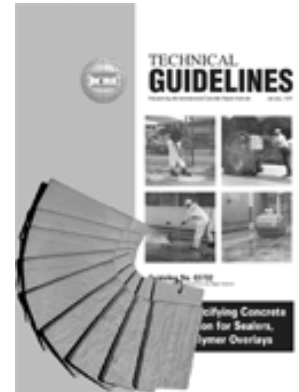


Grinding as A Concrete Floor Preparation Method

Grinding has not been generally acceptable as a method for mechanical substrate preparation when using the AC•Tech 2170™ Water Vapor Reduction Systems, but with innovations in the technology of grinding machines and the diamond plates they use, this form of mechanical preparation can be acceptable, provided the profile (CSP value) of the prepared concrete is acceptable, consistent and dust-free.

The most important factor in this type of preparation is to achieve a consistent CSP¹ value across the entire area to be prepared. The second most important item is to leave a dust free surface. During the course of many years of experience in dealing with flooring issues/failures of all types and subsequent forensic testing, the main cause is usually when the substrate surface has been improperly profiled and dust has been left on the surface after preparation. This is especially true when grinding is the prep method, as the profile delivered is very inconsistent and not up to requirements as stated in the AC•Tech literature, and tends to leave dust imbedded in the concrete surface.



A rough example of this failure mode can be described as the following: The operator will start off delivering a CSP 3 with new plates or diamond segments on the grinding machine, and as the machine moves down the floor, they wear down. The CSP value declines also, so a 3 becomes a 2 then a 1 etc. Sometimes we have noticed virtually no pattern as the plates wear down to nothing. The only way that this can be avoided is for the machine operator to pay close attention to the deck profile and the wear of the plates or segments and replace as the CSP value declines and the plates wear.

The AC•Tech 2170™ Systems require a CSP value of 3 on new concrete, a CSP 4 on existing or older concrete and a dust-free surface for both categories of substrate.

Grinding:

On new concrete, grind deck to a CSP-3 using diamonds size 16 or larger making sure that proper edging takes place; Vacuum deck free of dust then apply AC•Tech 2170™ @ 150sf/gl.

On existing concrete, the vapor drive as tested under ASTM F1869 must be below 10lbs/1,000SF/24hrs, identify any contamination existing in the concrete slab by core analysis before proceeding.

See the ICRI CSP "chips" for comparison and identification values.

Contact the AC•Tech Technical Staff for further details.



¹ CSP (Concrete Surface Profile); **ICRI, International Concrete Repair Institute:** Guideline No. 03732: [Selecting and Specifying](#)