

ANTI-RUST TREATMENTS

THE FINAL RESULTS

Three years ago we began the longest-running test of its kind in the UK. No gimmicks, just time. Our findings could help preserve your classic's metal, quite possibly indefinitely.

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Three years ago I decided the only way to properly test anti-rust treatments was to use real time as the judge.

Understandably, most products don't have the luxury of such extended testing before being launched, so instead they rely on industry standards to determine their effectiveness.

A common type of test is a salt fog. This is a sealed, temperature controlled chamber in which the test piece is placed for a set duration of time. A salt fog is indirectly introduced into the chamber at a specified flow rate and pH concentration. The period of time is then calculated to represent a longer period of time – hence it's called an accelerated test.

What you might not know, as

consumers entrusting your car to these products, is that the specimen piece can be submitted with any thickness of product applied to it.

The real world of cars and their enclosed sills, box sections and barely accessible double-skinned panels provides a different test.

Hot and cold, condensation, frost, ice, acid rain, water and damp, still-air garages are more likely factors to undermine our cars than a 35°C salt fog applied over a week.

So, with that in mind, our test has lived indoors in the primarily artificially lit, sometimes dusty environment of our dry workshop. They spent time out in all weathers and have been on display at various events. The results are what I firmly believe you can expect from using them in our variable UK climate.

How we tested

External Coatings

Applied using a new paint brush for each coating, they were painted onto freshly prepared, Heritage Quality MGB sill sections. Our thanks to Moss Europe for supplying the sill sections. 80-grit paper was lightly abraded over each only to determine the stability of the surface after three years.

Cavity Waxes

These were applied as best as reasonably possible using quality equipment and the supplied manufacturer's instructions. Each wax was sprayed into a fully sealed sill section and allowed to settle before they were internally inspected for the first time to ensure the applications were considered successful for the purpose of the test. The sections were only split for our final inspections. Ease of application plays a key factor in successful protection so we didn't underestimate it when judging the products.

Real world scenario

It's important to understand we have not conducted a 'scientific' test. We have conducted a test based on how the products should be expected be used given the information supplied with them and a level of competence on the part of the user. These are retail products, not products supplied solely for trained personnel application.

EXTERNAL COATINGS



The only tested product to peel off.

POR-15
£21.50 for 473ml

Contact 01706 758258,
www.frost.co.uk

Feb 2010 Easy, smooth coverage. Two coats needed. Tough finish once dry.

Jan 2011 No oxidisation. Looks okay. Bit brittle, though – it's starting to lift at the edges near the control section of bare metal.

Sept 2011 In spite of being the most breached of our coatings, it has remained stable with only a small amount of lift around the largest of the scratches.

Apr 2012 The area of lift reported previously hasn't deteriorated further, indicating excellent adhesion.

Final inspection

It appeared mostly intact, with a good finish. However, an area near the rusty control strip had lifted slightly. When I checked adhesion the paint layer simply peeled off as a much larger area revealing the metal beneath with tiny rust spots starting to form.



Adhesion has been lost, hidden rust is forming.



Outer surface resisted six 80-grit paper passes.



Adhesion intact but surface not very strong.

Eastwood Rust Encapsulator
£30.64 for 469ml

Contact 01706 758258,
www.frost.co.uk

Feb 2010 Good, even coverage. Potentially a great choice for low-key components such as suspension arms.

Jan 2011 The coating has stood up pretty well, with no gouges or deep marks. Still looks good.

Sept 2011 No visible deterioration. Edges near the bare metal control strip remain solid. Adhesion holding up well. Worthy of your consideration.

Apr 2012 Adhesion is still excellent with no lifting near the control strip edge. It's looking very solid for year three.

Final inspection

Adhesion seems good at first look. Edges haven't lifted where they meet the control strip. Abrasion broke through easily, though.



Adhesion is good, colour dulled.



Three passes of 80-grit began lifting the paint, suggesting high-impact areas not its best use.



Performed very well as an exposed primer.

Bilt-Hamber Electroxx
£29.95 for 1 litre

Contact 01277 658899,
www.bilthamber.com

Feb 2010 The heaviest coating of those on test, indicative of its zinc-rich content.

Jan 2011 The matt finish is standing up well. No breaches at edges. Slight surface rust at some points.

Sept 2011 No further deterioration of surface rust. Adhesion remains excellent and edges near control strip remain solid.

