



A 12-ounce tub costs \$34.95, less than you'd pay for three cans of specialty gray spray paint. One tub will do at least two full cars, probably more.

ECS' RPM: RUST PREVENTION MAGIC

A REVOLUTIONARY, WAX-LIKE PRODUCT FOR DO-IT-YOURSELFERS THAT PREVENTS BARE METAL FROM RUSTING

Who's your buddy? Who's your pal? *Mustang Magazine* is introducing you to a new product that we think is going to be a big step forward for the restoration market and beyond. Remember, you read it here first.

It's a tub of not-very-attractive, waxy stuff, but it can help your car look like a million bucks by preventing rust and oxidation on bare metal.

Restorers and car builders have puzzled over what to do with raw metal parts, like brake master cylinders, drums, rotors, exhaust manifolds, and suspension parts that are already starting to rust before a new car is even done.

Purists say that rust is original. Let it run its course because that's what happened to cars back in the '60s. But most people in the hobby have pretty

much decided that the best thing for bare metal parts is to paint them in a color that most closely matches their original appearance. The paint seals out moisture and looks convincing enough, provided the parts were correctly prepared.

But what if you could treat your bare metal parts one time with an invisible coating, render them unsusceptible to rust, and preserve the genuine look of real raw metal?

ECS Automotive Concepts is rolling out a new product — RPM, which stands for Rust Prevention Magic — that promises to change how restorers handle bare metal. Interested?

We were. So we requested a sample to evaluate.

RPM is made by ECS Automotive Concepts, a St. Louis-area company that reproduces select restoration parts to very exacting standards. You've probably never heard of them, but their reputation is excellent, so our hopes were high.

In the 12-ounce tub was a gray paste that smelled like car wax.

The directions say to warm the part with a heat gun or hair dryer, so that the surface of the part is "...warm enough to melt or liquefy product on contact." Apply with a soft-bristle brush. Keep the metal warm during application. Once the whole part has been covered, the part needs to cool to normal room temperature. That completes the application. Getting the hang of applying it is easy.

"Within 10 minutes, you'll be an old pro at it," says ECS' Dave Walden.

Sounds easy enough, huh? We bought a sample brake drum at the auto parts store and brought it back to our workshop to get familiar with applying the RPM treatment.

With the RPM on it, we'll store the drum in the garage, where it'll be subject to the same conditions as a car in storage. Rust will have plenty of opportunity to get started. We'll report back periodically and let you know how this potentially revolutionary rust-buster is doing.



1 Here's what you get. There's nothing magical looking about the gray paste inside, but it's pretty talented stuff.



2 We're starting with a factory-fresh brake drum. It's completely rust-free, just like a cast-iron part fresh from the bead blaster. RPM does not reverse rust. It prevents it.



3 Start by using a hair dryer or heat gun to heat up the metal to be treated. The metal should be hot enough to melt the paste once it's applied, like butter hitting a hot English muffin. We used a hair dryer because, like most households, that's what we had on hand. Keep the hair dryer close to the metal and keep it moving. It won't take long to heat up. Dave says the target temperature is around 120 degrees.



4 Using a cheapie soft-bristle paint brush, dab a little paste onto the brush — it doesn't take much — and brush it onto the metal. We're starting with the coarse-textured part. Areas that have been treated appear wet. The paste will dry and lose the shiny appearance. We worked all the way around this area of the drum.

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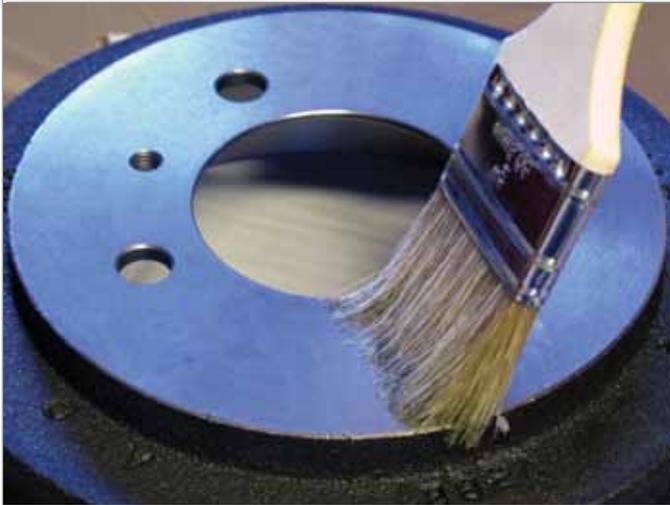
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5 Finished machined surfaces are also easy to work on. Put some RPM paste on the brush and apply. It'll look wet, so you can see where you've been, where you still have to do, and if you've left any skippers. Use long strokes, and don't try to put it on heavy — it's not necessary.

6 If you've applied too much on a visible area, or if it has left visible brush strokes, you can heat up the area to return the paste to its liquefied state and just wipe off the excess with a towel or a paper towel. The protective treatment will remain.

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7 Hit all areas, except, in this case, the actual braking surface where the brake shoes rub.



8 Here's a close-up of the coarse area after treatment and after it dried fully. No gloss, no matte finish, no color tint — just the look of bare cast iron. Looks good, don't you think?



9 Dave treated this driveshaft about six months ago, but it still looks like it came off the fab line minutes ago. Not a speck on it.



10 This transmission shot shows a variety of materials and finishes: the bare aluminum case, bare steel shifter arm, silver cadmium kickdown arm and band adjuster bolt, a stamped steel pan, and the iron shifter arm. It hasn't been on the road, but it has been subjected to summertime humidity, and it's all still as clean as a hospital room.



