XionLab 2-in-1 Rust Converter and Primer is a water-based coating that contains >50% solids and bonds like cement. Cement bonds by the crystallization of chlorine and hydroxides… **XionLab 2-in-1 Rust Converter and Primer** bonds by the combination of phosphates with aluminum hydroxides. The advantage is 2-fold:

1. It gives the coating an extremely hard surface when cured.
2. The bond can take place in the presence of moisture. This means that this product may be used on a damp surface.

XionLab 2-in-1 Rust Converter and Primer is a low-VOC (<1% by weight) phosphating coating, converting corrosion salts such as iron oxide to phosphates. These phosphates take the form of iron phosphate, zinc phosphate, chromium phosphate, etc. are resistant to oxidation and therefore, prevent future corrosion.

Independent Laboratory Testing Results: XionLab 2-in-1 Rust Converter and Primer		
Test Description	**Results**	**Notes**
Dry Film Thickness ASTM E376-69	170-180 micrometers	n/a
Adhesion (Cross Cut) ASTM D3359	100%	n/a
Corrotest (1,000h) ASTM D870-54 (adapted)	No blistering or rust creep visible	immersion test in 5% sodium chloride solution @ 104F
Alkali Resistance	No Damage visable	100h in 5% caustic soda solution at room temprature
Acid Resistance	Blistering and softening	100h in 10% hydrochloric acid solution at room temprature
Permeability (water vapour) ASTM D1653-72	2,6mg/cm²/24h	1mm thick film
Salt Spray Test (1,000h) ASTM B117	No blistering or underfilm creep / adhesion (cross cut)-1	Degree of rusting-6
QUV (1,000h) Ultra Violet Light ASTM G53-77	No blistering or underfilm creep / adhesion (cross cut)-4 / very slight discoloration	Degree of rusting-6
Overcoatability-Alkyd	Rating 3	Adhesion determined by Cross Cut after 24h
Overcoatability-Bitumen	Rating 5	Adhesion determined by Cross Cut after 24h
Overcoatability-Chlor. Rubber	Rating 5	Adhesion determined by Cross Cut after 24h
Overcoatability-Epoxy	Rating 5	Adhesion determined by Cross Cut after 24h
Overcoatability-Polyurethane	Rating 5	Adhesion determined by Cross Cut after 24h
Thermal Cycle Testing-adhesion ASTM D3359 before/after	100% / 100%	2,160h @ 300°F -10 pannels evaluated
Thermal Cycle Testing-blistering ASTM D714 before/after	None / None	2,160h @ 300°F -10 pannels evaluated
Thermal Cycle Testing-peeling before / after	None / None	2,160h @ 300°F -10 pannels evaluated
Thermal Cycle Testing-corrosion before / after	None / None	2,160h @ 300°F -10 pannels evaluated
Thermal Cycle Testing-color change before / after	No apparent color change was observed	2,160h @ 300°F -10 pannels evaluated
Thermal Cycle Testing-defects before / after	No other defects were observed	2,160h @ 300°F -10 pannels evaluated

Product Comparison vs Other Brands

	XionLab 2-in-1 Rust Converter and Primer	P**-*5 Rust Prevenative Coating
VOC	<1%	27-33%
Flashpoint	None	106°F
Clean-Up	Water	Lacquer Thinner
Thinnable for Spray Application	Yes-up to 20%	Yes-up to 5%
Thinner Needed	Water	Requires POR-15 Solvent
Minimum required coats	1 Coat	2 Coats
Coverage per Gallon	540-1,000 sq. ft.	Up to 350 sq. ft.
Additional Primer Coat Required	No-rust converter and primer in 1 product	Yes-requires a coat of POR-15 Tie Coat Primer
Can be applied to damp surface	Yes	No-surface must be completely dry
Surface preparation	Any water-based degreaser and rinse	POR-15 Degreaser and POR-15 Metal Prep
Filling Pinholes	Will seal pinholes without any additional steps	Requires taping of the backside to fill pinholes
Mixing	Can be stirred or shaken	Must be stirred, cannot be shaken

	XionLab 2-in-1 Rust Converter	L*****e "E****d" Rust Treatment
HMIS Rating	1-0-0	1-1-0
VOC % by Weight	<1%	50.40%
butyl free	Yes	Contains butyl
Water Based	Yes	No
Tested for expansion and contraction with heat and freeze cycles	Yes-expands and contracts with the metal	N/A
Clean Up	With Water Only	Requires Solvent
Apply to Damp Surfaces	Can be applied to damp surfaces without curing issues	Must be applied to dry surfaces
Heavy Metals	None	Barium
Carcinogenic components	None	Contains Carcinogenic Components
Dried Surface	Primer-can be painted over	Polymer-must be primed before painting
Sanding Required	None	Sanding with 320 grit recommended
# of coats recommended	1	3
Top coat required to seal	None-can be left without top coat	Requires priming and top coating to seal
Sanding required for top coating	None	Recommended sanding before priming and top coat
Water Exposure to cured coating	No adverse effects once cured	Potential blistering-cracking-pealing
Maximum service temperature	up to 300°F	up to 200°F
Recommended coverage sq.ft/gal	530-1,000 sq. ft./gal	363 sq. ft./gal
Effects on new metal surface	leaves sealed primed surface	causes rust on virgin metal-per tech bulletin
Top Coats accepted	Almost any top coat can be used	Primer
Chemical resistance-no top coat	Resists hydrogen sulfide	Hydrogen sulfide can cause blistering/cracking/pealing
Exposure to salt water-no top coat	No issue	Can cause blistering/cracking/pealing