Apr 2012 No deterioration visible. Control strip edge remains solid and sharp. Matt finish looks fine. The primer for steel not due a top coat for some time?

Final inspection

Excellent adhesion with no breaches even adjacent to rust. Coped very well given that it's a primer minus a topcoat.



Adhesion not undermined.



Withstood six passes of 80-grit abrasion.



Good overall performance.

Rust Bullet Six Shooter
£43.50 for 946ml

Contact 07909 517395,
www.rustbulletuk.com

Feb 2010 Required quick working in order to achieve a satisfactory finish. Dried to a tough finish.

Jan 2011 Only minor surface rust visible so far. It'll be interesting to see how this develops with time.

Sept 2011 Performing well. The edge near the control strip has retained its adhesion and suffered very little degradation. It's still as tough as in Jan 2011.

Apr 2012 No further degradation near the control strip edge. The silver colour remains unchanged, too.

Final inspection

Has stood up well with strong adhesion and no discolouration. Where chipped, it hasn't affected adhesion.



Good adhesion even where stone chipped.



Withstood six passes of 80-grit abrasion.



CLASSICS MONTHLY RECOMMENDED ★★★★★

Super tough finish recommended.

Rust Seal
£29.00 for 946ml

Contact 01803 619654,
www.therustshop.com

Feb 2010 Two coats applied. Smooth finish thickened up after the second coat. Shiny and tough once dry.

Jan 2011 Still looking very tough. Has been dinged but standing up well. Nice gloss finish.

Sept 2011 Has changed in colour from silver to a faint silvery green. That said, there are no further signs of breaching or loss of adhesion, even near previous liftings.

Apr 2012 No further changes to its colour. It now looks the grubbier on test but it's as solid as ever.

Final inspection

Tough as ever finish shows no sign of losing adhesion. The only lift we could find was the masking error on the control strip. If the initial discolouration doesn't bother you, then it could prove ideal.



Excellent adhesion even on unintended area.



Easily withstood six passes of 80-grit abrasion.



CLASSICS MONTHLY RECOMMENDED ★★★★★

Glossy finish has lasted.

Caprotech RX10
€27.36 for 1 litre

Contact +31 181 641021 (Netherlands)
www.classicpassion.nl

Feb 2010 Translucent finish, but excellent coverage. Second coat applied. Smooth finish.

Jan 2011 No breach at edges. Standing up very well. It hasn't popped or breached where we over-applied it.

Sept 2011 Visually, it looks the worst of our test pieces because its gloss finish has become dirty. However, it remains smooth with good adhesion.

Apr 2012 After a wipe clean, the most glossy paint on test is still smooth, shiny and showing excellent adhesion all round.

Final inspection

Has performed excellently. Shine still intact, No let up in adhesion and our 80-grit paper only succeeded in scratching it. If a gloss finish is required, RX10 will deliver. The UK distributor has since stopped selling it.



Glossy finish with excellent resistance.



Six passes of 80-grit abrasion scratched the shine.

1st EXTERNAL WINNER

Rustbuster Epoxy-Mastic 121 £25.95 starter pack

Contact 01775 630958,
www.rust.co.uk

Feb 2010 Good coverage. Looks like the most impenetrable finish on test – dense and tough.

Jan 2011 Surface has rubbed but hasn't penetrated coating. Thick covering. Still good at edge of control strip.

Sept 2011 Not necessarily the prettiest finish when applied by brush, but it's nonetheless proving very tough. Used on Project MGB suspension.

Apr 2012 Still as tough as when it dried in Feb 2010. No loss of adhesion near the control strip from this two-part paint.

Final inspection

Its control strip was the worst on test, but 121 has held firm all around it. No breaching near any edges. It's the least chipped sill on test too, indicative of its toughness. The matt finish has faded slightly but not its resilience.



Impressive performance from the only two-pack product on test.



Sharp control strip edge not even slightly affected.



80-grit could only scratch it in six passes.

CM SAYS...

Knowing how our external coatings might perform has been a regular conversation in our workshop these past three years. Car enthusiasts want to know a product will deliver the protection their efforts deserve.

With the exception of POR-15, all the coatings remained intact, demonstrating excellent adhesion. POR might argue the new metal wasn't coarse enough to anchor the paint. But the same goes for all.

Eastwood's Rust Encapsulator had the adhesion but its surface couldn't deal with the light abrasion of 80-grit. All the others resisted the abrasion, including the only primer on test, Electrox. If you need to primer a car and store it before it can be

Painted, consider it worthy for the job.

