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# NACE No. 6/SSPC-SP 13, Surface Preparation of Concrete

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## ABSTRACT

*This NACE International/SSPC joint standard practice covers the preparation of concrete surfaces before the application of protective coating or lining systems. The standard includes two updated tables, Table 1 details classes of surface preparation, and Table 2 provides minimum acceptance criteria for concrete surfaces before coatings are applied and relevant test methods. The updated Appendix (nonmandatory) includes two additional tables, Table A1 provides typical surface properties of finished concrete, and Table A2 provides an extensive list of surface preparation methods for concrete surfaces. This standard should be used by specifiers, applicators, inspectors, and others who are responsible for defining a standard degree of cleanliness, strength, profile, and dryness of prepared concrete surfaces.*

## KEYWORDS

*abrasive blasting, acid etching, cementitious repair, coating adhesion, coatings, concrete, lining systems, NACE No. 6, protective coating systems, surface preparation, spalling, surface profile, tensile strength, TG 417, vacuum cleaning, waterjetting*

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## Foreword

***In NACE/SSPC standards, the terms “shall,” “must,” “should,” and “may” are used in accordance with Paragraph 2.2.1.8 of the Agreement between NACE International and SSPC: The Society for Protective Coatings. The terms “shall” and “must” are used to state mandatory requirements. The term “should” is used to state something considered good and is recommended but is not mandatory. The term “may” is used to state something considered optional.***

This NACE International/SSPC Joint standard covers the preparation of concrete surfaces before the application of protective coating or lining systems. This standard should be used by specifiers, applicators, inspectors, and others who are responsible for defining a standard degree of cleanliness, strength, profile, and dryness of prepared concrete surfaces.

This standard was originally prepared in 1997 by NACE/SSPC Joint Task Group (TG) F, “Surface Preparation of Concrete.” It was reaffirmed in 2003 by NACE Specific Technology Group (STG) 04, “Coatings and Linings, Protective—Surface Preparation,” and SSPC Group Committee C.2, “Surface Preparation.” It was revised in 2018 by TG 417 (formerly Task Group F). This standard is issued by NACE under the auspices of STG 04, and by SSPC Group Committee C.7.7.

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## Section 1: General

- 1.1** This NACE/SSPC standard details the requirements for surface preparation of concrete by mechanical and chemical methods before the application of bonded protective coating or lining systems.
- 1.2** The standard details specific methods of surface preparation as well as the amount of surface cleanliness and profile achievable by each method. The specifier is responsible for choosing the appropriate class of surface preparation from Table 1 for the intended protective coating and intended service conditions and these should be agreed upon by all parties involved (owner and/or specifier, manufacturer and contractor).

Table 1 Classes of Surface Preparation			
Class	Method	Profile Range (CSP) <sup>(A)</sup>	Section Referenced
D-VC	Vacuum Cleaning	NC <sup>(B)</sup>	4.2.2
W-LP	Low Pressure Water Rinse	NC <sup>(B)</sup>	4.2.2
W-DS	Detergent Scrubbing	NC <sup>(B)</sup>	4.2.3
W-SC	Steam Cleaning	NC <sup>(B)</sup>	4.2.3
W-AE	Acid Etching	1 – 3	4.4
W-WJ	Waterjetting (includes Hydrodemolition and Hydroblasting)	3 – 10	4.3.2
M-GRD	Grinding – Dry	1 – 2	4.3.4
M-GRW	Grinding – Wet	1 – 2	4.3.4
M-ABD	Abrasive Blasting – Dry	3 – 7 <sup>(A)</sup>	4.3.1
M-ABW	Abrasive Blasting – Wet	3 – 7 <sup>(A)</sup>	4.3.1
M-SB	Shot Blasting	3 – 9 <sup>(A)</sup>	4.3.1
M-SC	Scarifying	4 – 7	4.3.3

<sup>(A)</sup> ICRI<sup>(1)</sup> 310.2,<sup>1</sup> Concrete Surface Profiles (CSP); see footnote in Appendix A, Table A2.  
<sup>(B)</sup> No Change

- 1.3** The requirements of this standard are applicable to all types of cementitious surfaces including, but not limited to, cast-in-place concrete floors and walls, precast slabs, masonry walls, shotcrete surfaces and cementitious grouts, overlayers and/or underlayers.
- 1.4** The composition and installation of new concrete and cementitious repair material may affect the selection and application of a coating system. It is the responsibility of the designer to specify the concrete composition, admixtures, finishing procedures, curing method or compound and form release agents; and cementitious repair materials that ensure the concrete is suitable for coating. The chemical, physical (abrasion), and environmental exposure conditions also must be defined for the appropriate coating system to be selected.
- 1.5** Existing concrete surfaces must be properly evaluated before the application of a coating system. It is the responsibility of the owner/specifier to assess the condition of the concrete to ensure the substrate is sound and suitable for coating.
- 1.6** An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.

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