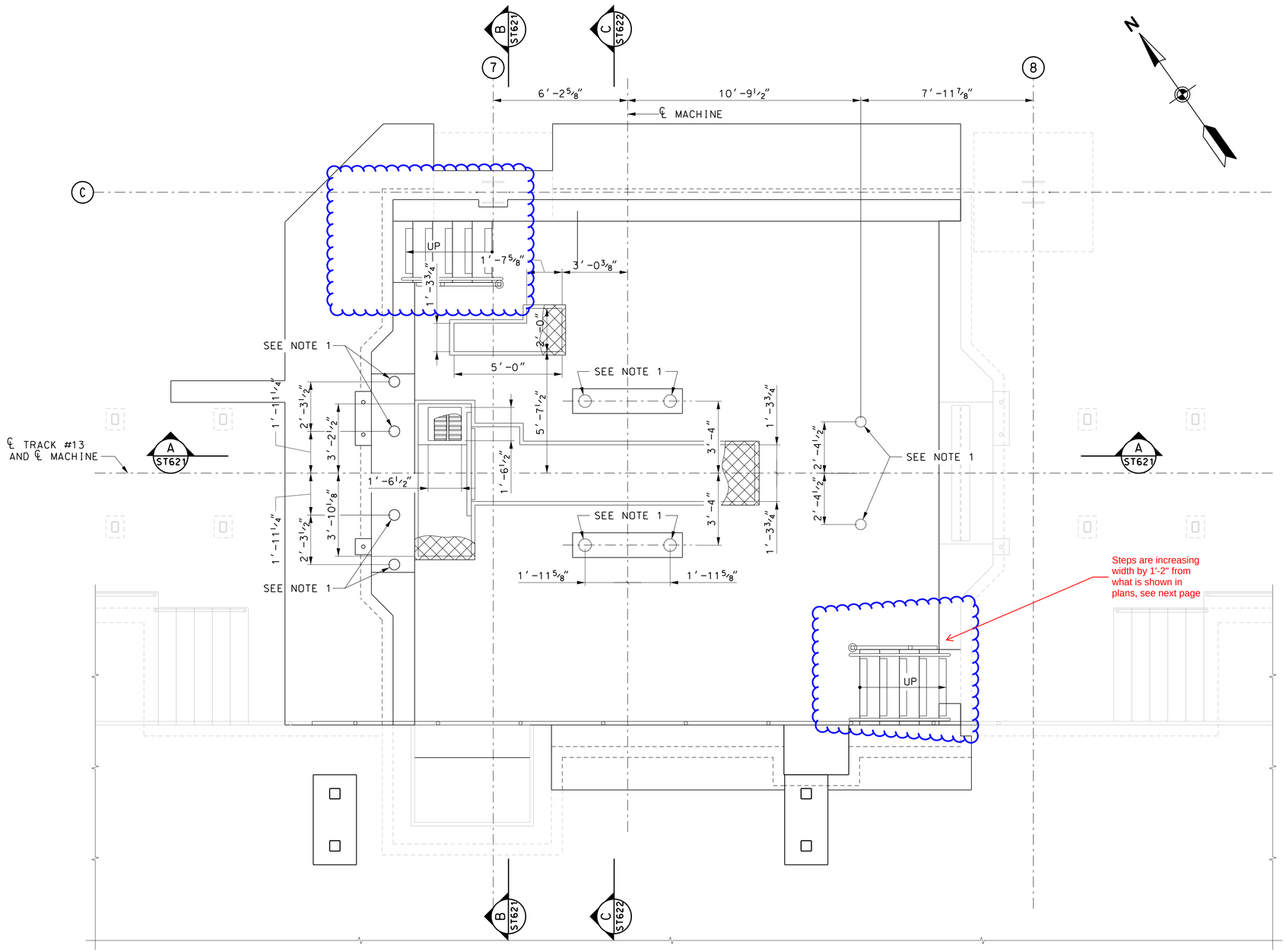
NOTES

1. CORE DRILLED HOLES BY CONTRACTOR: COORDINATE SIZE AND LOCATION WITH EQUIPMENT MANUFACTURER.



EQUIPMENT AND TRENCH LAYOUT

SCALE: ⅜″ = 1′-0″

2.67′ 0 2.67′ 5.33′

SCALE: ⅜″=1′-0″

ISSUED FOR CONSTRUCTION

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION

MTA Maryland

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland

36758 License No. 1/15/2023 Expiration Date

STATE OF MARYLAND · MERIJYOTI ROY · No. 36758 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DESGN	JT
DRAWN	JMP
CHECK	JE
APPR	MR

