

Removing Concrete Coatings

Do you realise that thin coatings on hard concrete can be the most difficult to remove?
Did you know that most epoxies contain fine powdered sands and are not always difficult to grind?

- Diamond grit size for coatings:

In general, coarse diamonds will cut through coatings better than fine diamond segments which tend to clog up with the coating material. There should be enough bite in the size of the diamond to penetrate the coating and score it so a 30/40 grit is recommended. For thicker coatings, grits of down to 10 can be used successfully. If the diamond disc is removing the coating productively then keep using it, but if it slows down you need to look at two things.

1. Perhaps the concrete is too hard and the diamonds are blunting which means you need to choose the same grit cupwheel in a softer bond. For more details see Segments - hard or soft.
2. Or maybe the coating is too thick (say over 500 microns) so you need to change to a scraper disc which will tear it off rather than grind it off. These PCD discs have small blocks of diamond.

- Concrete hardness and coatings:

To grind off most coatings the cupwheel needs to grind into the concrete floor below the coating. The concrete will keep the diamonds sharp and exposed if the bond is correct for the concrete, while also removing the build up of coating that accumulates on the segment. When you have a diamond bond that is too hard for the concrete, the diamonds will blunt and not cut into the coating properly.

At this point operators who are unaware of the problem will blame the disc for not being able to remove a coating, but it has little to do with the coating and more to do with the hardness of the concrete.

- Coating friction:

Acrylics, "DIY paving paints" and some glues become sticky with the heat generated by grinding, especially with multiple coats applied over the years. These coatings soften and stick to the segments instead of breaking away cleanly. You need to try another disc when this happens as indicated below to find the best rate of removal.

- Scraping instead of grinding:

Your options are to try coarser diamonds, or to try a PCD scraper disc or to take smaller bites into the coating each time. Sometimes a long handled scraper can be useful to scrape away most of the coating. PCD scraper discs will be most successful on hard concrete as will soft bond, very-coarse diamonds down to 10 grit. Coarse diamond 30/40 grit with the right bond will be better on soft to medium hardness concrete.