

Power wash my shingles!!! Surely you're kidding?



by: The Great Canadian Roof Doctor Inc.

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It is well known to us that power washing can destroy shingles (or even blow them right off the roof); but if configured at a suitably reduced pressure, and as a directed water spray, we see “controlled” power washing as both more effective and less harmful than any other approach, in achieving a thorough cleaning of asphalt shingles. Just as it is generally not a good idea to put a running power drill into your mouth ... with appropriate modifications and control, and in the hands of a trained user (I’m picturing a dentist with a dental drill here), the results can be more beneficial than could be achieved through any other means.

When we first started Weatherproofing shingles, we knew that to keep the granules on the shingles, we also had to keep the sealant attached to the underlying asphalt. As we use a penetrating sealant, this meant that the asphalt surface behind the granules had to be clean enough for the sealant to reach it, and to penetrate it ... and so, to adhere to it. Neither chemicals nor mechanical scraping of the surface could do the job. Further: chemical treatment would leave the water-retaining dirt behind, to break the weak “glue” bond that held the granules on, and scraping (brushing, sweeping, etc.) would not only leave the lower dirt in place, but would break off granules during the “cleaning” process.

With help from videos like this (<https://tinyurl.com/PowerWashRoof>), we developed our approach that drops the pressure, spreads the remaining force with a suitable choice of nozzle, and allows us to focus on extended dirt structures by adjusting the nozzle to target distance when required. In this short video (<https://tinyurl.com/GCRoofDrDemo>) that we display at home shows, we are cleaning and sealing an 18 year old strata roof system in Nanaimo in 2013. The video shows that when cleaning with our modified pressure washers, we don’t have enough pressure to do more than about 5 inches at a time, and that we normally have to redo each area multiple times. We would love to get the work done faster, but that would defeat what we are trying to do ... to extend the life of the shingles.

Technical note: The nozzle that we use to produce the “spray” creates more noise than a continuous stream nozzle (a focused garden hose style ... but with a much narrower stream). Our nozzle also creates a more violent looking rebound display of shattered water, with its dispersed delivery and multiple points of granule contact. The visual impact can suggest that greater power (pressure?) is being unleashed through the spray, but each change in appearance is caused by interference with the flow, and comes with a resulting pressure drop. Ultimately, it’s the momentum (mass times velocity) of the water that puts the granules at risk. The small “free” water droplets that we spray have less velocity than would be seen with a continuous stream, and because they travel as drops surrounded by air, they can go around a granule rather than through it. An internal drop of water in a continuous stream

couldn't easily move out of the way, because water is not compressible. With the spray then, there is a dramatic reduction in mass (and hence momentum force) against each granule. Where the redirected drops can combine (between the granules), their force is then shifted to the trapped debris between the granules. The effect is somewhat like flossing between the granules. The advertised power of a pressure washer always assumes that you are using the continuous single stream (hose concept but narrower) nozzle flow in its advertising copy, to impress you with its power.

Before we started cleaning roofs for Weatherproofing, we did our power washer testing on the shingles of homes that we were about to re-roof. That's where we tested and confirmed our chosen pressure control settings, selected our preferred degree of nozzle spray fan and orifice size combinations, and developed our continuous motion application technique. When cleaning, the Great Canadian Roof Doctor uses "commercial pressure washer" systems that allow direct control over delivered pressure, and have integrated pressure gauges that allow us to achieve reproducible end results ... even with different source water pressure, or under flow limited conditions.

From the ancient Greek philosophers we get the direction "Know yourself" (and by inference ... our limits), and "Nothing in excess" which seems to allow for the controlled use of otherwise dangerous approaches. This philosophy has managed to retain its relevance for over 2,500 years now.

That said, and with thousands of roofs cleaned, we have not yet seen a roof that looked in worse condition after our thorough cleaning than before. To be clear, on roofs with moss and/or algae involvement, it is common to find some loose granules held by (or in) moss and algae, that are no longer attached to the shingles. These granules will leave the roof when the moss leaves the roof. Any moss or algae affected area of granule loss will be stabilized with our sealant, and will be covered by our full warranty.

**If you want your roof to stay the same ...
then your roof will have to change.**

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Better Business Bureau – [A+] rating



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