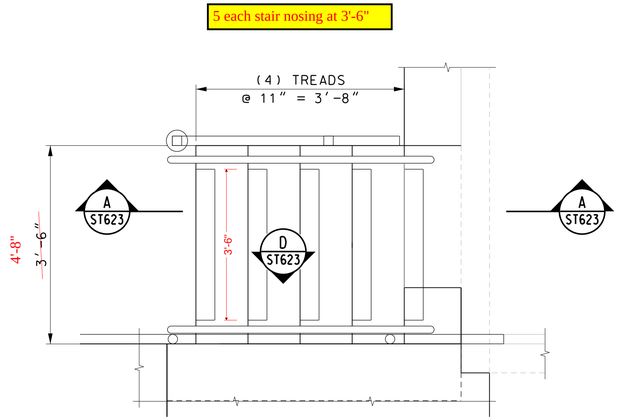
METRO WABASH SHOP UPGRADES
WHEEL LATHE /FALL PROTECTION

WHEEL LATHE EQUIPMENT AND TRENCH LAYOUT PLAN

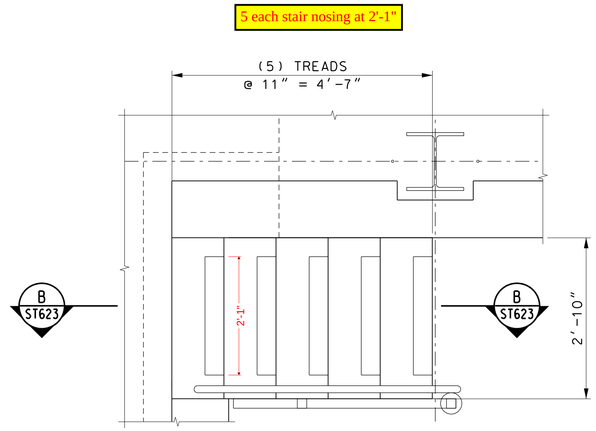
DATE: SEPTEMBER 15, 2022 SCALE: AS NOTED

CONTRACT NO. T-1530-0650
DRAWING NO. ST-620
SHEET NO. 13 OF 35

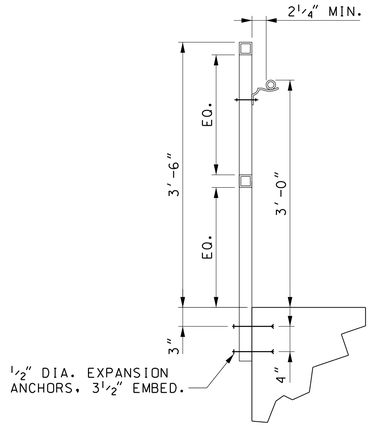
pw:\\MTAGBPWAPP1:MTA_PW_Data\Documents\00 - Current Projects\1530 - METRO Wabash Shop Equipment Upgrades\04 Project Engineering\Facilities Engineering & ADA\1530-0120 - Wabash Wheel Lathe Pit Modification\Cad
9/15/2022



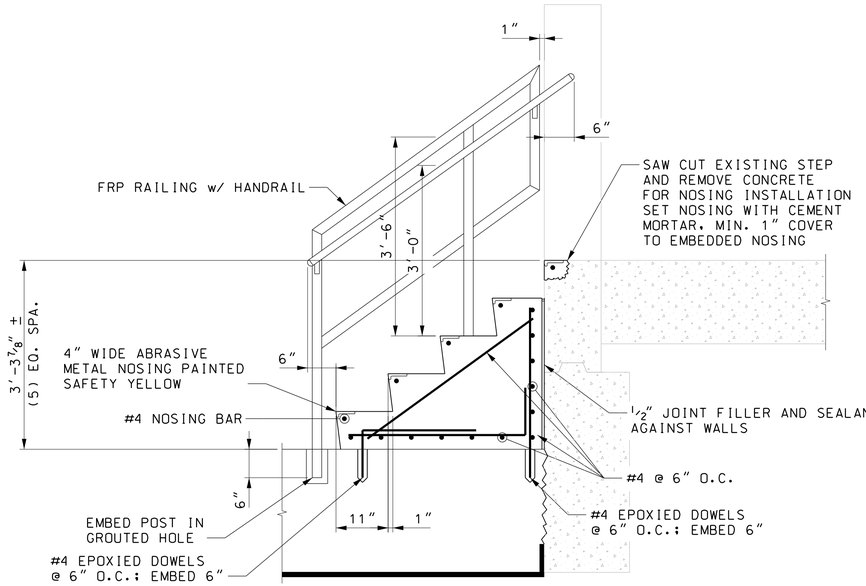
2 ST623 **ENLARGED STAIR PLAN - WL-2**
SCALE: 3/4" = 1'-0"
REF: ST-619



