## DESIGN A/E NOTE - GUIDE SPECIFICATION CONVENTIONS

**Color-highlighted text**

**Yellow**: Editor’s Notes. Comments inserted into the text are addressed to the A/E, not the Contractor. Editor’s Notes are formatted as hidden text. Editor’s Notes are not identified with an update. Do not print Editor’s Notes in issue for distribution to Bidders/Contractors.

**Tip**: To not print Editor’s Notes (hidden text) in document choose Tools on Menu bar, click Options, Print tab, under Include with document, uncheck Hidden text (check to print text), click OK. Save.

**Tip**: To view Editor’s Notes (hidden text) in a document choose Tools on Menu bar, click Options, View tab, under Formatting marks, check Hidden text (uncheck to hide text), click OK. Save.

**Red**: Text updated in 1st quarter. April – June.

Strikethrough text and highlighting (not text) in previously issued quarters are deleted. Only 1st quarter highlighted updated text is indicated.

**Turquoise**: Text updated in 2nd quarter. July – September.

1st quarter updated text remains highlighted.

**Pink**: Text updated in 3rd quarter. October – December.

1st and 2nd quarter updated text remain highlighted.

**Bright Green**: Text updated in 4th quarter. January – March.

1st, 2nd and 3rd quarter updated text remains highlighted.

## Text Editing

Select options **[in brackets]** and edit <**notes**> before issuing specifications for distribution to Bidders/Contractors.

Delete Strikethrough text.

**Tip**: To delete strikethrough text, choose Edit on Menu bar, click Find, Find tab, More (Search Options opens), select All, click Format, Font, check Strikethrough, OK.

Click Replace tab, Replace All, OK, Close. Save.

Delete all highlighting of text from issue to be distributed to Bidders/Contractors.

**Tip: To delete highlighting, locate cursor at beginning of Section and block all text in Section, press Shift + Control + End, click No Highlight icon on Formatting toolbar. Save.**

## IMPORTANT: Retain month and year under section title on first page indicating updated Guide Specification Section issue used.

**Note**: This page will not print when Hidden text is unchecked as indicated in Editor’s Notes Tip.

IF THE HIDDEN GUIDE SPECIFICATION CONVENTIONS DO NOT APPEAR PRECEEDING THIS NOTE, TURN THEM ON AS FOLLOWS.

**FOR MICROSOFT WORD 2000 and 2003**, CLICK ON SHOW/HIDE ICON IN MENU BAR OR CHOOSE TOOLS IN MENU BAR. THEN CLICK OPTIONS, VIEW TAB, UNDER FORMATTING MARKS, CHECK HIDDEN TEXT.

**FOR MICROSOFT WORD 2007,** CLICK ON MICROSOFT OFFICE ICON LOCATED IN UPPER LEFT CORNER OF MENU BAR. CLICK ON WORD OPTIONS AT BOTTOM OF DROP DOWN. THEN CLICK ON DISPLAY. CHECK THE HIDDEN TEXT BOX.

**FOR MICROSOFT OFFICE 2010,** CLICK ON FILE BUTTON LOCATED IN UPPER LEFT CORNER OF MENU BAR. IN THE DROP DOWN, CLICK ON OPTIONS, AND A WORD OPTIONS BOX WILL APPEAR. CLICK ON DISPLAY. CHECK THE HIDDEN TEXT BOX.

THE GUIDE SPECIFICATION CONVENTIONS SHOULD NOW BE VISIBLE IN THE DOCUMENT.

(Delete this note before printing.)

**SECTION 03 35 46**

**SEALED CONCRETE FLOOR FINISHING**

**FOR NEW & EXISTING CONSTRUCTION**

(DeCA June 2022 Design Criteria)

## PART 1 – GENERAL

* 1. SECTION INCLUDES
		1. Installation of acrylic concrete sealer to new and existing concrete.
		2. Grinding of existing concrete to clean and prepare the surface for sealer installation.
	2. RELATED SECTIONS
		1. Section 01 30 00 – Administrative Requirements for Submittal Procedures
		2. Section 03 30 00 – Cast-in-Place Concrete
		3. Division 09 – Finishes
	3. REFERENCES
		1. ACI 310 – Guide to Decorative Concrete
	4. SUBMITTALS
		1. Comply with Section 01 33 00 – Submittal Procedures.
		2. Equipment and Product Data:
			1. Provide manufacturer's equipment product data sheets for:
				1. Planetary grinder polishing equipment
				2. Planetary grinder HEPA dust collection equipment
				3. Hand tools
				4. Hand tool dust collection equipment
				5. Diamond tooling
				6. Polyurea pump
				7. Joint cutting saw
			2. Manufacturer’s chemical and product data sheets for:
				1. Acrylic concrete sealer
		3. Installer’s Certification:
			1. Provide list of 5 completed projects performed with last three years of similar type, size and complexity. Submit project names, addresses, contacts and phone numbers for each project. General Contractor is to validate references and contractor’s capabilities prior to submitting bid.

