

SPECIFICATION NO. CN-MMM-I

DATE 2-4-75

DUKE POWER COMPANY  
CATAWBA NUCLEAR STATION  
UNITS 1-2

Title: Nuclear Coating Certification

Specification No. CN-MMM-I

Class I Coatings

REVISION LOG

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_

Form 301.1/Rev.1

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PDR ADDCK 05000413  
A PDR

VERIFICATION OF SPECIFICATION



Station and Unit Number: Catawba 1-2

Title of Specification: Nuclear Coating Certification

Specification No. CN-MMM-I Class I Coatings

File Number: CN-1167.02

Revision: \_\_\_\_\_

This document specifies items related to nuclear safety. In accordance with established procedures, its quality has been assured. Signatures certify that the above specification was originated, checked, approved and inspected (or waived) as noted below:

Prepared By: C. L. Biggs Date: 2-7-75

Checked By: [Signature] Date: 2-7-75

Approved By: [Signature] Date: 2-7-75

Inspection Waived By: [Signature] Date: 2-7-75

Inspection Waived For: X ELECTRICAL \_\_\_\_\_ MECHANICAL \_\_\_\_\_ CIVIL \_\_\_\_\_

Inspected By: A. S. [Signature] Date: 2-7-75

Inspected By: \_\_\_\_\_ Date: \_\_\_\_\_

QUALITY ASSURANCE T. C. Robert Date: 2-10-75

\*\*\*\*\*  
(FOR ASME CODE ITEMS)

\_\_\_\_\_ Division Date: \_\_\_\_\_  
Design Engineering Department

This is to certify that the above specification has been reviewed by me, the undersigned, and is correct, complete, and in compliance with 1971 Edition of ASME Code, Section III, Paragraph NA-3250.

(SEAL)

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_  
Registered Professional Engineer

No. \_\_\_\_\_

DUKE POWER COMPANY  
DESIGN ENGINEERING DEPARTMENT

NUCLEAR COATING SPECIFICATION NO. CN-MMM-I

By: Design Engineering Date: 2-4-75 Revised:

1. PURPOSE AND SCOPE

- 1.1 The purpose of this specification is to implement planned and systematic actions necessary to provide Duke Power Company with adequate confidence that a coating material has been properly manufactured and applied in a shop to Class I Service level substrates of nuclear facilities.
- 1.2 This specification establishes minimum records required for coating materials, surface preparation, application of materials and inspection.
- 1.3 The procedure conforms to Section 1.2.4 ANSI N101.4-1972 (American National Standard Institute - Quality Assurance for Protective Coatings Applied to Nuclear Facilities).

2. ATTACHMENTS

- 2.1 The following Duke Power Co. attachments are attached to and made a part of this specification.
  - 2.1.1 Duke Power Company Quality Assurance Department Supplier Quality Assurance Certification - Form 930.1.
  - 2.1.2 Coating Materials - Manufacturer's Product Identity Certification Record - DPNC Form 2.
  - 2.1.3 Duke Power Company Supplier Quality Assurance Record - DPNC Form 3.

3. GENERAL REQUIREMENT

- 3.1 The Duke Power Company QA Department Supplier Quality Assurance Certification Form 930.1 shall be completed by the supplier for all Class I coating work.
  - 3.1.1 One copy of Form 930.1 shall accompany each shipment to the jobsite.
  - 3.1.2 Two copies of Form 930.1 per shipment shall be sent to Duke Power Company Quality Assurance Manager, Engineering.
  - 3.1.3 Form 930.1, when completed as specified, shall be authorization for Duke Power Construction to accept delivery of components and materials. Absence of properly completed QA Certification form shall result in quarantine or return of the component or materials to the supplier.