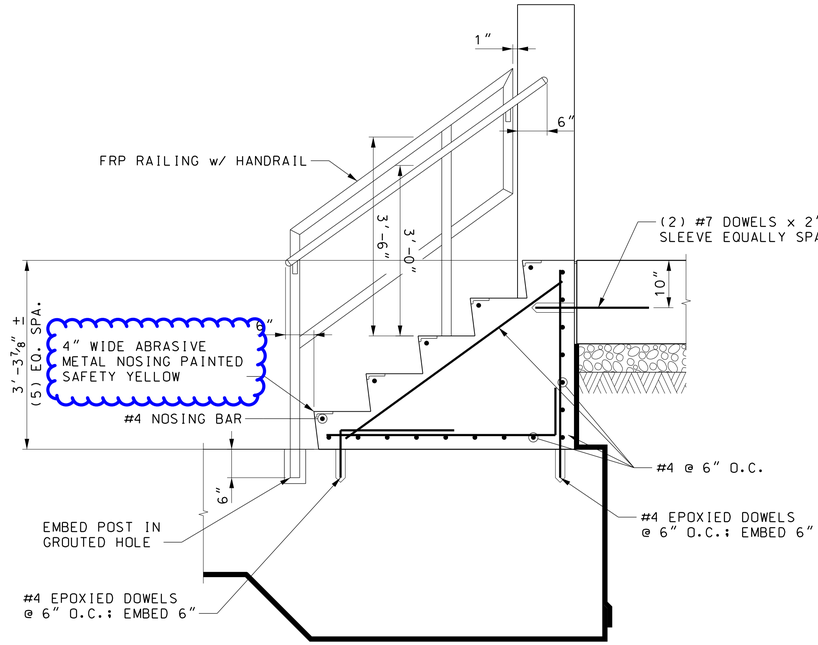
3 ST623 **ENLARGED STAIR PLAN - WL-1**
SCALE: 3/4" = 1'-0"
REF: ST-619



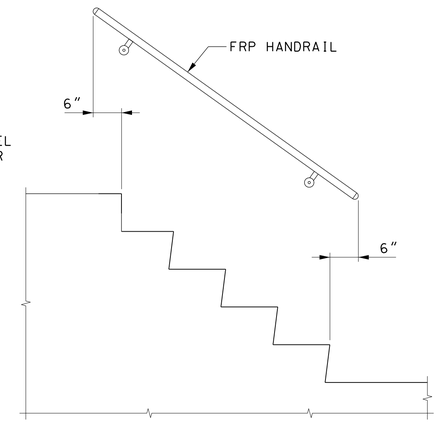
STAIR RAILING SECTION
SCALE: 1" = 1'-0"



A ST623 **SECTION**
SCALE: 3/4" = 1'-0"
REF: ST-623



B ST623 **SECTION**
SCALE: 3/4" = 1'-0"
REF: ST-623



D ST623 **RAILING ELEVATION**
SCALE: 3/4" = 1'-0"
REF: ST-623

1.33' 0 1.33' 2.67'
SCALE: 3/4"=1'-0"

1' 0 1' 2'
SCALE: 1"=1'-0"

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NO.	DESCRIPTION	BY	DATE

REVISIONS

DESGN	JT
DRAWN	JMP
CHECK	JE
APPR	MR

METRO WABASH SHOP UPGRADES
WHEEL LATHE /FALL PROTECTION

PIT ENLARGED STAIR PLANS & SECTIONS

DATE: SEPTEMBER 15, 2022 SCALE: AS NOTED

CONTRACT NO. T-1530-0650
DRAWING NO. ST-623
SHEET NO. 16 OF 35

pw:\\MTACBPWAPP1:MTA_PW_Data\Documents\00 - Current Projects\1530 - METRO Wabash Shop Equipment Upgrades\04 Project Engineering\Facilities Engineering & ADA\1530-0120 - Wabash Wheel Lathe Pit Modification\Cad
9/15/2022

SECTION 05500

METAL FABRICATIONS

PART 1 – GENERAL

1.01 DESCRIPTION:

A. This Section includes specifications for furnishing and placing abrasive metal nosings.

B. Related Work Specified Elsewhere:

1. Section 01300 - Submittals

2. Section 03300 – Cast-in-Place Concrete

3. Section 09960 – High-Performance Coatings

1.02 DESIGN CRITERIA:

A. Referenced Standards:

1. American Society for Testing and Materials (ASTM):

a. ASTM A47/A47M, Specification for Ferritic Malleable Iron Castings.

