

2013 DW Paint Defender

About a year ago I spent \$500 to get my hood painted. Within a few weeks I had several stone chips as well as the distinctive splats of bird poo etching holes in the clear coat. Am I PO'd? You bet. I hate the look of "bras", and can't imagine spending the hundreds of bucks at a dealer to have them put that clear plastic film on it. I like it, I want it, I just can't afford it. Interestingly, with that experience etched in my mind like poo'd paint, 3-M invited Diesel World to a DIY clinic. Doing things and making modifications is who we are, right? Among 3-M's newest products is Paint Defender, a DIY spray-on coating designed specifically to protect truck (and car) hoods from, you got it, bird poo and stone chips. According to 3-M, 70% of new truck buyers get stone damage in the first three months of ownership. That sucks; and obviously I had painted a few months too early.

Paint Defender has a heritage dating to Viet Nam where adhesive films were used to protect leading edges of helicopter blades. Subsequently, protective films were offered to dealers as a "value-add on" to customers. Paint Defender, unlike the professionally applied films, is 3-M's first spray-on paint protection product and it is incredibly easy to apply. Compared to professional films which cost \$20-\$50 per square foot or \$500-\$1000, Paint Defender costs fifty bucks. Like the pro films it is invisible and offers a promised one year protection (pro films have a longer warranty). Though the promise is for one year, expect a bit longer in many areas. Another interesting idea, though 3-M only offers this as a coating for hoods, it can be applied to bumpers for protection, and even (we did not tell you this), polycarbonate lighting devices, as well as mirror housings. Actually, almost any surface subject to abrasion.

Photo DW_3MPaintDefender11

Once you're ready to renew the surface it peels off like stretch wrap, only thicker. The film is about 5-7 mils thick and startlingly strong. Truth up, I couldn't stick my pen or key through it despite jabbing like a demented fencing instructor. We also coated some samples and ran them through a gravelometer for the ASTM-D3170 test, we are thorough! Gravelometers are very cool devices that simulate driving behind a gravel truck for hours. The resulting stone damage peeled off where coated. Where not, road rash acne.

Photo

DW_3MPaintDefender7

DW_3MPaintDefender8

DW_3MPaintDefender10

What it's in Paint Defender? We have no idea. We were told it took 3-M 248 formulations to create even though it already had coatings for transit vehicles. It is definitely a polymer, and it is very safe to apply as it is water based. It is also self-leveling so application is very easy, though the spray painting process is completely different from applying paint with a rattle can. We did ask about Plasti-Dip, a competitive product. 3-M says Paint Defender's failure mode is to haze, and that Defender is applied in one shot versus competitor's multiple coats. There's no waiting while solvents flash off, and Defender lasts a year versus three months. Comparatively, Plasti-Dip is a latex product. Regardless, once you apply these products, and unlike dealer applied films, no more brush-type car washes for you.

The product comes in a single spray can of product, that's enough to coat a large hood, or the leading edge and maybe the mirrors and bumper. That's up to you. You'll also want a spray can trigger. 3-M and others sell them, and they work on rattle cans. At \$6-8 are a worthy. For another \$12 you can get a box with no-crepe masking tape, a big sheet of plastic to cover your truck from bumper to atop the roof. You really want to do this or something similar, regardless of using their tape or plastic. You really want a specialty painters tape with no crepe as that allows product to creep beneath.

Here's the difficult part, which really isn't hard. After you get the "3-M Paint Defender Spray Film 9000" (\$24.99 at Amazon), read the directions. Then watch the video. Go out and prepare your truck and either reread the directions or watch the video again. If you're sensing a theme, yes. Although the product is almost stupid-easy, it is also easy to make stupid mistakes and, once back at the office I made them all. After all, I'd done it in the 3-M lab, I've painted cars and done body work, what could go wrong. Well...

