

Rust Convertors and why only Before 'n' After gives a guarantee

Rust convertors re-visited

Recently I noticed that some competitors are using rust convertors in their process. So I thought I had better re-visit rust convertors to see what all the fuss was about. Could it be that great strides have been made in the intervening 20 years since I last did tests and concluded that they should be avoided at all costs?

First of all, I did some research. There are now literally scores of new patents for rust convertors and literally scores of new commercial products. Just do a google search and you will see what I mean. When reading the various patents, I found it amusing to see the explanations for why previous incarnations of rust converter did not work.

What are rust convertors?

So what is in rust convertors? The active ingredient is invariably an acid of some sort. Usually tannic acid which converts rust into the characteristic, dark coloured iron tannate, or gallic acid which converts to a nice black iron gallate. Oxalic acid and various other acids, including oximes can also be used. Some formulations contain more than one kind of acid. Sometimes a little phosphoric acid is added.

The acid is in what is usually a water based solution, very often some kind of latex, although other monomers and polymers can be used, such as acrylic, vinyl, alkyd resins etc. To this can be added, thickeners, stabilisers, opacity agents, wetting agents, dispersants, fillers (usually chalk), glycol as an anti-freezing agent etc etc..

So how well do they work? I decided to do some new tests.

For the tests I used a length of rusty steel tube. The area to be "converted" was then given a thorough going over with a wire brush before being carefully degreased with panel wipe. The three brushable rust convertors were applied with their own individual, clean, dry, new brushes.

Score through reveals unconverted rust

After 24 hours to let the convertors dry and cure, I scored through each one with a Stanley knife blade. In fact I was a bit too zealous with the blade because in places you can see clean steel which means I scored through the converter and the rust.

Conclusions?

Conclusions? In every case, where I have scored there is unconverted rust at the base of the score line. The two Dinitrol products were very disappointing. Are they meant to turn the rust black? In fact, for about 90% of coverage in both applications there is no real change in colour.

Has the Frost website got it wrong when it says about the **Dinitrol RC 900 converter primer** (in a spray can): "Dries to a hard black film ready for fillers or topcoats." I just got a transparent laquer with a slight black stain in a small area. I did not hear the rattle of a ball bearing in spite of shaking for several minutes so I assume it's not supposed to need mixing. **The Dinitrol RC 800 converter** did not change the colour of the rust either, apart from a few speckles. The Metalmorphosis turned the rust a nice black but not as thoroughly as the Kurust. There was still untreated rust underneath all the convertors, including the winner.

Kurust the clear winner but still some unconverted rust

The definite winner by a long chalk is Kurust. This turned the rust very black and scoring through the dried and cured coating, went through to find mainly clean steel. Though even on this, the winner, a gently scrape of the converted rust with a blade revealed unconverted rust underneath. See photo.

So will I be using Kurust in future, before applying Before 'n' After improved waxoyl or CR coating? No. I would not use them even if the rust convertors did convert all the rust – which even the winner does not do. My waxoyl style coatings work in two ways. Firstly, they contain inhibitors which neutralise and "passivate" the steel by locking on to ions on the steel surface, so halting the electrochemical process which turns iron into iron oxide, better known as rust. As the white spirit evaporates from the coating, the coating shrinks and grips the surface ever more tightly in a mechanical keying effect.

Convertors are NOT "belt and braces"

Secondly the coating forms a barrier to oxygen and water. The rust converter interferes with both these processes because it forms a barrier between the steel and the rustproofing coating preventing the inhibitors from locking on properly to the ions on the steel's surface. In other words, the performance of the waxoyl style coatings then become only as good as the performance of the converter which, as we have seen, is not great.

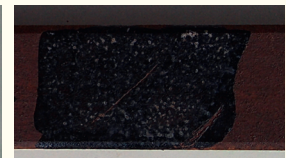
This is what Autos.com says on the subject: "...these formations (iron tannate) tend to occur along the outer most layers of the metal...their ability to penetrate and convert deeper deposits of rust may be limited to non-existent..."



The 4 products tested



Dinitrol converter/primer



Metalmorphosis



Dinitrol converter



Kurust

The Before 'n' After transferable guarantee, given to thousands of Land Rover owners since the year 2,000. "If you see any rust coming through the coating within 5 years, bring it back and have it re-treated free of charge". A ten year guarantee was given on KLEENtected vehicles. Now 15 years later, not a single KLEENtect guarantee claim! The new CR coating also comes with 10 year guarantee. No-one else gives a guarantee like this. So why would you go anywhere else?

You will love your day out in Warwickshire

We are just 2 miles from jct 2 of M6 and 4 miles from jct 20 of M1. We work Saturdays and Sundays as well as week days. While waiting for your Land Rover to be rustproofed (around 6 hours) you can have a great day out in Warwickshire. Courtesy cars have satnav and aircon and my 21 page info pack gives postcode for satnav for all attractions. See videos about the local attractions on my website. Beautiful Georgian Leamington Spa (best shopping in UK?) - cultural, historical Stratford - pageantry at Warwick castle - more nature reserves than you can shake a stick at - Ryton

see 30 videos of attractions on: www.before-n-after.co.uk/attractions

organic garden -impressive aircraft museum and also roman fort at Baginton - biggest s/hand bookshop in UK? at Astley Farm - walking/cycling/boat trip on Oxford Canal - birding/fishing/sailing/sunbathing/windsurfing at Draycote reservoir - unbelievably good cooked breakfast and pick your own soft fruits next door at Malt Kiln Farm Shop - Market and Farmers Market days given for all the several local small towns. Motor Heritage Museum at Gaydon. Stately homes. Campsite with heated indoor pool.

Book in on www.before-n-after.co.uk or chris.beforenafter@gmail.com

The Before 'n' After Job

- Thorough clean with "water blast" Mud and rust scale removed. (Only we can do this properly)
- Thorough drying out
- All chassis box sections, bulkhead, doors, wings injected with clear Waxoyl or CR
- Underbody and wheelarches coated with Black Waxoyls or CR coating.

5 and 10 year guarantees

On most vehicles I can give you this five or ten year guarantee: "If you see any rust coming through the coating within the guarantee period, bring it back and have it re-treated free of charge". Neither coating will wear off, not matter how much off roading you do. We will re-coat free of charge if any does wear off.

Prices:

Before 'n' After improved waxoyl prices: S/W base (90, Disco etc) £490 + VAT L/W base (110, RR etc) £520 + VAT. We use 20/30 litres of Waxoyl per Land Rover.

CR coating prices: S/W base (90, Disco etc) £580 plus vat (10 year guarantee) L/W base (110, RR etc.) £620 plus vat (10 year guarantee).



See more on page 167

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www.before-n-after.co.uk