b. ASTM A48/A48M, Specification for Gray Iron Castings

c. ASTM B633/B633M, Specification for Electrodeposited Coasting of Zinc on Iron and Steel.

d. ASTM F1941/F1941M, Specification for Electrodeposited Coastings on mechanical Fasteners, Inch and Metric

e. ASTM A27/A27M, Specification for Steel Casings, Carbon, for General Application.

f. ASTM F2329/F2329M, Specification Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Thread Fasteners.

g. ASTM D1187/D1187M, Specification for Asphalt-Base Emulsions for Use as Protective Coatings for Metal.

h. ASTM C1107/C1107M, Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

i. ASTM A153/A153M, Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

j. ASTM A123/A123M, Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

k. ASTM A780/A780M, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

1.03 SUBMITTALS:

A. In accordance with Section 01300, submit the following:

1. Product Data: For the following

   a. Metal nosings

2. Shop Drawings:

   a. Show fabrication and installation details. Include sections and details of metal fabrications and their connections. Show anchorage and accessory items.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS:

A. Thermal Movements:

1. Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

   a. Temperature Change: 0° to 120° F

2.02 METALS:

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seams marks, roller marks, rolled trade names, or blemishes.

B. Abrasive-Surface Floor Plate: Steel plate with abrasive granules rolled into surface.

C. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A47/A 47M, unless otherwise inditcated.

2.03 FASTENERS:

A. General:

1. Unless otherwise indicated, provide Type 304 or Type 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

B. Cast-in-Place Anchors in Concrete:

1. Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/ A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

C. Post-Installed Anchors:

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless indicated otherwise.

D. Slotted Channel Inserts:

1. Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches by length indicated with anchor straps or studs not less than 3 inches long at nor more than 8 inches o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.04 MISCELLANEOUS MATERIALS:

A. Shop Primers: Provide primers that comply with Section 09960 “High-Performance Coatings.”

B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D 1187M.

D. Nonshrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

E. Concrete: Comply with requirements in Section 03300 “Cast-in-Plate Concrete.”

2.05 FABRICATION, GENERAL:

A. Shop Assembly: Preassemble items in the ship to the greatest extent possible. Use connections that maintain structural value of joined pieces.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.

C. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended.

D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.

E. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors not less than 8 inches from ends and corned and 24 inches o.c.

2.06 ABRASIVE METAL NOSINGS:

A. Cast-Metal Units: Cast iron with an integral-abrasive, as-cast finish consisting of aluminum oxide, silicon carbide, or combination of both.

B. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with manufacturer.

C. Drill for mechanical anchors and countersink. Locate holes not more than 4 inches from ends and not more than 12 inches o.c.

D. Apply bituminous paint to concealed surfaces of cast-metal units.

E. Paint Safety Yellow as approved by manufacturer and per Section 09960 “High-Performance Coatings.”

2.07 FINISHES, GENERAL:

A. Finish metal fabrications after assembly.

2.08 STEEL AND IRON FINISHES:

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

B. Shop prime iron and steel items unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

1. Shop prime with primers specified in Section 09960 "High-Performance Coatings" as indicated.

PART 3 – EXECUTION

3.01 INSTALLATION:

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

3.02 ADJUSTING AND CLEANING:

A. Touchup Painting: immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

PART 4 – MEASUREMENT AND PAYMENT

4.01 ABRASIVE METAL NOSING:

A. Abrasive metal nosing will be measured per each.

B. Abrasive metal nosing will be paid for at the contract unit price bid per each, complete in place, accepted, which price will be full compensation for all material, equipment, tools, labor and all work incidental to complete the item as specified.

END OF SECTION

From Maverick to MTA: MC to MTA-047

High Performance Coating Product Data

Revision # 0

July 26, 2024

Project: Metro Wabash Shop Upgrades and Wheel Truing Pit Modification

Contract No. T-1530-0650

Submittal No. 09960-01

Specification Section: 09960

For:

Maryland Transit Administration
6 Saint Paul Street
Baltimore, MD 21202

REVIEW

NO EXCEPTIONS TAKEN ☑
MAKE CORRECTIONS NOTED ☐
AMEND AND RESUBMIT ☐
REJECTED - SEE REMARKS ☐
NOT REVIEWED - SEE REMARKS ☐

Reviewed only for general conformance with the project requirements indicated in Contract Documents and for consistency with the project design concept. This review does not relieve the Contractor from responsibility for errors or omissions in designs for which the Contractor is responsible. Contractor is responsible for compliance with all requirements of the Contract Documents and for the safe and successful construction of the work. This review does not consider the means, methods, techniques, sequences, fabrication processes, and operations of construction, or safety precautions or programs incidental thereto, which are the sole responsibility of the Contractor.