3-M says to first cut or tear a T-shaped opening into the draped plastic protection sheet with the top of the T where ever on your hood you want the protection to stop - if at all (though clear you can see a difference in reflection, particularly on black). Using the no-crepe tape, tape the cut edge to the hood as perfectly measured as possible. Then overlap the first tape line with another line of tape. This does two things. It assures you the plastic is well adhered, and the second strip of tape you'll remove moments after you are finished spraying. As in you will pull off that line of tape while the Paint Defender is still very wet. If you don't, you'll pull up the drying finish.

Photo **DW_3MPaintDefender1**
DW_3MPaintDefender4
DW_3MPaintDefender5
DW_3MPaintDefender6

The next step is to wax the area you've decided to protect with supplied synthetic wax. It's to insure you can easily peel off the dried film in year(s) later. I'd say wax it twice, the wax goes on and off in a flash.

Finally, pull the edges under the hood and prop the nose up a bit onto a roll of paper towels and get ready to "paint".

Spraying Defender is different from rattle cans. Very different. Watch the video, please. After a full minute of shaking, and there is no rattling mixing ball, you are ready to spray, gloves optional. The spray bottle should be almost horizontal 6"-10" from the surface. Next big difference, once started on the first half of your hood do not stop. Yeah, I know. Sweep side-to-side, then top-to-bottom, then side-to-side. Take a few breaths, shake the can a bit, and do the other side. 3-M recommends it take six (6) seconds to go from outside the edge to the center, or top-to-bottom. So the coating is thick. And milky. And all orange peely. If it isn't, you put it on too thin. Like I did. So if you don't see a thick, orange peel surface, respray now. It is much easier to add more "paint" while the surface is wet than to remove it. I am very, very, very sure of this.

If you do mess up, it is far better to have a few sags (I do, where the hood rolls at a bottom edge) and that is easy to peel off. It's thin applications that are harder to remove.

There are a few things to know. Don't treat your truck until the paint is cured, something like 30 days. Wax the area to be coated several times with 3-M or other wax. It will make removal easier—it should peel off like cling wrap. If you do have overspray, for instance on your grille, just wait for it to dry and peel it off. If it is too thin to easily peel, an ammoniated cleaner like Windex should do the trick. 3-M suggests waiting for 3-4 hours for the surface to dry. I'd suggest overnight to be sure. Don't mess with it for a few days, the longer the better. Then you can wax it like the rest of the hood. I have used spray wax and two synthetic liquid waxes, both work very well.

Me, I'm glad I did it even if I did goof and have to redo. Already I can see many stone chips that I know are only on the plastic, not into the paint. For under \$50 and a few hours, that's a good investment. Or I could repaint every year...

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Captions:

11- Our playtime DIY setup. A fake hood, the no-crepe tape, Paint Defender, wax, and spray handle. You can buy the spray for \$25 if you have the others. For about \$20 extra, it might be a good idea and it brings the total to under fifty bucks.

7-8-10-

7 This is what a sample looks like before the shot peening from the gravelometer. It really is water clear.

8 A sample pulled from the gravelometer showing what looks like an equally messed up paint finish. Big dings, big chips.

9 But, pull the Paint Defender film off that same test sample and a much different story appears. Or a story with less to tell where the film protected paint.

10 This is the clear sample pulled from a gravelometer test. Note the dings and dents in the film. Oh, not our fingernails. Please!

1-4-5-6

With the second no-crepe tape pulled off the car (sorry, we didn't take a truck to 3-M HQ) it's easy to see both the clear line and the heavily orange-peeled wet surface. It should look that way, faintly blue, very wet, and like the worst orange peel you've ever seen. You can see the overspray on the first tape and plastic protective sheeting.

5 While a throng of fellow journalists look on, Todd Mathes, Tech Specialist for the 3M Automotive Aftermarket Division and Jenn Cook, Senior Technical Service Engineer peel off the line-defining second layer of tape.

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4 Once the product is applied it should look like this. Awful! Well, bad for a paint job, great for the product. Note the even wrinkles or orange peel texture that is uniform across the hood.

2 This is the wrong way to apply Paint Defender - much too far away from the hood. You should be 6-9 inches—about a hand's with from pinky to thumb—away. Too far and the deposition becomes thin.