DUKE POWER COMPANY

DESIGN ENGINEERING DEPARTMENT

NUCLEAR COATING SPECIFICATION NO. CN-MMM-I

By: Design Engineering Date: 2-4-75 Revised:

- 3.2 A coating material - Manufacturer's Product Identity Certification Record (DPNC Form #2) shall be obtained from the coating manufacturer for each batch of paint and thinner used by the vendor on Class I components.
- 3.2.1 Two copies of each DPNC Form #2 shall be sent to Duke Power Company Quality Assurance Manager, Engineering.
- 3.2.2 DPNC Form #2 shall be enclosed to cover each batch of material used on any or all components or materials shipped as listed on Duke Power Company QA Department Supplier Quality Assurance Certification.
- 3.3 A Duke Power Company Supplier Quality Assurance Record (DPNC Form 3) shall be filled out for all Class I coating work.
- 3.3.1 A separate form may be used to cover the following combinations of materials and components.
- 3.3.1.1 All work in each shipment.
- 3.3.1.2 Different types of components in each shipment.
- 3.3.1.3 Series of similar types of components in each shipment.
- 3.3.2 Two copies of DPNC Form 3 shall be sent to Duke Power Company Quality Assurance Manager, Engineering.
- 3.3.3 Failure of the vendor to meet all requirements of the bid specification or incomplete and inaccurate QA Documentation shall result in rejection by the owner of any or all components covered by that DPNC Form 3.

#### 4. DOCUMENTATION

This section contains additional explanations and examples to aid the vendor in properly completing the forms listed in sections 2.1.1, 2.1.2, and 2.1.3.

- 4A. DPNC Form 3 (Sample Form attached).

DUKE POWER COMPANY

DESIGN ENGINEERING DEPARTMENT

NUCLEAR COATING SPECIFICATION NO. CN-MMM-I

By: Design Engineering

Date: 2-4-75

Revised:

- 4.1 Identify components or equipment so that separate items are traceable, and can be matched up with a specific Report No.
- 4.2 Example: Carbon steel, cast iron, stainless, aluminum, etc.
- 4.3 This information is for items covered by each DPNC Form 3.
- 4.4 Information should be reported in even gallons for items covered by each DPNC Form 3.
- 4.5 List all information required for each batch of material used on components covered by this DPNC Form 3 and attach a DPNC Form 2 for each batch of material listed on this DPNC Form 3.
- 4.6 Duke Power Company Design Specification used.
- 4.7 Examples: Steel grit, silica sand, glass beads, garnet.
- 4.8 Examples: 8/20, 8/35, 16/35, 30/50, etc.
- 4.9 Example: Xylol, methyl ethyl ketone, etc.
- 4.10 Read pressure at nozzle with ANG air needle gauge or equal. (Do not use pressure at compressor.)
- 4.11 Was moisture trap used effectively (yes) (no)?
- 4.12 Temperatures are to be taken in actual work areas and shall cover all conditions during surface preparation and exposure of components cleaned prior to priming.
- 4.13 Indoors - In a closed building kept at ambient temperatures.
- 4.14 Outdoors - Exposed to weather (even if under a roof).
- 4.15 Example - Brush, roller, spray, flow coated, etc.
- 4.16 Example - Graco airless, Devilbiss conventional.
- 4.17 Example - E Fluid Tip.
- 4.18 Example - #704 Air Cap.
- 4.19 Example - Yes (motor driven), yes (manual), (no).
- 4.20 Was oil separator used effectively? (yes) (no)

DUKE POWER COMPANY

DESIGN ENGINEERING DEPARTMENT

NUCLEAR COATING SPECIFICATION NO. CN-MMM-I

By: Design Engineering

Date: 2-4-75

Revised:

- 4.21 Report actual total dry film thickness after primer, intermediate and finish coat.
- 4.22 Report number to be same on both front and back page. Report numbers shall be logged and numbered in sequence from 1 to \_\_\_\_\_ to cover all reports of a given Duke Power Company Bid Specification.
- 4.8. DPNC Form 2
- 4.23 The vendor shall fill out the General Data Section and attach a DPNC Form 2 to the purchase order sent to the coating manufacture.
- 4.24 The coating manufacturer shall complete the Component Data Section, Mixed Component Data Section and Signature and Title section and return to the vendor.
- 4C. Form 930.1.
- 4.25 In space 1 write "Components inspected and are in compliance with Nuclear Coating Certification Specification CN-MMM-I, dated 2-4-75".
- 4.26 List Report Nos. for all DPNC Form #3, under QA Documentation Required, on the Form 930.1 for each shipment.