\*\*Refer to specifications Division 1 for substitution qualifications.

* 1. QUALITY ASSURANCE
		1. Regulatory Requirements:
			1. Accessibility Requirements: Comply with applicable requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAGs) for Buildings and Facilities; Final Guidelines, revisions, and updates for static coefficient of friction for walkway surfaces.
			2. Environmental Requirements: Comply with current Federal and local toxicity and air quality regulations and with Federal requirements on content of lead, mercury, and other heavy metals. Do not use solvents in floor polish products that contribute to air pollution or impact food quality.
		2. Manufacturer Qualifications:
			1. A firm with a minimum of 5 years of experience in manufacturing concrete floor sealing systems.
			2. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance.
		3. Pre-installation Meeting:
			1. General contractor shall schedule and convene a pre-installation meeting at the project site before start of installation of sealed concrete floor system.
			2. Require attendance of parties directly affecting work of this section, including:
				1. Contracting Officer
				2. Technical Inspector
				3. General Contractor
				4. Sealing Subcontractor including Project Manager and Foreman
			3. Meeting agenda to include (but not limited to): Review of existing conditions, surface preparation, system installations, field quality control, protection, environmental requirements, coordination with other work, controls to limit damage from dust and field quality control methods and reporting.
				1. Unacceptable finishes include blisters, cracking, curling, delamination, surface discoloration, efflorescence, pop outs, scaling, and spalling.
	2. MOCK-UP
		1. Provide benchmark mock-up to verify finish indicated and to demonstrate aesthetic effects and set quality standards for materials and execution, i.e., typical joints, surface finish, color variation (if any), and standard of workmanship.
		2. Notify Contracting Officer seven days in advance of date and time when mock-up will be constructed.
		3. For New Facilities, provide a sealed concrete floor finish mock-up, a minimum of ~~250~~ 100 square feet, illustrating completed sealed floor. No grinding is necessary.
		4. For Existing Facilities, provide a grind & seal concrete floor finish mock-up, a minimum of ~~250~~ 100 square feet, illustrating completed finish including depth of grind necessary to remove surface inconsistencies and expose clean and sound concrete ready for sealer application.
		5. Mock-up will include properly installed repairs per section 03 30 00.
		6. Locate mock-up where directed by Contracting Officer, Project Manager or Government’s Consultant.
		7. If the Project Manager or the Government’s Consultant determines that mock-up does not meet requirements, re- finish floor sample in new location until mock-up is approved.
		8. Accepted mock-up will serve as standard to judge quality and workmanship of completed concrete floor finish.
		9. Accepted mock-up shall remain as part of finished product.
	3. PROJECT CONDITIONS
		1. Sequence application of concrete grinding and sealing until post completion of other construction activities that would be damaging to the completed concrete finish.
		2. Close areas to traffic during and after floor application for time period recommended in writing by manufacturer.

## PART 2 – PRODUCTS AND EQUIPMENT

* 1. GRINDING EQUIPMENT FOR EXISTING FACILITIES
		1. Floor Grinder:
			1. Machinery manufacturer will be HTC, SASE, Concrete Polishing Solutions, Husqvarna, ~~Diamatic~~ or PrepMaster. Alternate Machinery accepted by written approval only.
				1. Type: Multi-orbital, planetary-action, opposing-rotational, 3 or 4 diamond-headed floor grinders.
				2. Weight: 850 pounds or more.
				3. Grinding Pressure: 600 pounds minimum.
		2. Dust Extraction System and Pre-Separator for Grinding/Polishing:
			1. Heavy-duty industrial HEPA filtration vacuum system, suitable for extracting and containing large quantities of fine concrete dust (minimum 350 CFM air flow) in conjunction with manufacturer recommended pre-separator:
				1. ~~HTC 86D~~
				2. T18000 by Husqvarna
				3. T8600 by Pullman Ermator Inc.
				4. Bull 1250 by SASE Company
				5. Approved equal.
		3. Diamond Tooling for Initial Grinding and Preparing Floor for Existing Facilities:
			1. Metal Bonded Diamonds
				1. Grit Size: 80 and 150.