HNTB

BY Joshua Phillips

DATE 8/21/2024

By:

Maverick Construction, LLC
401 Greenwood Creek Lane
Grasonville, Maryland 21638

Dalton J. Miles
The Sherwin-Williams Company
Market Manager
1+(302)-538-0837
Dalton.J.Miles@sherwin.com

April 10th, 2024

Brad Gribble
Maverick Construction LLC
401 Greenwood Creek Lane
Grasonville, MD 21638

Re: MTA Paint Specs

Brad,

Per conversations it was discussed that steel that was to be galvanized does not need to be coated with the universal steel spec b50 series. As Sherwin-Williams we would recommend the steel to be brush blasted to clean the metal and provide a profile on the surface. Then to proceed with the original specification of using Macropoxy 646 top coated by the Hi-Solid Poly 250.

Follow all product data sheets and contact your Sherwin-Williams representative for additional technical data and instructions.

Respectfully,

Dalton J. Miles
Dalton J. Miles

Protective & Marine Coatings
PRODUCT DATA SHEET

MACROPOXY® 646
FAST CURE EPOXY MASTIC

Revised: July 24, 2023

PRODUCT DESCRIPTION

MACROPOXY 646 Fast Cure Epoxy Mastic is a high solids, high build, fast drying, polyamide epoxy designed to protect steel and concrete in industrial exposures. Ideal for maintenance painting and fabrication shop applications. The high solids content ensures adequate protection of sharp edges, corners, and welds. This product can be applied directly to marginally prepared steel surfaces.

INTENDED USES

- Recommended for marine applications, refineries, offshore platforms, fabrication shops, chemical plants, tank exteriors, power plants, water treatment plants, and mining and minerals industry
- Factory ground formulas are available for subsea/immersion service. For a full list of shades please consult Sherwin-Williams

PRODUCT DATA

Finish: Semi-Gloss

Colors: Mill White, Black and a wide range of colors available through tinting

Volume Solids: 72% ± 2%, mixed, Mill White

VOC (mixed): <250 g/L; 2.08 lb/gal

Mix Ratio: 1:1 by volume

Typical Thickness:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**7.0** (175)	**13.5** (338)
Dry mils (microns)	**5.0*** (125)	**10.0** (250)
~Coverage sq ft/gal (m^2/L)	**115** (2.9)	**230** (5.8)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1152** (28.2)	

*May be applied at 3.0-10.0 mils (75-250 microns) dft as an intermediate in a multicoat system.

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Shelf Life: 36 months, unopened
Store indoors at 40°F (4.5°C) to 110°F (43°C).

Flash Point: 91°F (33°C), TCC, mixed

Reducer/Clean Up[1]: VOC Restricted Areas (<250 g/L): use Reducer #111 or Oxsol 100

Weight: 12.9 ± 0.2 lb/gal ; 1.55 Kg/L, mixed, may vary by color

[1]Other areas (<340 g/L): use Reducer #111, Oxsol 100, Reducer #15, Reducer #58, or MEK up to 10%. Choose a reducer that is compliant in your area. Confirm compliance with state and local air quality rules before use.

Average Drying Times @ 7.0 mils (175 microns) wet:

	35°F (1.7°C) *50% RH*	77°F (25°C) *50% RH*	100°F (38°C) *50% RH*
Touch:	4-5 hours	2 hours	1.5 hours
Handle:	48 hours	8 hours	4.5 hours
Recoat:			
minimum:	48 hours	8 hours	4.5 hours
maximum:	1 year	1 year	1 year
Cure to service:			
atmospheric:	10 days	7 days	4 days
immersion:	14 days	7 days	4 days

Average Drying Times as intermediate @ 5.0 mils (125 microns) wet:

Touch:	3 hours	1 hour	1 hour
Handle:	48 hours	4 hours	2 hours
Recoat:			
minimum:	16 hours	4 hours	2 hours
maximum:	1 year	1 year	1 year

If maximum recoat time is exceeded, abrade surface before recoating.
Drying time is temperature, humidity, and film thickness dependent.
Paint temperature must be 40°F (4.5°C) minimum.

