



**UNITED STRUCTURES OF AMERICA**  
I N C O R P O R A T E D

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# **TECHNICAL BULLETIN**

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Date: June 9, 2014

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## **PAINTING OVER U.S.A. PRIMED STEEL**

Projects often require a field applied paint system. Many times our customers are not aware of the requirements for painting over U.S.A. primed steel. We must educate ourselves and our customers about what types of primers we use and the procedures that need to take place prior to applying any paint in the field.

Our standard grey and red primer which is applied to our structural steel is an alkyd primer. The attached data sheet should be used when our customers are trying to determine what paint to use.

The purlins, girts, and other secondary steel members are manufactured at U.S.A. from steel with a factory applied baked on enamel. Moreover, there is a light wax coating which helps prevent marring and increase lubricity during the rollforming process. The attached document from Metal Prep, our premier secondary steel supplier, explains how the coating of these members must be lightly scuffed prior to applying any paint. If this is not performed the paint has a high probability of peeling and/or flaking.

In the event the customer is attempting to paint over hot dip galvanized or pre-galvanized steel please consult the factory for proper cleaning and preparation of the substrate(s).

U.S.A. cannot be liable for a paint which does not perform over our primed or galvanized steel. Lack of performance is typically caused by improper application; that being lack of preparation or an incompatible paint system. Make sure our customers are aware of the primers that we use and the procedures that must take place prior to field painting.

**KNOW YOUR PRODUCT**

# AMERICAN COATINGS

## PRODUCT AND OPERATING SPECIFICATIONS

PRODUCT NO. AK 3428 COLOR GRAY  
TYPE OF COATING ALKYD RESIN PRIMER

SUBSTRATE CLEAN STEEL SSPC-SP-2 OR SSPC-SP-3 MINIMUM

SURFACE PREPARATION DUST, OIL, AND RUST FREE

SOLVENT REDUCTION: SPRAY: 0 - 10 % THINNER # TH 311 ACETONE  
BRUSH: % THINNER#  
AIRLESS:  THINNER#

WEIGHT PER GALLON 11.78 ± 0.2 POUNDS WEIGHT PER LITER  KILOS

SOLIDS BY WEIGHT 73.51 % SOLIDS BY VOLUME 54.1 %

PACKAGED VISCOSITY @ 77°F /25°C 65 - 70 KU @ 77° F

GLOSS 0 - 15 FLASH POINT 1.4 °F

COVERAGE: THEORETICAL SQ. FT. PER GALLON AT 1 MIL 866 SQ FT @ 100% EFFICIENCY  
PRACTICAL SQ. FT. PER GALLON AT 1 MIL 650 SQ FT @ 75% EFFICIENCY

COVERAGE: THEORETICAL SQ. METER PER LITER AT 25 MICRONS   
PRACTICAL SQ. METER PER LITER AT 25 MICRONS

RECOMMENDED FILM THICKNESS: WET MILS 2 - 4 DRY MILS 1 - 2

RECOMMENDED FILM THICKNESS: WET MICRON  DRY MICRON

DRYING TIME @ 55% RELATIVE HUMIDITY @ 77°F/25°C   
TOUCH: 30 MINUTES RECOAT: 1 HOUR DRY HARD: 4 - 6 HOURS

CLEAN-UP THINNER # TH 600 OR TH 311

SERVICE TEMPERATURE LIMITS: ATMOSPHERIC °F. 180 °F °C. 82 °C  
IMMERSED: °F.  °C

REMARKS: MEETS PERFORMANCE OF FEDERAL SPECIFICATION TTP-664  
VOC = 2.8 #/GAL MINUS EXEMPT, APPLIED VOC = 2.6 #/GAL  
LOW HAPS 2.6 # HAPS/GAL SOLIDS



# Metal Prep Primer Specifications

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**PRODUCT NAME:** Metal Prep Primer

**PRODUCT DESCRIPTION:**

**Use:** The Metal Prep family of primers are factory-applied, oven baked coatings for roll coater application on cleaned, dry carbon steel surfaces (not oiled).

**Composition and Materials:** Metal Prep coatings are polyester-based primers with a high solids content. The coatings contain a "wax" type lubricant to facilitate roll forming. Preparation of our coating is required prior to the application of any after market coating. Please contact Metal Prep before painting over our baked on coatings, for proper preparation methods.

**Colors:** Metal Prep coatings are available in two standard colors\*:  
Dark Brown      Dark Gray

\*Custom colors can be formulated to meet customer requirements. Call for information (minimum quantity required).

**PERFORMANCE:**

**Clean:** The metal substrate is shot blasted by in line, automated blast machines to remove mill scale, rust and corrosion. This procedure also etches the surface to improve coating adhesion.

**Pretreatment:** The metal is hot water rinsed to remove blaster residue and preheat the steel prior to coating.

**Specular Gloss:** Metal Prep's standard coatings have a gloss of 10-15% at a meter angle of 60 degrees. (ASTM-D-523) Coatings with higher gloss ratings are available upon request.

**Pencil Hardness:** Minimum pencil hardness using Empire Berol Turquoise pencils is 2 H. (ASTM-D 3363)

**Adhesion:** A sample when tested in accordance with ASTM-D 3359, method B, will exhibit no visible paint removal when using Scotch Brand No. 600 cellophane tape.

**Rust Resistance:** Metal Prep primer contains additives to slow the progression of rust. Metal Prep primed coils exhibit rust resistant properties for a minimum of three months when properly stored.

**Coating Thickness:** The dry film thickness (ASTM-D-1186) when tested with a magnetic dry film gauge will be a minimum of 0.5 mils. Aesthetic defects not to be seen from a distance of six feet. Paint picking not to expose bare metal.

**Formability:** The finished coated product is suitable for roll forming or press break operations where the inside radius of a bend is not less than 0.1875" (3/16"). The paint will show no signs of fracture to the naked eye or loss of adhesion (see adhesion) unless caused by failure of the metal substrate. Hairline crazing which may occur during forming operations is considered normal.

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Proper jobsite storage will maintain the appearance of the product and protect it from corrosion caused by the elements. Store all primed material on well-skidded platforms. Store under waterproof covers that provide for adequate ventilation to prevent condensation buildup between the primed material. To insure you have the most recent information, please call the Metal Prep office nearest your location.

Descriptions and specifications contained herein were in effect at the time this publication was approved for printing. Metal Prep reserves the right to discontinue products at any time or change specifications and/or designs without notice and without incurring obligation.

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## Repainting Guardian Coil Primers

The wax that is incorporated in the coating for your pre-finished steel provides block resistance and mar resistance for roll-forming and nesting of purlins. Because of this necessary wax, the pre-finished steel does not provide adequate adhesion for repainting with subsequent primers or top coats. If the pre-finished steel is to be repainted it is necessary to lightly scuff sand or otherwise lightly abrade the surface of the protective coating to assure adequate inter-coat adhesion. This also assumes the substrate is free of dirt, oil, or other contaminants.

In addition the pre-applied coating is designed as a single coat system. It is intended as a temporary coating of structural steel, or for interior exposures such as dry buildings subjected to infrequent condensation. It is not recommended as a primer for a multi-coat system that may be specified for aggressive environments. For these architectural specifications the steel should be ordered as **Black** (unpainted) material and the surface should then be prepared according to the specification by the painting contractor.

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