\*Reference Section 3.3 C

* 1. MATERIALS
		1. Water Based Acrylic Concrete Sealer 25% Solids or Higher
			1. SUPER AQUA-CURE VOX by Euclid Chemical
			2. DRESS & SEAL WB 30 by ~~L&M Construction Chemicals~~ Laticrete
			3. DECRA-SEAL W/B by W.R. Meadows
			4. Substitutions by approval only.

## PART 3 – EXECUTION

* 1. EXAMINATION
		1. Examine floor to receive sealed concrete floor system.
		2. Notify the Contracting Officer of conditions that would adversely affect installation or subsequent use prior to commencement.
		3. Do not begin surface preparation or installation until conditions are corrected and approved.
	2. SURFACE PREPARATION
		1. Protection: Protect surrounding areas and adjacent surfaces from the following:
			1. Minimal accumulation of dust from grinding.
			2. Contact with overspray of sealer.
		2. Clean Surfaces: Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint,

coatings, and other surface contaminants, which could adversely affect installation of sealed concrete floor system.

* + 1. Fill concrete joints in accordance with specification requirements prior to installation of any sealer. Failure to install joint filler will cause failure as the sealer will bond to the side wall of the joint which will prevent joint sealant from bonding correctly.
	1. INSTALLATION
		1. Repair all cracks and existing conditions or damage prior to installation of the sealed concrete flooring.
		2. Install sealed concrete floor system in accordance with manufacturer’s instructions at locations indicated on the Drawings.
		3. Existing Facility Grinding:
			1. Open Slab Surface:
				1. To provide a uniform final sealed surface, begin grinding with 80-grit or 150-grit metal bond tooling as needed to expose sound, solid concrete that will accept concrete sealer. Expose coarse concrete aggregate when required to reach lows spots within floor surface.
				2. Progressive edge grinding will be necessary with 1/2” of all vertical abutments, including walls, cases, columns, posts and racking systems.
			2. If an 80-grit is required, remove 80 metal-bonded diamond scratches by grinding with progressively finer metal bond 150-grit.
			3. Joint filler shall be flush with surface after grinding steps.
			4. Clean floor thoroughly using an auto-scrubber and allow to completely dry per manufacturer’s instructions.
			5. Apply Sealer:
				1. Apply sealer per manufacturer’s instructed coverage rate using sprayers to insure consistent application.
				2. Apply a second coat within the manufacturer’s approved recoat time frame.
				3. Per manufacturer’s instructions, remove or spread excess product completely from areas of over application.
		4. New Facility Sealing Only:
			1. Joint filler shall be flush with surface after grinding steps.
			2. Clean floor thoroughly using an auto-scrubber and allow to completely dry per manufacturer’s instructions.
			3. Apply Sealer:
				1. Apply sealer per manufacturer’s instructed coverage rate using sprayers to insure consistent application.
				2. Apply a second coat within the manufacturer’s approved recoat time frame.
				3. Per manufacturer’s instructions, remove or spread excess product completely from areas of over application.
				4. If required, use manufacturer’s approved non-slip additive to achieve a non-slip floor finish.
	2. FIELD QUALITY CONTROL
		1. Inspect completed sealed concrete floor system with Government’s Representative for compliance and comparison with mock-up. Correct any deficiencies noted.
		2. Review procedures with Government Representative to correct unacceptable areas of completed sealed concrete floor system.
	3. PROTECTION
		1. Protect completed sealed concrete floor system from damage until Substantial Completion.
			1. Prohibit parking of vehicles on concrete slab.
			2. If construction equipment must be used for overhead construction, the General Contractor is to require that all trades diaper components that might drip oil, hydraulic fluid, or other liquids.
			3. Prohibit pipe cutting or threading using machinery on concrete slab.
			4. Prohibit temporary placement and storage of steel members on concrete slab.
			5. Cover concrete floors with drop cloths or use breathable drop cloths during painting. If paint is spilled on concrete floor, remove paint immediately.
			6. Protect completed sealed concrete surface from standing moisture for 72 hours to prevent re-emulsification of surface treatment prior to cure
		2. Immediately remove mortar splatter, spilled liquids, oil, grease, paint, coatings, and other surface contaminants that could adversely affect completed sealed concrete floor system.
		3. Repair damaged areas of completed sealed concrete floor system to satisfaction of Contracting Officer.
		4. Protect finished work until project is turned over to the Government.

## END OF SECTION