SAMPLE

DPHC FORM 3  
DUKE POWER COMPANY  
SUPPLIER COATINGS QUALITY ASSURANCE RECORDS  
CLASS I

Project : \_\_\_\_\_ Date: \_\_\_\_\_  
D.P. Co. \_\_\_\_\_ Shipping \_\_\_\_\_  
Spec. No. \_\_\_\_\_ I.D. No. \_\_\_\_\_  
Mill Power Order No. \_\_\_\_\_ Release No. \_\_\_\_\_

Vendor: \_\_\_\_\_

Equipment Name and No. (4.1) \_\_\_\_\_

GENERAL INFORMATION

Substrate Material: (4.2) \_\_\_\_\_

Estimated Surface Area Coated  
Sq. Ft./Item (4.3) \_\_\_\_\_ No. Items (4.3) \_\_\_\_\_ Total Sq. Ft. (4.3) \_\_\_\_\_

Estimated Coating Quantities  
Primer (4.4) Gal. \_\_\_\_\_ Intermediate (4.4) Gal. \_\_\_\_\_ Finish (4.4) Gal. \_\_\_\_\_

Date Work Began (4.3) \_\_\_\_\_ Date Work Completed (4.3) \_\_\_\_\_

Duke Power Coating System	Dated	Finish Color No. and Name	
Duke Power Product No.	Primer DP#	Intermediate DP#	Topcoat DP#
Manufacturer			

1. MATERIALS IDENTIFICATION

DP NO.	PRODUCT No.	PRODUCT NAME	BATCH NO.	EXPIRATION DATE	GALLONS USED
(4.5)	(4.5)	(4.5)	(4.5)	(4.5)	(4.5)

2. MATERIAL WAREHOUSING

Storage Temperature		Material Stored		
Maximum	Minimum	Indoors	Outdoors	Other
°F	°F			

Date 6-1-74; Revised

CN-S-13-3-5

SAMPLE

Report No. (4.22) \_\_\_\_\_

Page 2 of 11 pages

SAMPLE

DPNC FORM 3

3. SURFACE PREPARATION

Surface Preparation No. (4.6)

Abrasive: Type (4.7)  
 Size (4.8)  
 Mfg. \_\_\_\_\_

Solvent: Type (4.9)

Product No. \_\_\_\_\_

Mfg. \_\_\_\_\_

Nozzle Pressure (4.10)

Moisture Trap (4.11)

Temperature Ambient

Surface

Dew Point

Max.: (4.12) °F

(4.12) °F

(4.12) °F

Min.: (4.12) °F

(4.12) °F

(4.12) °F

Maximum Time Between Cleaning and Coating \_\_\_\_\_ Hrs.

Work Done: Indoors (4.13) Outdoors (4.14) Night \_\_\_\_\_ Day \_\_\_\_\_

Inspected By: \_\_\_\_\_ Approved By: \_\_\_\_\_

4. APPLICATION

Method of Application (4.15)

Spray:

Type Spray Gun (4.16)

Agitator Pot (4.19)

Fluid Tip (4.17)

Moisture Trap (4.11)

Air Cap (4.18)

Oil Separator (4.20)

Temperature: Ambient

Surface

Dew Point

Max.: (4.12) °F

(4.12) °F

(4.12) °F

Min.: (4.12) °F

(4.12) °F

(4.12) °F

Recoat Time Minimum

Maximum

Average

Primer: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Intermediate: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Finish: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Measured DFT Minimum

Maximum

Average

(mils)

