

How Do Concrete Remedy Deep Seal and Top Seal Work?

These pictures are of testing done with Deep Seal and Top Seal. The left section of the slab is bare, the middle section was treated with DS. The right section was treated with DS which was allowed to dry one day, then the area dampened with water. The TS was applied on a dampened surface which was still dark gray.

Application rates were at 150 sq. ft. per gallon.... which worked out to 7ccs per each 40 sq. in area. After a day, 3 cc s of water was put on each of the areas and pictures taken over a period of a little over an hour. The right hand section with the beaded water stayed like that over 24 hours with the water finally evaporating after about 36 hours.

This picture shows that the 3 ccs in the middle, DS section is already spreading out more than in the left section. The right section shows the water beaded on the DS/TS section. **Please Note:** The Top Seal product is not made for the purpose of "beading" liquids. The beading effect is temporary... it may stop beading after a few months or longer. The sample shows it beading simply because I didn't have an old enough sample which had stopped beading. Just because it stops beading DOES NOT mean that more must be applied. It doesn't work as surface films do. Instead, it holds the water out from the inside out.

You will notice that over time, the water darkened area in the middle section grows larger than the left spot. The illustrates that on the bare concrete the water tends to soak straight down into the concrete, while in the middle section, the presence of the DS beginning about 1-2 mm below the surface prevents that kind of absorption. Instead, in the middle section the water can only go down about 1-2 mm and then it starts spreading out horizontally...increasing the size of the moisture darkened area.

Below, the middle section after 3 minutes covers more than twice the area of the water on the left, bare section



After 8 minutes, the center section has continued to grow as the water spreads out horizontally because the Deep Seal is blocking it from going down into the slab.



While hard to see at this resolution, there is still slight moisture on the surface in the two left sections, bare and DS only... the beaded 3 cc.s on right on the DS/TS has not changed at all.



By 18 minutes, there is no water on the surface, it has all soaked in on the bare section and spread out wider in the middle section where the DS blocks the penetration under the surface. This illustrates that Deep Seal does NOT put a film on the surface, instead the top 1-2 mm are devoid of product and constitute a "bondable" surface for the application of adhesives, paints, surface coatings, overlays, stampwork etc.



After 22 minutes you can notice that the middle section is starting to lighten up in color around the edges and at some places in the darkened (wet) area... the bare section on the left is not showing this lightening or drying.



By 25 minutes the difference in drying between the left and middle sections is becoming more evident... with the DS treated area getting dry faster than the untreated section on the left, which is darker in color, indicating more moisture present.



The pronounced drying of the center section becomes more evident at 38 minutes, compared to the left (untreated) section which is still quite dark, i.e., wet.



After just under an hour, the 3 ccs of water has almost completely dried where it was applied on top of the Deep Seal....while the 3 ccs applied on the left untreated section still shows dark indicated presence of water.



After a little over an hour, the middle DS treated section is pretty much dry, but water still evident on the left. The right Top Seal section shows the 3 cc's of water still beaded with none having soaked in. This graphically shows that concrete treated with DS does not stay damp or wet as untreated concrete. If it had rained on this slab, say 1/2 inch of rain or more, the slab on the left would have been totally saturated and full of water... appearing dark gray over the whole surface...while the DS treated section would appear as it does below... because the only water that could have soaked into the DS treated section would have been in the top 1-2 mm of the surface... which as you can see dries quickly. This test was done in southwest Missouri where humidity is relatively high, and no sun hit this slab during the test.



This is a closeup of the 3 cc's of water on the right hand side, which was treated with DS and then TS... after 20 minutes. The area about the size of a 50 cent piece stayed the same until it eventually evaporated more than 30 hours after application. Had that 3 ccs of water been broomed off, that area would have been dry in a few minutes. However, the beading effect does not last... it is not designed as a "beading" material. It will hold out moisture even though the surface tension does not create beading. The way Top Seal works is quite different from commonly seen sealers that advertise if it stops beading you have to reapply. That is NOT true of Top Seal because it works differently.



Another visual demonstration of Deep Seal and Top Seal used together:



The container above was formed from just hand mixed cement, poured into a form, then a pop can pushed into it to make a cup like concrete container. It was treated with Deep Seal and Top Seal. As you can see the concrete is porous...however it holds the water and in fact, the water is arched into a bead inside the container. This will hold water... absolutely no absorption at all for extended periods.