11 Dave tells us that RPM repels liquids wherever it's used, and his company is still experimenting with uses. These tires were treated with RPM and now have a low-gloss sheen. It has also been tried on exhaust pipes, but not yet on cast-iron exhaust manifolds. Dave says that results on the exhaust pipes were very good. So far, they're corrosion-free.



12 These suspension parts, normally very prone to corrosion, still look like they're fresh off the manufacturing line. RPM dries invisible, so you see nothing but the metal. And that's what we want, right? **M**

SOURCE

ECS Automotive Concepts
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Engineering Test Results for RPM (Rust Prevention Magic) -E.C.S. Automotive Concepts

Validation Test Report

Subject: RPM (Rust Prevention Magic) Produced by E.C.S. Automotive Concepts

Initial Observation: RPM is easy to apply and does not significantly change color or appearance of the component. Application is quickly completed and cure time is minimal.

Test Parameters: Thermal Shock, 1000 Hour Salt Fog (60% Solution), Acid Exposure, Abrasive Testing, Salt Spray (92% Solution).

Test Subject: Steel Tie Rod End

Procedure: RPM applied to the Steel Tie Rod End via instructions included on the Product Label. Product applied exactly as indicated, adequate cure time observed followed by Validation/Durability test. RPM applied prior to the first test only, original application exposed to each test.

Test: Thermal Shock

Purpose: Expose component treated with RPM to temperature Extremes (-140F to +135F)

Duration: 10 Hours

Procedure: Component inspected prior to test, excellent coverage of RPM observed. Component placed in thermal chamber at room temperature, initial test heated component to 135F, temperature cycled to -140F at various intervals, ranging from 5 minutes to 1 hour. Cycle repeated for a total of 10 hours.

Thermal Shock Results: Completion of 10 hour thermal shock test revealed no measurable degree of deterioration or discoloration of the component.

Grade: 100% Durability

Test: 1000 Hour Salt Fog (60% Solution)

Purpose: Expose RPM treated component to 60% salt solution for 1000 hours using Salt Fog mode.

Duration: 1000 Hours

Procedure: Component inspected prior to salt fog test, Excellent Coverage of RPM on component observed. RPM treated component placed in salt fog chamber for 1000 hours and exposed to a 60% salt solution. After 1000 hour test completed the component was removed from the chamber for inspection. Inspection method included visual and magnified scope.

Salt Fog Test Results: Inspection revealed no measurable degree of deterioration, discoloring or degradation to the RPM coating or the steel component. The RPM coating provided remarkable protection and corrosion resistance.

Grade: 100% Protection/Durability

Dale Institute LLC

Test: Acid Exposure

Purpose: Expose RPM Treated component to Hydrochloric acid solution.

Duration: .5 hour

Procedure: Component placed in sealed chamber and exposed to a diluted solution of 38% Hydrochloric acid. While Hydrochloric acid is often used to treat metal, the diluted solution of Hydrochloric acid will quickly rust mild steel components. The treated component was exposed to an intermittent spray of the acid solution for .5 hours. Upon completion of test, the component was removed for a complete inspection.

Acid Exposure Test Result: Inspection revealed no measurable degree of deterioration, discoloring or corrosion. Acid solution remained on surface of component with no measurable penetration of RPM Coating. ***Acid neutralized prior to the remaining test procedures.**

Grade: 100% Protection/Durability

Test: Abrasive (Impact)

Purpose: Expose RPM to simulated abrasive materials

Duration: 1 Hour

Procedure: Component placed in sealed chamber and exposed to a variety of materials for 1 hour. Materials included in the test: ground glass, sand and rock. Abrasive material applied to RPM Treated component at 30psi from a distance of 17mm.

Abrasive Test Result: RPM material was not removed or damaged during testing, no visible signs of damage or pitting in material or on the component.

Grade: 100% Durability

Test: Salt Spray Test (92% Solution)

Purpose: Expose RPM Treated component to a salt spray solution containing 92% Brine solution.

***Note:** This is an extremely high solution of salt saturation, 60% is the common test solution.

Duration: 60 hours @ 15 psi spray pressure @ 60% Humidity

Procedure: RPM treated component placed in salt spray chamber containing a 92% Brine solution. Component exposed to 92% salt solution for 60 hours with a 15 psi spray pressure during the test.

92% Salt Spray Test Results: Inspection revealed no measurable degree of deterioration, discoloring or corrosion. The 92% solution is a highly concentrated salt solution with properties to quickly corrode bare metal. Upon completion of 60 hours with the 92% salt spray test, the RPM treatment provided excellent protection from the solution.

Grade: 100% Protection/Durability

Dale Institute LLC-Engineering Solutions
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Dale Institute LLC

Conclusion: The validation test for RPM (Rust Prevention Magic) was conducted independently from ECS Automotive. The above testing focused on the use of the product for the Classic Automotive and Motorcycle Restoration Market. RPM successfully passed each test conducted including Thermal Shock, Salt Fog, Acid Exposure and Salt Spray. The test component was treated prior to the first test conducted and did not receive any additional treatments during the remainder of the test. Upon completion of each group of test the component received a complete inspection for deterioration, discoloring and corrosion; the RPM Treated component passed each test providing remarkable protection for the steel component used in the test.

RPM has proven to be an excellent product and based on the test results, it is my opinion that RPM will provide and exceed the necessary protection required for the preservation of a restored or original classic car under normal conditions. The test parameters listed above exceed the conditions that most restored automobiles will be exposed to. Based on the test results, inspections and observations RPM would be an excellent product for several industries including Marine applications, Stainless Steel Protection and tool steel coatings, and several applications for long term storage of materials prone to corrosion.

Product Information:

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