Primer: (4.21) DFT

(4.21) DFT

(4.21) DFT

Intermediate (4.21) DFT

(4.21) DFT

(4.21) DFT

Finish: (4.21) DFT

(4.21) DFT

(4.21) DFT

Work Done: Indoors \_\_\_\_\_ Outdoors \_\_\_\_\_ Night \_\_\_\_\_ Day \_\_\_\_\_

Inspected by: \_\_\_\_\_ Approved by: \_\_\_\_\_

Date 6-1-74; Revised

CN-5-13-3-6  
 SAMPLe

Report No. (4.22)  
 Page 6 of 11 pages



DPNC FORM 2

COATING MATERIALS - MANUFACTURER'S PRODUCT IDENTITY CERTIFICATION RECORD  
GENERAL DATA

PURCHASER \_\_\_\_\_  
 BILLING ADDRESS \_\_\_\_\_  
 SHIPPING ADDRESS \_\_\_\_\_  
 PROJECT DESIGNATION \_\_\_\_\_  
 DATE \_\_\_\_\_ PURCHASE ORDER NO. \_\_\_\_\_ RELEASE NO. \_\_\_\_\_  
 COATING MANUFACTURER \_\_\_\_\_  
 PRODUCT DESIGNATION \_\_\_\_\_  
 GALLONS ORDERED \_\_\_\_\_ GALLONS SHIPPED \_\_\_\_\_ REFERENCE NO. \_\_\_\_\_

COMPONENT DATA

	MIXED		INDIVIDUAL	
COMPONENT	_____	_____	_____	_____
BATCH NO.	_____	_____	_____	_____
GAL. ORDERED	_____	_____	_____	_____
GAL. SHIPPED	_____	_____	_____	_____
DATE MFG'D.	_____	_____	_____	_____
SHELF LIFE	_____	_____	_____	_____
SOLIDS BY VOLUME	_____	_____	_____	_____
WT./GAL.	_____	_____	_____	_____
VISCOSITY	_____	_____	_____	_____
MIXING RATIO BY VOL.	_____	_____	_____	_____

\* (By Fed. Test Method Std. No. 141, Method 4814 or by ASTM D1475)  
 \*\* (Method \_\_\_\_\_ @ \_\_\_\_\_ °F)

MIXED COMPONENT DATA

GENERIC TYPE \_\_\_\_\_ POT LIFE \_\_\_\_\_ @ \_\_\_\_\_ °F  
 FLASH POINT (TOC) \_\_\_\_\_ DFT PER COAT \_\_\_\_\_ INDUCTION PERIOD \_\_\_\_\_ @ \_\_\_\_\_ °F  
 COLOR (VISUAL) \_\_\_\_\_  
 RECOAT TIME RANGE \_\_\_\_\_ @ \_\_\_\_\_ °F \_\_\_\_\_ /R.H.  
 DRY HARD \_\_\_\_\_ HRS. @ \_\_\_\_\_ °F \_\_\_\_\_ /R.H.  
 TACK FREE \_\_\_\_\_ HRS. @ \_\_\_\_\_ °F \_\_\_\_\_ /R.H.

COMMENTS:

Signature \_\_\_\_\_  
 Title \_\_\_\_\_  
 Date \_\_\_\_\_  
 Checked By \_\_\_\_\_

Distribution: 1 copy with shipment  
 2 copies Duke Civil Design

Revision 1 Dated 12-4-73  
 Revision 2 Dated 1-4-74

CN-5-13-3-7

DPNC FORM 3  
DUKE POWER COMPANY  
SUPPLIER COATINGS QUALITY ASSURANCE RECORDS  
CLASS I

Project: \_\_\_\_\_ Date: \_\_\_\_\_

D.P. Co. \_\_\_\_\_ Shipping \_\_\_\_\_  
Spec. No. \_\_\_\_\_ I.D. No. \_\_\_\_\_

Mill Power Order No. \_\_\_\_\_ Release No. \_\_\_\_\_

Vendor: \_\_\_\_\_

Equipment Name and No. \_\_\_\_\_

GENERAL INFORMATION

Substrate Material: \_\_\_\_\_

Estimated Surface Area Coated  
Sq. Ft./Item \_\_\_\_\_ No. Items \_\_\_\_\_ Total Sq. Ft. \_\_\_\_\_

Estimated Coating Quantities  
Primer \_\_\_\_\_ Gal. Intermediate \_\_\_\_\_ Gal. Finish \_\_\_\_\_ Gal.

