

Spécialiste en protection contre la corrosion

Protection specialist against corrosion

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RUST-ANODE® PRIMER

TECHNICAL DATA SHEET PRODUCT #300016

Rust-Anode Primer is an alternative to hot-dip galvanizing and metallization offering comparable performance including sacrificial protection. Technology formulated with a high zinc content in a single component with fast drying. It offers excellent resistance to impact, and immersion. (fresh and saltwater) Recommended for industrial use on new or existing infrastructure in the marine environment, mining, electrical, and transport world. Application up to 99% relative humidity. Applicable on all metals, it can be overcoated if necessary.							
GENERAL INFORMATION							
Unique industrial galvanizing technology of organic zinc-rich, providing an electrochemical bond v	with 88% zinc in the dry layer						
Provides cathodic/sacrificial protection by the same mechanism as galvanizing							
Provides a lifetime comparable to hot-dip galvanizing under the same exposure conditions							
Approved to refurbish the zinc protection of hot-dip galvanized or metalized steel structures							
Suitable for immersion with high resistance in freshwater, saltwater, wastewater or a saline environment							
Single pack, designed to provide an excellent performance applied as stand-alone and do not need to be top-coated							
Moisture cured, allows application regardless of the dew point							
Designed for application directly to surfaces with clean tight rust without any loose or flaking mat	terials						
Low VOC							
Excellent adhesion performance without abrasion on all metals including stainless steel, aluminum and weathering steel (Corten steel) and also used as metallizing sealer							
Ease of application either in a workshop or on-site							
Applicable with standard painting equipment							
Process without metal distortion							
Ability to be welded							
Recommended by the American Galvanizers Association (AGA)							
Meets DEF STAN 02-713 combustion toxicity test							
Meets the performance requirements of ASTM A-780							
Complies with the composition and performance requirements of SSPC-SP20 TYPE II LEVEL 1							
Zinc dust meets or exceeds the requirements for ASTM D520, Type III							
Can be recovered by itself at any time without abrasion							
Possibility of being covered with a suitable coating							
STORAGE	CERTIFICATIONS AND APPROVALS						
Keep in a dry area, between 5°C and 20°C (41°F to 68°F)	MTQ and MTO certified (Ministry of Transportation Québec and Ontario, Canada) Recommended by the American Galvanizers Association (AGA) among other products, for complying						
Keep away from direct sun exposure	With the ASIM A780 standard Hydro-Québec approval - SN31.101 (maintenance of electrical substations) Hydro-Québec approval - TET-LIA- N-SUP0012 (Towers maintenance) (CEIA approval (The Canadian Enod Inspection Agency)						
Opened pail: Few months in standard storage conditions							
RECON	IMENDED USE						
APPLICATION SURFACES	EXPERTISES						
New and Existing Steel	Marine Environments / Boats / Barges / Docks						
Weathered Galvanized Structures	Bridges / Foot Bridges/Dams						
Stainless Steel	Electrical Communications Towers						
Aluminum	Buildings / Roofs / Stairs / Ramps / Water treatment plants / Water towers						
Weathered Steel (Corten)	Silo tanks / Food factories / Various structures						
Copper	Military: Vehicles / Boats / Armored - Transport: Trucks / Trailers						
Cast Iron and Aluminum	Paper mills / Chemical plants / Refineries / Mines						
Contact our technical support 1-888-743-2046							
PACKAGING FORMAT	SAFETY						
2 kg (Format 946 ml / 1 US pint)	Consult the safety data sheet before use						
12 kg (Format 5 liters / 1.3 US gallons)	Use adequate percent protective equipment in accordance with regulations						
Solvent: Galvanol [™] (1 liter - 4 liters - 20 liters)	use adequate personal protective equipment in accordance with regulations						