Pot Life:	10 hours	4 hours	2 hours
Sweat-in-time:	30 minutes	30 minutes	15 minutes

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Minimum recommended surface preparation:

Iron & Steel:	Atmospheric: SSPC-SP2/3/ ISO8501-1:2007 St 2 or SSPC-SP WJ-3 / NACE WJ-3L Immersion: SSPC-SP10 / NACE 2/ ISO8501-1:2007 Sa 2.5, 2-3 mil (50-75 micron) profile or SSPC-SP WJ-2/NACE WJ-2L
Stainless Steel:	Atmospheric: SSPC-SP16, 1 mil (25 micron) profile
Aluminum & Galvanizing:	SSPC-SP1. If surface has not be weathered for more than 6 months, follow SSPC-SP1 then SSPC-SP16. For fire proofing projects, consult a Sherwin-Williams representative for surface preparation requirements.
Concrete & Masonry:	Atmospheric: SSPC-SP13/NACE 6, or ICRI No. 310.2R CSP 1-3 Immersion: SSPC-SP13/NACE 6-4.3.1
Ductile Iron Pipe:	Atmospheric: NAPF 500-03-03 Power Tool Cleaning Buried & Immersion: NAPF 500-03-04 Abrasive Blast Cleaning Cast Ductile Iron Fittings: NAPF 500-03-05 Abrasive Blast Cleaning

Protective & Marine Coatings
PRODUCT DATA SHEET

MACROPOXY® 646
FAST CURE EPOXY MASTIC

APPLICATION

Airless Spray*
Pump 30:1
Pressure ..... 2800-3000 psi (193-206 bar)
Hose ..... 1/4" ID (6.3 mm)
Tip ..... .017"-.023" (0.43-0.58 mm)
Filter ..... 60 mesh
Reduction ..... As needed up to 10% by volume

Conventional Spray*
Gun ..... DeVilbiss MBC-510
Fluid Tip ..... E
Air Nozzle 704
Atomization Pressure ..... 60-65 psi (4.1-4.5 bar)
Fluid Pressure ..... 10-20 psi (0.7-1.4 bar)

Brush*
Brush ..... Nylon/Polyester or Natural Bristle

Roller*
Cover ..... 3/8" woven with solvent resistant core

Plural Component Spray .... Acceptable

*Reduction[1] ..... VOC Restricted Areas (<250 g/L): use Reducer #111 or Oxsol 100

[1]Other areas (<340 g/L): use Reducer #111, Oxsol 100, or Reducer #15 up to 10%. Choose a reducer that is compliant in your area. Confirm compliance with state and local air quality rules before use.

If specific application equipment is not listed above, equivalent equipment may be substituted.

RECOMMENDED SYSTEMS

Dry Film Thickness / ct.		Mils	(Microns)
Steel & Ductile Iron, Immersion & Atmospheric			
2 Cts.	Macropoxy 646	5.0-10.0	(125-250)
Steel, Organic Zinc Primer, Atmospheric			
1 Ct.	Zinc Clad IV (85)	3.0-5.0	(75-125)
1 Ct.	Macropoxy 646	5.0-10.0	(125-250)
Steel, Inorganic Zinc Primer, Atmospheric			
1 Ct.	Zinc Clad II (85)	2.0-4.0	(50-100)
1 Ct.	Macropoxy 646	5.0-10.0	(125-250)
Steel, Organic Zinc/Epoxy/Urethane Topcoat			
1 Ct.	Zinc Clad IV (85)	3.0-5.0	(75-125)
1 Ct.	Macropoxy 646	3.0-10.0	(75-250)
1 Ct.	Acrolon 7300	2.0-4.0	(50-100)
Steel, Inorganic Zinc/Epoxy/Urethane Topcoat			
1 Ct.	Zinc Clad II (85)	2.0-4.0	(50-100)
1 Ct.	Macropoxy 646	3.0-10.0	(75-250)
1 Ct.	Acrolon 7300	2.0-4.0	(50-100)
Steel, Organic Zinc/Epoxy/Polysiloxane Topcoat, Atmospheric			
1 Ct.	Zinc Clad IV (85)	3.0-5.0	(75-125)
1 Ct.	Macropoxy 646	3.0-10.0	(75-250)
1-2 Cts.	Sher-Loxane 800	4.0-6.0	(100-150)
Steel: Norsok M501 System 7B/Subsea			
2 Cts.	Macropoxy 646	7.0	(175)
Concrete/Masonry, Smooth, Immersion & Atmospheric			
2 Cts.	Macropoxy 646	5.0-10.0	(125-250)

The systems listed above are representative of the product's use, other systems may be appropriate.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

APPLICATION CONDITIONS

Temperature:
Air: 35°F (1.7°C) minimum, 120°F (49°C) maximum
Surface*: 35°F (1.7°C) minimum, 250°F (120°C) maximum
Material: 40°F (4.5°C) minimum
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

*Application to surfaces above 120°F (49°C) is not recommended in VOC Restricted Areas (≤250 g/L). When spraying a surface above 120°F (49°C) in other areas (>250 g/L), please consult with your Sherwin-Williams representative.