Date Work Began \_\_\_\_\_ Date Work Completed \_\_\_\_\_

Duke Power Coating System	Dated	Finish Color No. and Name	
Duke Power Product No.	Primer DP#	Intermediate DP#	Topcoat DP#
Manufacturer			

1. MATERIALS IDENTIFICATION

DP NO.	PRODUCT NO.	PRODUCT NAME	BATCH NO.	EXPIRATION DATE	GALLONS USED

2. MATERIAL WAREHOUSING

Storage Temperature		Material Stored		
Maximum	Minimum	Indoors	Outdoors	Other
°F	°F			

Date 6-1-74; Revised

CN-S-10-3-8

Report No. \_\_\_\_\_

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DPNC FORM 3

3. SURFACE PREPARATION

Surface Preparation No. \_\_\_\_\_

Abrasive: Type \_\_\_\_\_

Solvent: Type \_\_\_\_\_

Size \_\_\_\_\_

Product No. \_\_\_\_\_

Mfg. \_\_\_\_\_

Mfg. \_\_\_\_\_

Nozzle Pressure \_\_\_\_\_

Moisture Trap \_\_\_\_\_

Temperature

Ambient

Surface

Dew Point

Max.: \_\_\_\_\_ °F

\_\_\_\_\_ °F

\_\_\_\_\_ °F

Min.: \_\_\_\_\_ °F

\_\_\_\_\_ °F

\_\_\_\_\_ °F

Maximum Time Between Cleaning and Coating \_\_\_\_\_ Hrs.

Work Done: Indoors \_\_\_\_\_ Outdoors \_\_\_\_\_ Night \_\_\_\_\_ Day \_\_\_\_\_

Inspected By: \_\_\_\_\_ Approved By: \_\_\_\_\_

4. APPLICATION

Method of Application \_\_\_\_\_

Spray:

Type Spray Gun \_\_\_\_\_

Agitator Pot \_\_\_\_\_

Fluid Tip \_\_\_\_\_

Moisture Trap \_\_\_\_\_

Air Cap \_\_\_\_\_

Oil Separator \_\_\_\_\_

Temperature:

Ambient

Surface

Dew Point

Max.: \_\_\_\_\_ °F

\_\_\_\_\_ °F

\_\_\_\_\_ °F

Min.: \_\_\_\_\_ °F

\_\_\_\_\_ °F

\_\_\_\_\_ °F

Recoat Time Minimum

Maximum

Average

Primer: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Intermediate: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Finish: \_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

\_\_\_\_\_ Hr.

Measured DFT (mils) Minimum

Maximum

Average

Primer: \_\_\_\_\_ DFT

\_\_\_\_\_ DFT

\_\_\_\_\_ DFT

Intermediate \_\_\_\_\_ DFT

\_\_\_\_\_ DFT

\_\_\_\_\_ DFT

Finish: \_\_\_\_\_ DFT

\_\_\_\_\_ DFT

\_\_\_\_\_ DFT

Work Done: Indoors \_\_\_\_\_ Outdoors \_\_\_\_\_ Night \_\_\_\_\_ Day \_\_\_\_\_

