



## *Xymax, your Shield Against Corrosion*

### **THE HISTORY, TECHNOLOGY ADVANTAGES, AND BENEFITS OF ONE-COMPONENT, MOISTURE-CURE, POLYURETHANE COATINGS**

#### **The Problem With Conventional Coatings**

Over the years, our industry has endured the limitations that certain weather conditions place on alkyds, two-component epoxies, two-component polyurethanes, various inorganic zinc-rich primers and, more recently, waterborne acrylics. These limitations include high humidity, fog, dampness, dew point temperature differential restrictions, cold surfaces, and cold ambient temperatures.

These weather condition limitations force painting delays and also cause unforeseen expenditures in facilities downtime, paint application costs, and coating failures. Our industry has dealt with these limitations by delaying, postponing, or totally rescheduling projects into the future.

One answer to this problem is the use of Xymax one-component, moisture-cure polyurethane coatings. They provide the combination of high-performance properties for outstanding corrosion protection and long service life, together with application benefits which can overcome certain limiting weather conditions.

#### **Developing a Solution**

During the 1970's in Europe, a small, innovative company named Metallogal\* employed technology previously developed by the major resin raw material supplier, Bayer AG of Germany, to create unique products that offered high-performance corrosion protection for areas exposed to seawater, splash zones, and surfaces in wet environments. Cold, damp climates necessitated the development of coatings, which featured the remarkable advantage of being able to be applied and harden in a wide variety of weather conditions.

The one-component, moisture-cure polyurethanes developed by Metallogal went a long way toward overcoming weather conditions. The damp, cold climates of the northern regions of the North Sea, for which they were developed, have similarities here in the United States at various times of the year.

Xymax Coatings, Inc. has taken major steps in furthering these early developments. The first step was to gain access to the original Metallogal technology by purchasing the coatings formulations of the Pure-Cote Corporation, who first introduced these coatings into the United States in the early 1980's. Then, working closely with raw materials suppliers, we further advanced the technology and made product improvements while lowering the VOC'S (Volatile Organic Compounds) of the coatings.

#### **The Advantages**

Today, one-component, moisture-cure polyurethanes provide unique technical advantages which allow them to be applied in cold, damp, humid, or foggy conditions without dew point temperature differential restrictions, and to cure or harden at temperatures as low as 20°F (-7°C). The polyurethane is formed when moisture from the atmosphere or surface reacts with the isocyanate-containing pre-polymer. Under further reaction, this ultimately forms a polyurea which is highly corrosion and abrasion-resistant. This one-component reaction eliminates the need for premixing two-component such as with two-component epoxies or two-component polyurethanes. Errors in mixing two-component together on the job site can greatly add to product failures and increase costs for repair.

\* Metallogal is the registered trademark of Leo Mayer Metallogal GMBH, Germany.

## The Benefits

The advantages of Xymax one-component, moisture-cure polyurethane technology results in a variety of benefits:

- **Expanded painting seasons and conditions**
- **Increased painter productivity**
- **Short to long recoat window of primers and intermediate coats (2 hours to 2 months)**
- **Rust-back-tolerant, zinc-rich primers**
- **Outstanding UV resistance which results in excellent color, gloss retention, and overall weathering properties**
- **Superior overcoat technology for old lead based paints**
- **Maintaining high-quality performance due to consistent, high level of available polyurethane content**
- **Reduced facility downtime**
- **Up-front economic benefits**
- **VOC levels already meeting 2.8 pounds/gallon (340g/l) or lower**
- **Low-dirt-pick-up, reduced-staining topcoats**
- **Ease of graffiti removal due to a high degree of solvent resistance (greater than 1,000 MEK, methyl ethyl ketone, double rubs)**
- **High-performance properties equal to or better than existing, well-known technologies**

## End-Use Applications

The application and performance advantages and benefits of the advanced polyurethane technology of Xymax coatings are ideal for the most demanding of applications, including:

- **Bridges and highways**
- **Chemical plants**
- **Manufacturing plants and equipment**
- **Marine splash zones, off-shore facilities, and containers**
- **Petroleum refineries**
- **Power generation facilities**
- **Pulp and paper mills**
- **Water and wastewater facilities**

This product manual describes Xymax<sup>®</sup> products and how they are recommended for use in actual coating systems for various end uses.