					PERFORMA	NCE CARACTERISTICS				
Drying and curing times Application of 5.0 mils (125 µm) wet						Characteristics				
			35°F (1.7°C)	77°F (25°C)	100°F (38°C)	Zinc Quantity		88% (± 2%) in the dry layer		
		50% relative humidity (RH)		y (RH)	Zinc Purity		± 99.995% purity			
Touch dry			1.5 hours	45 minutes	45 minutes	Ready for use		Single component		
Dry to handle			2.25 hours	1 hour	1 hour	Colour		Matt gray RAL # 7005 (not colorable)		
To recoat		Minimum	4 hours	3 hours	3 hours	Weight		2.50 Kg / dm3 ± 0.1		
Fully gurod		Maximum	unlimited	unlimited	unlimited	VOC (solvents)		285 grams / liter (± 10)		
The drying proc	ess varies denendi	ing on tempera	15 uays	tv	10 uays	Flash	i point	52 C (125.6 F)		
Relative humidi	ity during the appli	cation and drv	ing: minimum 30	'' 1% maximum 99'	%	501	See below for other per	formance characteristics		
	The thickness must be adapted according to the Galvanization Standard ASTM A123					Test name	Standard	Rust-Anode® Primer	Hot-dip Galvanized	
Minimum zinc thickness								Evaluated by ASTM D 610 (rust) and ASTM D714 (blister)		
references	¹ Consult our char	t for minimum	thicknesses reco	ommendation.			ASTM D5894-10 (cold periods)	Rust: none - Classified 10	Rust: none - Classified 10	
						Cyclic Corrosion				
¹ Re	commended min	nimum drv zin	nc thicknesses \	/S steel thickn		20,000	(cold periods)	Blister: none - Classified 10	Blister: none - Classified 10	
	commended min	innunn ur y zin	ie thicknesses	o steer thickin		Immersion corrosion	ASTM G44-99 (2013).	Blister: None - Classified 10	Blister: None - Classified 10	
Steel (mm)	3.2	6.35	12.7	19.1	25.4	(salt water) Results at 90 days	Sodium chloride 3.5%	Rust: <0.03% - Classified 9	Rust: 33% - Classified 2	
Dry Zinc (um)	1/8	1/4	1/2	3/4	200 - 225	Stool complex used for to	-+-			
Dry Zinc (Mils)	2.0 - 3.0	4.0 - 5.0	5.0 - 6.0	6.0 - 7.0	8.0 - 9.0	Surface preparation: SSPC	C-SP10 / NACE 2 / SA 2.5			
IMPO	ORTANT: In an aggr	ressive environ	ment (see above) and / or imme	rsion,	Products tested: Rust-And	ode [®] Primer versus Hot Dip	Galvanization		
	contact o	ur technical su	pport before app	olication		Application of a single coa	at of Rust-Anode® Primer w	rithout any paint coating		
Performances in hot and cold weather	Between -62°C to	+120°C (-80°F	to +250°F)			Test name	Standard	Rust-Anode® Primer		
From –5 ° C to + 37 ° C (23 ° F to + 98 ° F) Application The curing time may vary depending on the ambient temperature and the				Pull-off adhesion	ASTM D4541	1775 PSI 12,24 MPa				
temperature (substrate)	Moisture cured, a	llows applicati	on regardless of	the dew point. 1	he surface	Organic zinc rich	ONGC -1,181/CAN/ CGSB-1.181-92	Conform		
Estimated	must be dry. Provides a comparable lifetime to hot-dip galvanizing under the same exposure					Abrasion	ASTM D4060-14 1000 cycles CS10, load 1000g	116 mg		
performance	conditions					Adhesion	ASTM D3359	58		
Resistance in	High level of resis	tance				Hardness	ASTM D3363	5H		
fresh water	salt water and fresh water See performance tests					impact ASTM D2794, impactor 0,625 inches 100 pounds		No cracks		
immersion	ASTM G44-99(201	13)				Flexibility - Folding -	ASTM D522, tapered	Resistance: 1/4 inch		
Resitance to	PH of 5 5 to 12 5					Plasticity	mandrel 1/4, 180°	Elongation: 15%		
Acids / Bases	No cracking – Allo	we the dilatati	on of the motalli	c support when	hont	Combustion toxicity DEF STAN 02-713		Conform		
High	No cracking - Allo	ws the unatati		c support when	bent	111/	ASTM G154-12a	Little effect		
plasticity	See performance	tests	4 4008			00	ASTM 0134-128	Little	enect	
	ASTM D522, tape A thin layer (40un	red mandrei 1/ n or 1.5 mils dr	(4, 180) (v) can be welded	d without contar	ninating the	Salt Spray	ISO 12944-6/7253	Exce	ellent	
Weldability	weld (X-ray) Can be covered w	ith most paint	products, if nece	essary (Avoid Alk	xyds)	Slip Coefficient and Resistance to Tension Specification for Structural Joints Using High- Meet Class A				
	ex: Polyurethane or Epoxy (Avoid Alkyds)					Creep Resistance	Streng	th Bolts		
	We recommend applying the paint in a time window of no more than 24 hours							I		
	after application.	The recoating	time may vary de	epending on the humidity, the			Chemical Resistance	/ Immersion 30 days		
*if necessary	temperature and	the product ap	plied					Blister	r: none	
If the maximum receivery time is exceeded apply a thin layer of			a thin laver of 2	2 0 mils (50 µm)	Diesel, Ace	tone / Urea	Corrosion: none			
	minimum of Rust-	-Anode Primer,	, and when dry, a	apply your paint	10 mil (50 µm)	,			Adhesion: 100%	
	* Contact our tophnical support					Gaz		Hardness: H		
	* Tests are required							Blister: none		
	The dry film has an excellent conductivity, and the application by electron to the							Adhesion: 100%		
Conductivity	possible	in excellent cor	iouctivity, and th	ie application by	electrostatic is			Hardness: 2H		
, , , , , , , , , , , , , , , , , , , ,	* Contact our technical support before application							Blister: very little		
THEORETICAL COVERAGE						Hydraulic Fluid (Skydrol)		Corrosion: none Adhesion: 100%		
At 1 mil (25μm) dry "1354 Pi² / 12Kg or 125m² / 12kg"						Blister: none Brake Fluid Corrosion: none Adhesion: 100%				
ASTM D2697 - Dry extract by volume 71%								Blister: none		
Consult our calculation of required pails Consult our theoretical cover guide					ide			on: 100%		
(for information only) (for information only)										