Inspected by: \_\_\_\_\_ Approved by: \_\_\_\_\_

DUKE POWER COMPANY  
QUALITY ASSURANCE DEPARTMENT  
SUPPLIER QUALITY ASSURANCE CERTIFICATION

Name of Supplier \_\_\_\_\_ Item No. \_\_\_\_\_  
 Address of Supplier Plant \_\_\_\_\_ Spec. No. \_\_\_\_\_ Rev. \_\_\_\_\_  
 Component(s) or Material \_\_\_\_\_ Date \_\_\_\_\_  
 Shipping ID No. \_\_\_\_\_  
 Release No. \_\_\_\_\_

Mill Power Order No. \_\_\_\_\_

Certification included \_\_\_\_\_ Full \_\_\_\_\_ Partial \_\_\_\_\_

The following listed tests and inspections have been completed as required by specification: (If partial certification, list materials or components for which certification applies.)

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

Physical and Chemical Analysis	_____	Major Repair Records and Chart	_____
Design Report	_____	Repair NDT	_____
Stress Report	_____	Hydro (Test Press.-PSIG _____)	_____
Heat Treatment	_____	Cleanliness	_____
Radiographic Test	_____	Operating Test	_____
Ultrasonic Test	_____	Performance Curve	_____
Magnetic Particle	_____	ASME Data Report	_____
Penetrant Tests	_____	Personnel Qualifications on Record	_____

Deviation Record \_\_\_\_\_

The following QA Documentation as required by the specification is attached to the original copy of this form: (If partial certification, include documentation applicable only to this specific shipment.)

DPNC Form #3 (List Report No.)  
\_\_\_\_\_  
\_\_\_\_\_

DUKE POWER COMPANY  
QUALITY ASSURANCE DEPARTMENT  
SUPPLIER QUALITY ASSURANCE CERTIFICATION

The listed component(s) or material(s) conform to the requirements of Duke Power Company Specification \_\_\_\_\_ with the approved deviations noted above. The QA documentation has been completed and attached to this form. No later than component or material shipment, the compliance QA documentation packet is being transmitted to Duke Power Company

H. L. Huggett  
Quality Assurance Manager, Engineering  
Quality Assurance Department  
P. O. Box 2178  
Charlotte, N. C. 28242

A copy of this completed Supplier Quality Assurance Certification form will be included with shipping papers and shipped with the component to Duke Power Company, at the address designated in the specification. This is to certify that the item of equipment identified above fully meets the requirement of the above listed specification including all of the codes, standards, test requirements, and quality assurance requirements invoked therein.

\_\_\_\_\_  
Supplier Representative Authorized Signature

Title \_\_\_\_\_ Date \_\_\_\_\_

DUKE POWER COMPANY  
FIELD COATINGS PRODUCT DATA SHEET VIIA

COMPANY:	Carboline Company	Rev. 11-1-75
PRODUCT NAME:	Carbo Zinc #11	DP NO: 12 rev. 11-1-75 DATE: 1-1-74, rev. 3-10-75 PRODUCT NO: Carbo Zinc #11

PRODUCT DESCRIPTION: An inorganic ethyl silicate zinc rich metal primer formulated for excellent weathering and abrasion resistance. Affords cathodic protection of the steel. Can be applied to load bearing surfaces.

USAGES: As a shop or field primer over blast cleaned steel surfaces exposed to long term weathering before being topcoated or severe moisture after being topcoated with an epoxy, vinyl, urethane, chlorinated rubber or latex finish.

PRODUCT INFORMATION

PIGMENT TYPE:	Metallic Zinc Inerts
VEHICLE TYPE:	Inorganic ethyl silicate
SOLVENTS & DILUENTS:	Glycol ether, Aromatic Solvents
COLOR:	Gray or Green
GLOSS:	Flat
SOLIDS BY VOLUME:	60%
SOLIDS BY WEIGHT:	80%
WEIGHT PER GALLON:	21.2 lbs.
THEO. COVERAGE @ 1.0 DFT:	1,000 sq. ft.
THEO. COVERAGE @ 2.5 DFT:	400 sq. ft.
VISCOSITY:	NA
PIGMENT VOLUME CONCENTRATION:	
FLASH POINT:	86°F
TOXICITY:	Aromatic & Ketone solvents, zinc dust
SHELF LIFE:	9 Months +
STORAGE TEMPERATURE:	25°F - 125°F
PACKAGED:	2 Component