Rust Seal and Rust Bullet both stood up well. The best finish was Caprotech RX10 which surprised me greatly. It looks classy and is super tough. Highly recommended. It also needs a new UK distributor.

That leaves the deserving winner, Epoxy Mastic 121. It's a multi-purpose, rustbusting coating of stature. Not only that, it can be overpainted easily, comes in a variety of colours and sizes and will even stick to weathered or T-washed galvanised finishes and non-metal surfaces such as GRP. It can be sprayed once thinned and is perfect for high impact, abrasive areas such as chassis and wheelarches. In three years, we couldn't find a chink in its armour. It sets the highest standard for user-friendly total rust protection.



So good, we're prepared to trust it on our privately owned classics, too.

CAVITY WAXES



6th The most corrosion witnessed on test.

Caprotech RX7 €26.84 for 1 litre

Contact +31 181 641021 (Netherlands)
www.classicpassion.nl

Feb 2010 The most impressive so far in terms of ease of application. Gave excellent coverage with good seepage.

Jan 2011 Still tacky inside. Hasn't moved or settled at all. Just gone on and stuck. Looks impressive.

Sept 2011 Has become considerably drier to the touch than in January, but has not split or shrunk. No signs of it thinning out.

Apr 2012 Now completely dry to touch. Where adhesion has been lost, surface corrosion has taken hold and is spreading.

Final inspection

Was all but gone from the surface, allowing rust to spread as a very fine coating. The split seam was the worst on test, too. It should be said that no pitting of the metal was evident though. Good for two years but must be reapplied after that.



Dry rusty surface much in evidence.



Split seam has layer of dried rusty wax.



5th Lack of seam penetration self-evident.

Korrosionsschutzfett €10.50 for 450ml

Contact Mike Sanders
www.mike.british-cars.de/english.htm

Feb 2010 Needs to be heated to 120°C and applied using a bespoke gun. We applied it at a slightly lower temperature, but coverage was good.

Jan 2011 Hardly dried at all. Still looks like goose fat!

Sept 2011 No sign of this one drying out yet. Has picked up dust and dirt like the others but remains waxy to the touch. Heavily pawed at shows when on display.

Apr 2012 Picked up airborne dust from a local stonemason's but remains waxy and solid. Baking sunshine hasn't caused it to move. Can it be bettered?

Final inspection

Incredible protection but its inability to penetrate seams below 120°C is a shame.



Still like soft goose fat after three years.



Clean as-new metal beneath, but look at the seam.



JOINT 3rd Light surface corrosion but excellent seam protection. Insistence on achieving 50 micron layer in a closed sill might deter some users though.

Bilt-Hamber Dynax S50 £40.80 for 5 litres

Contact 01277 658899,
www.bilthamber.com

Feb 2010 Easy to apply. The thinnest coating on test once applied, but seepage was better as a result.

Jan 2011 With the exception of Noxudol and Korrosionsschutzfett, it's not as dry as the others.

Sept 2011 Tacky to touch, rather than waxy. No signs of degradation, however. Still looks like the most consistent thickness on test.

Apr 2012 Almost dry to the touch now. Surface rusting in vertical lines suggesting the coating has been breached where moisture has been running over it.

Final inspection

The vertical lines are very much in evidence on the surface. The big surprise was the seam protection was so much better.



Hardly any hint of corrosion in the split seam.



Fine rust tracks on the surface which was all but dry to the touch. The metal remains solid.

JOINT
3rd



Excellent exposed surface protection. Seams showing signs of light surface corrosion starting.

MIL-Spec 3215 £42.00 for 5 litres

Contact 01775 630958,
www.rust.co.uk

Feb 2010 A very thin coating that wept from the lower sill joint readily, so it'll easily populate areas between spot-welds.

Jan 2011 Still looks good. Now tacky rather than waxy.

Sept 2011 Has become drier to the touch since our January update. No signs of cracking or shrinking.

Apr 2012 Now dry to the touch and hard where build-up is present. No signs of cracking though and the steel remains protected.

Final inspection

Excellent protection on the surface metal, where it has become a tough coating. We had to dig into the wax with our probe to see the protected metal beneath. The split seam had plenty of rusty discoloration in the wax and the seam joint was bridged by hard wax. The seam joint didn't look good but the metal was still solid.



Rusty wax in the seam. Metal surface of the seam showing signs of corrosion.



Metal still fully protected below the surface.