SURFACE DECONTAMINATION (VISIBLE AND INVISIBLE CONTAMINANTS)				
Surfaces must be free from grease, cutting oils, drilling oils, or any other visible and invisible contaminants.				
Do not use Galvanol for surface cleaning. The use of products that leave no residue on the surfaces is required.				
SURFACE SALTS: In the presence of potentially and geographically salty environments, tests must be conducted.				
Salt presence shall be below 7µg/cm².				
If necessary, use CHLOR-RID [®] or HOLDTIGH [®] products. Any other products used must be approved in writing by Galvatech 2000.				
Following decontamination, proceed with the recommended surface preparation based on the substrate to be protected.				
NOTE				
In the case of an industrial, commercial or institutionnal project as well as in the presence of any special conditions (immersion, aggressive environment, saline) these data MUST BE adapted, contact our technical support 1 888 743-2046 or by email info@galvatech2000.com before application				
NEW OR EXISTING STEEL				
Remove contaminants before proceeding with surface preparation. (See "Surface Decontamination" section)				
The surface must be clean and free from friable rust, flash rust, mill scale, and corrosion (black iron oxide) that shall be cleaned to sound iron.				
Mill Scale: It must be removed by ABRASION or chemical stripping (ACIDS).				
Surface preparation:				
(SSPC-SP3) Power Tool Cleaning – Small parts ***Counter to this specification, the mill scale must be removed.				
(SSPC-SP7 / NACE 4) Brush-off Blast Cleaning – Indoor exposure				
(SSPC-SP6 / NACE 3) Commercial Blast Cleaning – Outdoor exposure				
(SSPC-SP10 / NACE 2) Near-White Blast Cleaning – Immersion				
(SSPC-SP8) Chemical Stripping – All mill scale shall be removed.				
ALUMINIUM, STAINLESS STEEL OR COPPER				
The surface must be free of grease substances, dust, oxide, friable material or other contaminants				
There is no need to abrade surfaces when considered bare and clean				
After cleaning, apply directly when the surfaces are dry				
Contact our technical support for more specifications 1-888-743-2046 before application				
EXISTING PAINT COATING				
Perform adhesion testing on the paint remaining after cleaning (ASTM D3359)				
Perform a test on a small area to ensure products compatibility				
Never apply to bituminous coatings and aluminum paints				
Contact our technical support for more specifications 1-888-743-2046 before application				
NEW HOT DIP GALVANIZATION OR METALLIZATION				
The surface shall be free of rust dust, friable material, oils, grease or other contaminants, including surface salts and the presence of zinc oxide in white powder or crust				
For freshly galvanized surfaces (0-1 year) Check for presence of passivating treatments on galvanizing (e.g., Chromating): "Chromating" refers to the treatment of galvanized parts to prevent the occurrence of wet storage stain. The presence of chromates or other passivating treatments is detected by using a solution of copper sulphate. (SSPC SP16)				
METALLIZATION: The first coat must be a mist coat diluted between 20-30% with Galvanol ™ solvent to seal the surface porosities. (less than 25µm / 1mil wet)				
Contact our technical support for more specifications 1-888-743-2046 before application				
EXISTING (OLD) HOT DIP GALVANIZATION OR METALLIZATION				
The surface shall be free of rust dust, friable materials, oils (cutting and drilling oils), greases or other chemical contamination including surface salts and the presence of zinc oxide in white powder or crust.				
Contact our technical support for more specifications 1-888-743-2046 before application				
CONCRETE				
Before the installation of galvanized steel to concrete you can apply a generous coat of Rust-Anode® Primer on clean concrete				
CASTINGS (ALUMINUM AND STEEL)				
The surface must be free of rust dust, brittle material, oils (cutting and piercing oils), grease or other chemical contamination				
Sandblast (SSPC-SP6), (SSPC-SP3 for small areas)				
Clean with compressed air, then apply directly				
Contact our technical support for more specifications 1-888-743-2046 before application				