APPROVED BY QA  
*TC Subject 11-11-75*  
APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_

PHYSICAL PROPERTY INFORMATION

NORMAL EXPOSURE:	Interior and Exterior (topcoated)
FLEXIBILITY:	Poor
ABRASION:	Excellent
NORMAL DFT PER COAT:	2.0 - 3.0 mils
RECOMMENDED DFT:	2.5 mils

TEMPERATURE LIMITS	<u>INTERIOR</u>	<u>EXTERIOR</u>	<u>IMMERSION</u>
CONSTANT:	750°F	750°F	120°F
INTERMITTENT:	850°F	850°F	120°F

CHEMICAL RESISTANCE	<u>FUME</u>	<u>SPLASH/SPILLAGE</u>	<u>IMMERSION</u>
ACID	LR	NR	NR
ALKALI	R	NR	NR
SOLVENT	R	R	R
SALT	R	R	R
WATER	R	R	R

NUCLEAR SAFETY RELATED  
DUKE POWER NO. 2

MANUFACTURER PRODUCT NO: C-20 Zinc #11

MIXING: Pour liquid resin (10 parts by weight) into a clean dry metal container, sift zinc (22 parts by weight) into the resin while stirring with power mixer until smooth and free from lumps. Box after thinning.

SUBSTRATES	PRIMERS	SURFACE PREPARATIONS	
		NORMAL	SEVERE
Steel	Self	SP#6, 10	SP#5, 10
Galvanized	Self	SP#6, 10	SP#5, 10

FINISH COATS: DP#53, 62, 63, 64, 67, 68, 69, 70, 73, 74, 75

APPLICATION: PREFERRED Conventional Spray or Special airless  
LIMITED Brush (touch up)

THINNER: BRUSH/ROLL High Temperature #33, Low Temperature #26  
SPRAY, High Temperature #33, Low Temperature #26

CLEAN-UP Ketones

THINNING %: BRUSH/ROLL 0-20  
SPRAY 0-20

POT LIFE (+) @: 50°F 14 hr.  
70°F 10 hr.  
90°F 6 hr.

DRYING TIME (+):	TOUCH	HANDLE	HARD	RECOAT
50°F	1 hr.	4 hr.	3-48 hr.	
70°F	45 min.	3 hr.	Depending upon temperature and relative humidity.	
90°F	30 min.	2 hr.		

EQUIPMENT:

COMMENTS:

- Do not exceed 6.0 mils dft.
- Do not topcoat with alkyds, or oil based coating.
- Material must have rough surface profile for proper adhesion.
- Apply wet--do not dry spray or allow excessive overspray.
- Material is moisture cured.

APPROVED BY QA  
*T.C. Roberts* 11-11-20  
APPROVED BY DATE

R-Recommended LR-Limited Recommendations NR-Not Recommended NA-Not Applicable

DUKE POWER COMPANY  
FIELD COATINGS PRODUCT DATA SHEET VIIA

COMPANY: Carboline Company	DP NO: 67
PRODUCT NAME: Phenoline 305 Finish	DATE: 11-1-75
	PRODUCT NO: 305 Finish

PRODUCT DESCRIPTION: A phenolic epoxy formulated for good abrasion, moisture and chemical resistance.

USAGES: As an intermediate or finish coat over numerous surfaces subject to intermittent moisture and chemical contamination where a high gloss finish is required or surfaces to be finish coated with epoxies or urethanes.

