



Specifying concrete surface profiles (CSP)

Several of the methods summarized are capable of producing a range of profiles on concrete surfaces. Communication of project requirements may be improved by using CSP profiles to define surface roughness.

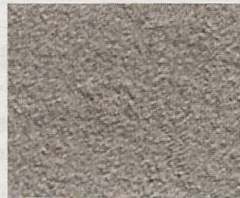
ICRI has identified nine distinct profile configurations which may be produced by the methods summarized herein. As a set, these profiles replicate degrees of roughness considered to be suitable for the application of one or more of the sealer, coating, or polymer overlay systems, up to a thickness of 1/4 inch (see Appendix B). Each profile carries a CSP number ranging from a base line of CSP 1 (nearly flat) through CSP 9 (very rough). The profile capabilities for each preparation method are identified by CSP number in the "Profile" section of the

method summaries. Molded replicas of these profiles are included with this guideline to provide clear visual standards for purposes of specification, execution and verification. These benchmark profiles may be referenced in specifications, material data sheets, application guidelines, and contract documents to effectively communicate surface preparation requirements. When these profiles are used in conjunction with specifications for thicker coating and overlay systems, it is probable that more than one profile will produce acceptable results. When applicable, the range of suitable profiles should be specified.

The concrete surfaces shown below were produced using a variety of preparation methods. Although each numbered CSP plaque bears the characteristic pattern and texture of the specific preparation method used, each plaque is representative of the profile height obtainable with all methods identified with the same CSP number.

Caution! The texture and appearance of the profile obtained will vary depending on strength, the size and type of aggregate, and finish of the concrete surface. On sound substrates the range of variation can be sufficiently controlled to closely resemble the referenced CSP standard. As the depth of removal increases, the profile of the prepared substrate will be increasingly dominated by the coarse aggregate.

Images generated using video density imaging techniques are courtesy of David Lange, Department of Civil Engineering, University of Illinois at Urbana-Champaign.



CSP 1
(acid etched)



CSP 2
(grinding)



CSP 3
(light shotblast)



CSP 4
(light scarification)



CSP 5
(medium shotblast)



CSP 6
(medium scarification)



CSP 7
(heavy abrasive blast)



CSP 8
(scabbled)



CSP 9
(heavy scarification)

Method selector