When considering a high-performance coating system, remember the uniqueness and remarkable advantages that Xymax one-component, moisture-cure polyurethanes offer and let them benefit you in a vast array of end-use applications.



Xymax®

## MOISTURE-CURE COATINGS

### Product Index

PRODUCT	DESCRIPTION
MONOZINC ME III	Zinc-pigmented one-component, moisture-cure, high-performance polyurethane primer.
MONOZINC 390	Micaceous iron oxide (MIO)/zinc pigmented, one-component, moisture-cure polyurethane spot primer or full primer.
MONOZINC	Zinc-pigmented one-component, moisture-cure polyurethane primer.
MONOLOCK PP (Penetrating Primer)	Micaceous iron oxide (MIO) pigmented, one-component, moisture-cure, polyurethane penetrating primer for overcoating.
MONOBRITE	Non-leafing aluminum, one-component, aromatic, moisture-cure, polyurethane for use as an all purpose primer, intermediate, or topcoat. Excellent chemical, corrosion, and abrasion resistance. Excellent adhesion to marginally prepared surfaces.
INCOAT CLEAR	Clear, one-component, aromatic, moisture-cure, polyurethane penetrating primer-sealer for concrete or wear surfaces.
MONO FERRO	Micaceous iron oxide (MIO) pigmented, one-component, moisture-cure polyurethane used as a primer or intermediate coat for steel or concrete.
MONO FERRO PUR	Micaceous iron oxide (MIO) pigmented, one-component, moisture-cure, polyurethane used as a primer, intermediate coat or "overcoat" over aged alkyds, vinyl, or epoxies.
XYGUARD	High-build, 4-6mil DFT one-component, moisture-cure aromatic polyurethane all-purpose primer, intermediate coat, or topcoat having <b>excellent corrosion, abrasion, and water resistance</b> .
MONO GUARD	Highly refined, coal tar/micaceous iron oxide (MIO), one-component, moisture-cure polyurethane, 5-6 dry mils, for use in immersion service in seawater, fresh water, or sewage treatment facilities.
INCOAT	One-component, aromatic, moisture-cure, pigmented polyurethane topcoat having outstanding abrasion, chemical, and corrosion resistance where color and gloss retention are not required. Good for flooring and machinery.

\* Available in 3.5 lb/gallon (420 g/l) VOC upon request.

*Product Index*

PRODUCT	DESCRIPTION
<b>MAXCOAT HB</b>	Semi-gloss, one-component, aliphatic, moisture-cure, polyurethane topcoat with high film build and excellent color and gloss retention. It also has low dirt pickup, and abrasion, chemical, and corrosion resistance.
<b>MAXCOAT A</b>	High-gloss, one-component, aliphatic, moisture-cure, polyurethane topcoat with excellent color and gloss retention. It also has low dirt pickup, and abrasion and chemical resistance.
<b>MAX COAT E</b>	Semi-gloss, one-component, aliphatic, moisture-cure, polyurethane topcoat with good color and gloss retention, abrasion and corrosion resistance.
<b>BRIDGE FINISH</b>	Low-gloss to flat-finish, micaceous iron oxide (MIO) pigmented, one-component, aliphatic, moisture-cure, polyurethane topcoat having excellent corrosion and abrasion resistance and color retention.
<b>MAXCOAT II</b>	High-gloss, two-component, aliphatic polyurethane topcoat; Excellent color and gloss retention.
<b>MAXCOAT CLEARCOAT</b>	An extremely high-gloss, non-chalking, clear, one-component, moisture-cure, clear topcoat over MaxCoat HB or sealer for use on concrete. Excellent anti-graffiti properties.
<b>PUR-ACC AX70</b>	Accelerator for speeding the recoat time of all Xymax moisture-cure polyurethanes. Eliminates carbon dioxide formation.
<b>921 ACCELERATOR</b>	Accelerator for Max Coat II.
<b>X-34</b>	Solvent for all aromatic polyurethanes.
<b>X-60</b>	Solvent for all aliphatic polyurethanes.
<b>X-50</b>	Clean-up solvent.

\* Available in 3.5 lb/gallon (420 g/l) VOC upon request.

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