



BONDED ABRASIVE POLISHED CONCRETE

DEFINITION - D101.0

The multi-step operation of mechanically grinding, honing, and polishing a concrete floor surface with bonded abrasives to cut a concrete floor surface and to refine each cut to the maximum potential to achieve a specified level of finished gloss as defined by the CPC. This yields the most durable finish and requires the least maintenance.

Processing: The act of changing a concrete floor surface by means of a multi-step mechanical operation that involves cutting and/or refining the surface to the maximum potential with a bonded abrasive where each step cuts progressively finer microscopic peaks and valleys. Each step must be refined to its maximum potential in which the abrasive no longer cuts or cuts very little under its current weight and set variables.

- Slip Resistance: Dynamic Coefficient of Friction (DCOF) range of 0.35 to 0.45 under wet conditions when measured according to ANSI B101.3.
- Surface Profile: Range to be determined.

Bonded Abrasives: Abrasive medium that is held within a bonding that erodes away to expose new abrasive medium as it is used.

Aggregate exposure - Grinding a concrete floor surface with bonded abrasives to achieve a specified level of exposed aggregate. These are classified as A, B, C and D with varying levels of exposed aggregate (see Aggregate Exposure Chart)

CLASS	NAME	APPROXIMATE SURFACE CUT DEPTH*	APPEARANCE
A	Cream	Very little	Little aggregate exposure
B	Fine Aggregate (Salt and Pepper)	1/16 inch	Fine aggregate exposure with little or no medium aggregate exposure at random locations
C	Medium Aggregate	1/8 inch	Medium aggregate exposure with little or no large aggregate exposure at random locations
D	Large Aggregate	1/4 inch	Large aggregate exposure with little or no fine aggregate exposure at random locations

Finished Gloss - Processing a concrete floor surface to achieve a specified level of finished gloss; (flat [ground], satin [honed], semi polished, and highly polished) that is measure in reflective clarity (DOI), and reflective sheen (specular gloss), and haze. Glossy finishes are classified as levels 1,2,3 and 4 with varying degrees of reflective clarity and sheen. (see Finished Gloss Chart)

LEVEL	NAME	REFLECTIVE CLARITY	REFLECTIVE SHEEN	SUGGESTED GRIT RANGE	SUGGESTED MINIMUM NUMBER OF ABRASIVE PASSES
1	Flat [Ground]	Flat appearance with no to very slight diffused reflection	None to very low	Below 100	4
2	Satin [Honed]	Matte appearance with or without slight diffused reflection	Low to medium	100 to 400	5
3	Semi-Polished	Objects being reflected are not quite sharp and crisp but can be easily identified	Medium to high	800 and higher	6
4	Highly-Polished	Objects being reflected are sharp and crisp as would be seen in a mirror-like reflection	High to highest		7

- Reflective Clarity:
 - Visual Appearance: When viewed 5 feet above and perpendicular to a surface, the degree of sharpness and crispness of the reflection of overhead objects.
 - Measurement by Device: Numbers indicate the Distinctness of Image on a scale of 1 (poor) to 100 (high) when measured according to ASTM D5767.
- Reflective Sheen:
 - Visual Appearance: When viewed at 20 feet from and at an angle to a surface, the degree of gloss reflected from a surface.
 - Measurement by Device: Numbers indicate the Gloss at 60 degrees when measured according to ASTM D523-08.
- Haze:
 - Measurement by Device: Numbers indicate the variation of gloss between 20 degrees and 60 degrees, when gloss exceeds 70GU, when measured according to ASTM D4039.
- Surface Profile:
 - Measurement by Device: Numbers indicate the variation of peaks and valleys of the concrete surface by using metrology devices.
- Abrasion Resistance:
 - Measurement by Device: Numbers indicate the minimum acceptable revolutions of abrasion.