APPROVALS

- Suitable for use in USDA inspected facilities
- Acceptable for use in Canadian Food Processing facilities, categories: D1, D2, D3 (Confirm acceptance of specific part numbers/rexes with your SW Sales Representative)
- Conforms to AWWA D102 OCS #5
- Conforms to MPI # 108
- This product meets specific design requirements for non-safety related nuclear plant applications in Level II, III and Balance of Plant, and DOE nuclear facilities
- Meets Class A requirements for Slip Coefficient, 0.36 @ 6 mils / 150 microns dft (Mill White only)
- Approved intermediate for NEPCOAT System B
- Approved to Norsok M501 system 7B (limited colors)
- ISO 12944:2018 approved for C2 to CX

ADDITIONAL NOTES

Tint Part A with Maxitoners at 150% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Tinting is not recommended for immersion service.

Quick-Kick Epoxy Accelerator is acceptable for use. See data page for details.

Acceptable for concrete floors.

Application to surfaces above 120°F (49°C) is not recommended in VOC Restricted Areas (≤250 g/L). When spraying a surface above 120°F (49°C) in other areas (>250 g/L), please consult with your Sherwin-Williams representative. Spray apply only. Product will produce an orange peel appearance when applied at elevated temperatures.

Topcoating: It is recommended to apply a thinned-down, low wet film thickness mist coat over zinc rich primers to help avoid outgassing. Allow it to tack up and seal the surface. Then apply a full wet film thickness coat as directed.

Mix contents of each component thoroughly with low speed power agitation. Make certain no pigment remains on the bottom of the can. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated prior to application. Re-stir before using.

HEALTH AND SAFETY

Refer to the SDS sheet before use.
Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Sheet.

Protective & Marine Coatings

HI-SOLIDS POLYURETHANE 250
ALIPHATIC POLYURETHANE

PART S	B65J-300 SERIES	GLOSS
PART S	B65J-350 SERIES	SEMI-GLOSS
PART T	B60V30	HARDENER

Revised: November 3, 2022

PRODUCT INFORMATION

5.30

PRODUCT DESCRIPTION

HI-SOLIDS POLYURETHANE 250 is a two-component, aliphatic, acrylic polyurethane resin coating. It is designed for high performance protection with outstanding exterior gloss and color retention.

- Good/excellent resistance to corrosion and weathering
- Outstanding color and gloss retention
- Chemical resistant
- Suitable for use in USDA inspected facilities
- Formerly named Hi-Solids Polyurethane CA
- Resists film attack by mildew (MR White Tint Base only, B65WWJ305)
- Applications down to 20°F (-7°C)

PRODUCT CHARACTERISTICS

Finish: Gloss and Semi-Gloss

Color: Wide range of colors possible

Volume Solids: 63% ± 4%, may vary by color or sheen
Ultra White

Weight Solids: 74% ± 2%, may vary by color or sheen
Ultra White

VOC (EPA Method 24): <250 g/L; 2.08 lb/gal Mixed

Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**4.5** (112.5)	**8.0** (200)
Dry mils (microns)	**3.0** (75)	**5.0** (125)
~Coverage sq ft/gal (m^2/L)	**208** (5.2)	**347** (8.5)

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.5 mils (112.5 microns) wet:

	@ 20°F/-7°C	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	16 hours	4 hours	2 hours	1 hour
To handle:	14 days	16 hours	8 hours	5 hours
To recoat:				
minimum:	32 hours	24 hours	18 hours	10 hours
maximum:	unlimited	30 days	30 days	30 days
To cure:	40 days	14 days	10 days	7 days

If maximum recoat time is exceeded, abrade surface before recoating.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life:	3 days	8 hours	4 hours	2 hours
Sweat-in-Time:	None required			

PRODUCT CHARACTERISTICS (CONT'D)

Shelf Life:	Part S: 36 months, unopened Part T: 24 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	65°F (18°C), mixed
Reducer/Clean Up*:	VOC Restricted Areas (≤250 g/L): use Oxsol 100 or R7K111

*Other areas (>250 g/L): use Oxsol 100, R7K111, or Reducer #58. Choose a reducer that is compliant in your area. Confirm compliance with state and local air quality rules before use.