PRODUCT INFORMATION

PIGMENT TYPE:	Titanium Dioxide, inert silicates
VEHICLE TYPE:	Modified Phenolic Resin
SOLVENTS & DILUENTS:	Phenoline Thinner
COLOR:	Various
GLOSS:	Medium
SOLIDS BY VOLUME:	72%
SOLIDS BY WEIGHT:	81%
WEIGHT PER GALLON:	11.1 lbs.
THEO. COVERAGE @ 1.0 DFT:	1280 Sq Ft.
THEO. COVERAGE @ <u>4.0</u> DFT:	320 Sq. Ft.
VISCOSITY:	80-100 Ku
PIGMENT VOLUME CONCENTRATION:	22%
FLASH POINT:	215°F Cleveland O C
TOXICITY:	Moderate Skin Sensitizer
SHELF LIFE:	2 yrs.
STORAGE TEMPERATURE:	25°F - 125°F
PACKAGED:	2 Component

PHYSICAL PROPERTY INFORMATION

NORMAL EXPOSURE:	Interior and Exterior
FLEXIBILITY:	Good
ABRASION:	Excellent
NORMAL DFT PER COAT:	3.0 - 4.0 DFT
RECOMMENDED DFT:	4.0 DFT

TEMPERATURE LIMITS	<u>INTERIOR</u>	<u>EXTERIOR</u>	<u>IMMERSION</u>
CONSTANT:	200°F	200°F	NR
INTERMITTENT:	250°F	250°F	NR

CHEMICAL RESISTANCE	<u>FUME</u>	<u>SPLASH/SPILLAGE</u>	<u>IMMERSION</u>
ACID	R	R	LR
ALKALI	R	R	LR
SOLVENT	R	R	LR
SALT	R	R	LR
WATER	R	R	LR

APPROVED BY QA  
*TC R. R. R. 11-1-75*  
APPROVED BY DATE



# NUCLEAR SAFETY RELATED

MANUFACTURER PRODUCT NO: Phenoline 305 Finish

DUKE POWER NO: 67

MIXING: Mix 4 parts by volume of base to 1 part by volume of catalyst. Stir thoroughly with power mixer and box after thinning.

<u>SUBSTRATES</u>	<u>PRIMERS</u>	<u>SURFACE PREPARATIONS</u>	
		<u>NORMAL</u>	<u>SEVERE</u>
Steel	DP#12	SP6	SP5, SP10

FINISH COATS: DP#67, 34, 62, 69, 72

APPLICATION:	PREFERRED LIMITED	Spray, Roller Brush
THINNER:	BRUSH/ROLL SPRAY	0 - 15% 0 - 15%
	CLEAN-UP	Phenoline Thinner
THINNING %:	BRUSH/ROLL SPRAY	Phenoline Thinner Phenoline Thinner
POT LIFE (±) @:	50°F 70°F 90°F	3 hr. 1½ hr. 1 hr.

DRYING TIME (±):	<u>TOUCH</u>	<u>HANDLE</u>	<u>HARD</u>	<u>RECOAT</u>
50°F	16 hr.	24 hr.	8 days	24 hr.
70°F	8 hr.	12 hr.	4 days	18 hr.
90°F	6 hr.	8 hr.	3 days	12 hr.

EQUIPMENT:

COMMENTS:

APPROVED BY QA

*TC Phil 11-11-75*

APPROVED BY                      DATE

R-Recommended    LR-Limited Recommendations    NR-Not Recommended    NA-Not Applicable

210.119

We have reviewed the report (NSR 71490-1, Rev. A, 11/10/76), entitled, "Design Report of 12 inch 1512 lb. Stainless Steel Gate Valve with Motor Operator." The report (p. 3) lists drawing numbers used to obtain dimensions used in the analyses. Provide the drawings used in the report portion II, A through E. (For example, dimensions  $r_z$ ,  $t_h$ ,  $d$ , and  $r_i$ ).

Response:

Drawings listed in NSR 71490-1, Revision A dated November 10, 1979 are attached.

SEE

APERTURE

CARDS

APERTURE CARD NO# \_\_\_\_\_

AVAILABILITY PDR CF HOLD \_\_\_\_\_

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