2nd



Great performer though we didn't use the pump applicator supplied.

Waxoyl £29.99 for 5 litres

Contact 08704 441111,
www.hammerite-automotive.com (for info only)

Feb 2010 Applied with a spray gun applicator – kit-supplied applicator failed. Good overall coverage and joint seepage.

Jan 2011 Looks good. Sat at bottom okay. Starting to dry out a bit – tacky rather than waxy.

Sept 2011 Has remained as tacky as it was in January without signs of cracking or contraction. Also heavily pawed when displayed at shows.

Apr 2012 Dry too tacky to touch and quite hard. Some tracking cracks from shrinkage. Very minor surface rust near cracks.

Final inspection

The wax everyone loves to hate because it's been around so long. Well, it produced the result its reputation is built on. The surface metal was well-protected and the split seam fared equally as well. Where it sat on the surface it was still waxy to touch, even in our cold workshop. Will surprise many perhaps, but it performed admirably.



Waxy consistency still in evidence.



Split seam received good protection.

1st

CAVITY WAX WINNER

Noxudol 700 £5.58 for 500ml

Contact 01925 417 422
http://slcservicesllp.com

Feb 2010 Aerosol with probe made application easy. Requires a number of access holes to apply due to probe length. Coverage and seepage good.

Jan 2011 Still a nice, even coating, and retains its waxy quality.

Sept 2011 Still has its supple waxiness and is as good as we reported in January. The thin coating shows no signs of shrinkage or breaches.

Apr 2012 Hasn't changed at all since our last report. The metal beneath the thin coating looks like new steel. A very impressive start to year three.

Final inspection

The easiest product to use on test proves the most effective. This non-solvent wax delivered the result we hoped for – on the surface and in the all-important seam. It's ability to penetrate the seam and remain protective is first class. It's available as a non-aerosol too, but for enthusiasts who want an easy solution, this is surely it.



Noxudol 700 has provided an excellent all-round result and can be applied without any special equipment. That invites its use.



Split joint totally protected. The black tar-like substance is neutralised rust, not paint as we first thought.



Below the surface, the steel remains well protected.

OUR TOP 10 TIPS FOR CAVITY WAX SUCCESS

1) Warm the wax

The thinner the wax, the more likely it is to penetrate seams and joints. Warm it until it flows easily. Think 'olive oil'.

2) Warm the metal

Warm wax hitting cold metal will lose its viscosity rapidly and penetration halted. Use a hair dryer if necessary to warm the metal to at least 15°C or as per instructions.

3) Apply in warm weather

A warm ambient temperature reached over a few days is better than warming the metal though, and will avoid condensation.

4) Plug all holes

When applying, plug closed all possible drainage points. Leave them closed for a week before removing the plugs.

5) Tin can test

An old bean tin can be used as a dummy box section to optimise your spraying pressure before application.

6) Use ready-made access holes

Bolts and screws in door posts, for example, are ready-made access holes.

7) Why not combine products?

Who says you can't apply one wax first to penetrate seams and another to achieve superior surface protection?

8) Probes and wands

Invest in 360° probe heads and wands of different lengths to achieve full internal coverage.

9) Both sides now

Sills often have a centre strengthener. Inject wax either side of it.

10) Reapply the protection!

Annually is best. Overdoing it is difficult.

CM SAYS...

It's important to understand these results by repeating our recommendation at the end of year two to re-apply all the products tested after two years to ensure continued protection. Timescales aren't given by manufacturers because they hope you'll reapply annually as a matter of maintenance. Korrosionsschutzfett is a superb product but should be applied by a pro equipped to heat it properly and apply it while it's thin enough to penetrate seams. If you can brush it on...

Applying cavity wax to closed box sections is a crude procedure. All the products tested were applied in the time-honoured fashion of 'keep applying until it starts oozing out, then apply some more'. This is how the trade

applies it, too.

It is unrealistic to expect to be able to measure micron thickness inside a sill having applied a wax with a floppy wand that wants to drag along the bottom of a cavity.

The winning Noxudol 700 aerosol is a true gem – a product that can be applied without any equipment or with it if non-aerosol is preferred. Noxudol's winning combination of ease of use, superb seam penetration and surface adhesion without drying out has delivered three years of protection and could be set for another three. We'll let you know.

If you value your car and the time and effort invested in it, protect where it counts most – where you can't see rust. To that end, all the waxes tested have their worth. **CM**



To be continued. Our test will be ongoing... See page 3.