contact Advanced Polymeric Inc.

Cleaning of Tools:

Sprayguns should be cleaned after every use. Pay particular attention to build-up in screens or non-return valves. Tools, mixers, and ancillary equipment can be cleaned with water or water-based cleaning agents. Steel tools, nonferrous metals and plated metals may show a degree of permanent discoloration.

Pre-Mixing Prior to use:

Part A and Part B both require mixing before use. Do not use carbon steel mixers or steel containers for mixing. Stainless steel mixer paddles are preferred. Both part A and Part B require a high torque mixer for efficient stirring. e.g. ¼ HP air motor or equivalent. Continuous mixing for approx. 5 minutes is required. When mixing in plastic buckets or original containers, take care not to damage the plastic with the mixer paddle. Plastic shards can and will block the spray equipment. Passing through a 30 mesh filter screen is recommended.

If using hopper-feed on proportioners, it is preferred to agitate the components with slow speed mixing. Without mixing gelation can occur and air can be introduced into the outlet/inlet of the pump.

Waste Disposal:

Although the components are waterborne low toxicity products, local disposal regulations for paint products must be followed.

Not regulated for transport.

Warranty:

Limited product warranty can be found on www.api-smartcoat.com

No specific warranty is implied.

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