RECOMMENDED USES

For use over prepared substrates in industrial environments

- Heavy duty interior and exterior structural coating
- A chemical and abrasion resistant equipment and machinery finish
- A gloss and color retentive heavy duty maintenance coating for use in "high visibility" areas
- Exterior surfaces of steel tanks
- Chemical processing equipment
- Exterior metal siding and trim
- Precipitator surfaces
- Oil Field Machinery
- Marine Applications
- Refineries
- Conveyors
- Rolling stock
- Power plants
- Offshore structures
- Clean rooms
- Handrails
- Paper mills
- Conforms to AWWA D102 Outside Coating Systems #5 & #6 (Gloss only)
- Approved finish coat for FIRETEX M90 and M93 series systems (Gloss only)
- Approved topcoat for NEPCOAT System B

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP6
System Tested*:
1 ct. Zinc CLad 4100 @ 4.0 mils (100 microns) dft
1 ct. Macropoxy 646 @ 7.5 mils (188 microns) dft
1 ct. Hi-Solids polyurethane 250 @ 4.0 mils (100 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	119 mg loss
Adhesion	ASTM D4541	2253 psi
Corrosion Weathering	ASTM D5894, 15 cycles	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Direct Impact Resistance	ASTM D2794	40 in. lbs.
Dry Heat Resistance	ASTM D2485	200°F (93°C)
Flexibility	ASTM D522, 180° bend, 1/8" mandrel	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 1000 hours	No rusting, blistering, or delamination
Pencil Hardness	ASTM D3363**	F
Salt Fog Resistance	ASTM B117, 5,000 hours	Rating 10 per ASTM D714 for blistering; Rating 9 per ASTM D610 for rusting

Meets the requirements of SSPC Paint No. 36, Level 3 for white and light colors.

** Ultradeep bases will result in slightly softer film due to increased tint loading

continued on back

Protective & Marine Coatings

HI-SOLIDS POLYURETHANE 250
ALIPHATIC POLYURETHANE

PART S	B65J-300 SERIES	GLOSS
PART S	B65J-350 SERIES	SEMI-GLOSS
PART T	B60V30	HARDENER

Revised: November 3, 2022

PRODUCT INFORMATION

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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	Microns
Steel: Epoxy Primer			
1 ct.	Macropoxy 240	3.0-5.0	(75-125)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Steel: Epoxy Primer			
1 ct.	Macropoxy 646	4.0-6.0	(100-150)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Steel: Zinc Rich Primer			
1 ct.	Zinc Clad 4100	3.0-5.0	(75-125)
1 ct.	Macropoxy 646	3.0-10.0	(75-250)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Steel: Epoxy Mastic Primer			
1 ct.	Macropoxy 646	5.0-10.0	(125-250)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Aluminum:			
1 ct.	DTM Wash Primer	0.7-1.3	(17.5-32.5)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Concrete:			
1 ct.	Kem Cati-Coat Epoxy HS Filler/Sealer	10.0-15.0	(250-375)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Galvanized Metal:			
1 ct.	Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Galvanized Metal:			
1 ct.	ProCryl Universal Primer	2.0-4.0	(50-100)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
Galvanized Metal:			
1 ct.	Macropoxy 646	4.0-6.0	(100-150)
1-2 cts.	Hi-Solids Polyurethane 250	3.0-5.0	(75-125)
NTPEP System			
1 ct.	Zinc Clad 4100	3.0-5.0	(75-125)
1 ct.	Macropoxy 646	3.0-5.0	(75-125)
1-2 cts.	Hi-Solids Polyurethane 250 SG	3.0-5.0	(75-125)

The systems listed above are representative of the product's use, other systems may be appropriate.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

* Iron & Steel:	SSPC-SP6/NACE 3, 2 mil (50 micron) profile
* Aluminum:	SSPC-SP1
* Galvanizing:	SSPC-SP1
* Concrete & Masonry:	SSPC-SP13/NACE 6

* Primer Required

Surface Preparation Standards

Condition of Surface		ISO 8501-1 BS7079:A1	SSPC	NACE
White Metal		Sa 3	SP 5	1
Near White Metal		Sa 2.5	SP 10	2
Commercial Blast		Sa 2	SP 6	3
Brush-Off Blast		Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	SP 2	-
	Pitted & Rusted	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	SP 3	-
	Pitted & Rusted	D St 3	SP 3	-

TINTING

Tint with GIS colorants into part S only. *Maximum amount of tint is 8 fl oz for the EW & 18 fl oz for the UD. Most colors typically utilize about 3-5 ounces with EW bases and 6-12 ounces with UD bases.*

APPLICATION CONDITIONS

Temperature:	20°F (-7°C) minimum, 120°F (49°C) maximum (air, surface, and material) Do not apply over surface ice At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	
Part S:	1 gallon (3.78L) and 4 gallon (15.12L) kits
Part T:	quarts and gallons
Weight:	10.7 ± 0.2 lb/gal ; 1.3 Kg/L mixed, may vary with color

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.
Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.