APPLICATION METHODS - GENERAL INFORMATION					
The product is ready to use for application, open the pail and mix at low speed until completely homogenized, do not use an automatic paint shaker					
For drying and curing process to be functional, a minimum of 30% relative humidity shall be pres	ent during application until the coating is dry to handle				
The application may require more than one coat depending on the dry film thickness of zinc requ	ired or the complexity of the design				
Apply a stripe coat with a paintbrush on the welds, bolts, edges, hard to reach areas, and around of the interface plates, etc					
The application must be carried out in maximum layers of +/- 5.0 mils (125 µm) wet per coat and use Galvanol thinner at a ratio of 4% up to 10%					
Do not apply more than 8 mils (200 μm) wet per coat					
Refer to our drying and curing time table for the application of a second coat					
The excess thickness (> 15.0 mils) (375 $\mu m)$ is to be avoided (eg: the hollow of a stiffener)					
The use of a wet gauge is highly recommended					
TOUCH-UP (fa	cilities or/and on site)				
At all times, if touch-ups are necessary, remove the contaminants then apply a generous coat with a paintbrush or a roller and/or a paint gun to, at least, reaching the same thickness as the surrounding layer					
GRAVITY GUN, HVLP PRESSURE POT	"AIRLESS" SPRAY APPLICATION				
Dilute 4 to 10% with Galvanol ™ (pre-test recommended)	Dilute up to 5% with Galvanol ™ if necessary (do a pre-test)				
For gravity guns and pressure pots, we recommend using a needle of 2.0 to 2.5mm	Pressure between 1200 and 1300 lbs				
Conventional spray gun, by suction feed are not recommended (Product too heavy)	Fluid tips recommended for large jobs (e.g. 3-17, 4-21, 5-17)				
Suitable for application by electrostatic gun (prior tests is recommended)	Fluid tips recommended for small jobs (ex: 1-15, 2-13, 2-15)				
Clean the equipment properly after use	Clean the equipment properly after use				
APPLICATION WI	TH A BRUSH OR A ROLLER				
Ready to use after being thoroughly mixed					
Usually, no dilution is needed. However, it can be diluted with the Galvanol 🍽 to ease the application (20% maximum dilution)					
The time between coats will depend on the ambient temperature and relative humidity					
On average, we can expect a dry thickness of 2 mils (50μm) per layer. Over thicknesses could increase the drying time and are not recommended					
The use of a natural bristle paintbrush is recommended					
DISCLAIMER					
The Rust-Anode [®] Primer is not designed to be applied in an excess thickness of more than 15.0 mils dry (375 μm) and shall be applied in layers of +/- 5.0 mils (125 μm) wet Over thicknesses may cause small cracks or a granular effect on the treated surface. In order to not affecting the quality of the protection as well as its aesthetic, it is necessary to perform touch-ups					
For dilution, the use of the GalvanolMC (#300037) as thinner is the only product approved. All other products will result in a fatal effect on the chemical composition of the product Paint equipment can be cleaned with any gun washer solvent as long as it does not leave a residual factor					
The information contained in this document is not exhaustive. Ensure to also consult the materia instructions that may be issued by Galvatech. Anyone using the product in a manner other than t intended method of use), is being exposed to damage to properties or persons and does so at his	I safety data sheet of the product as well as to follow any application protocol or other specific hat recommended (without prior written confirmation from Galvatech as to the suitability of the sown risk. All our recommendations or product statements are correct to the best of our knowledge, but				

Intended method of use), is being exposed to damage to properties or persons and does so at his own risk. All our recommendations or product statements are correct to the best of our knowledge, but Galvatech cannot guarantee neither the quality or condition of the application surface nor the other factors in the use and application of this product that may affect its performance. Accordingly, unless confirmed in writing by Galvatech, any warranty as to the performance of the product or the achievement of specific results is expressly excluded. Galvatech will not be liable for any loss or damage incurred in connection with storage or use of the product not in accordance with the instructions issued by Galvatech. All other warranties or representations, express or implied, by law or otherwise, including, without limitation, any implied warranties of merchantability or fitness for a particular purpose, are hereby expressly excluded. The information contained in this document is subject to change based on the evolving knowledge of the product and any improvement thereof. It is the responsibility of the user to check with a representative of Galvatech that it has the current version of this technical data sheet and of the material safety data sheet before using the product. All sales are subject to our <u>terms and conditions of sale</u>, available on our website or from a representative of Galvatech.