Words and photos: Jamie

DO-IT-YOURSELF POWDERCOATING

Powdercoating offers a smart, stylish, and protective finish for components, and you can do it easily at home now too.

By providing an attractive and protective finish, powdercoating is an ideal process for automotive components. The coated product will be far better protected from impact damage, chipping and rust corrosion than if it was just painted.

So what is powdercoating? Well, exactly what it says on the tin; it coats an item in powder. The powder is electrostatically given a positive charge, and the product to be coated is connected to the earth lead. When the positively charged powder is sprayed at the earthed product it sticks to it. The beauty of this is that you cannot put too much powder on, because as the powder builds up it insulates the product and the excess powder simply falls off.

When coated, the product will have a very textured and matt-looking finish. The next step you need to do is cure the powder. This involves heating it to around 180degrees Celsius, which can either be done in an oven, with an Infrared heater, or a hot-air gun. When the powder reaches the desired temperature it cures and gives a resistant, protective coating. Depending on the particular powder used this finish can be metallic, candy coloured, gloss, matt, hammered or satin.

It sounds simple, doesn't it? So simple in fact, that we had to try it out for ourselves. Armed with a selection of parts that we had already shot-blasted and a DIY kit from electrostaticMAGIC (**www.electrostaticmagic.co.uk**) we headed off to the workshop to give it a go.

ESSENTIALS

COSTS

electrostaticMAGIC DIY powdercoating kit £119
Different colour powders .....from £4.99-£7.99

WHERE FROM?

electrostaticMAGIC
www.electrostaticmagic.co.uk

IN THE KIT

Complete DIY powdercoating kit
Instructions
Disposable water trap for spray gun
Two powder cups
Different pattern spray tips for gun
Starter bag of powder (customer's choice of colour)

EXTRAS
Different colour powders
1200 watt halogen heater (supplied by electrostaticMAGIC)
Stand (clothes rail bought from Argos for £8!)

HOW LONG TO DO?

It depends on the size and number of parts in question. An average size part should take between 5-10mins to get to 180degrees C, then a further 10mins for a full cure. Larger items will require a greater curing period.

GETTING STARTED

The kit comes with great detailed instructions and a step-by-step guide. It is worth noting that like painting, the quality of the finish is all down to the preparation. We shot-blasted all our components to ensure they were clean and rust-free. They could have been improved if we smoothed over the products with wet-and-dry paper before coating, but for a first attempt the finish is good.

Detailed information is available from electrostatic MAGIC and there's a video tutorial on its website that is worth checking out before you start.

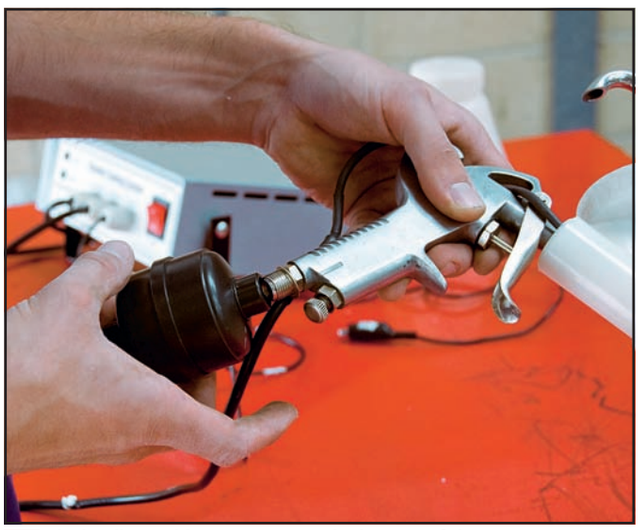
HOW HARD TO DO?

You don't need any specialist knowledge, or be a professional paint sprayer. Once the kit is assembled and ready to go simply point the gun at the product and pull the trigger.

Even if you do mess it up (and you can't actually apply too much powder) you can treat the finished product as if it had been painted. It is possible to rub any imperfections like 'orange peeling' out with some wet-and-dry paper, and then polish the product with normal paint polishes.

1 Introducing our new workshop manager, Matt. His first job, as will be yours, was to read the instructions.

2 Assemble the kit. Find a suitable area to work in and place the kit on a table to avoid tripping over the cables.



3 Fit the disposable water trap to the bottom of the spray gun. This ensures that no moisture in the compressed air mixes with the powder.

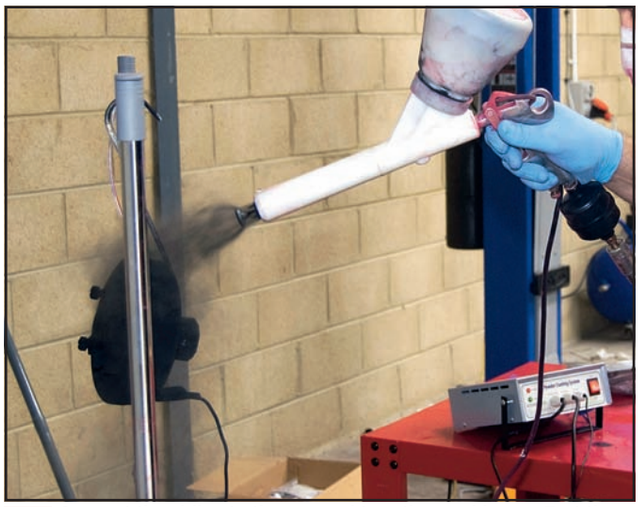
4 The compressed air only needs to be between 10 and 15psi to ensure a constant spray. The air gun can take up to a feed of 150psi, but can be regulated by the screw in the base of the gun handle.

5 Thoroughly de-grease the part to be coated to make sure that the surface is as clean as possible. Use a lint free cloth so fibres don't adhere to the product and leave imperfections under the powdercoat.

6 Hang the product ready for powdercoating. We used a cheap clothes rail, which was ideal because it was easily adjustable and gave great access to the product.

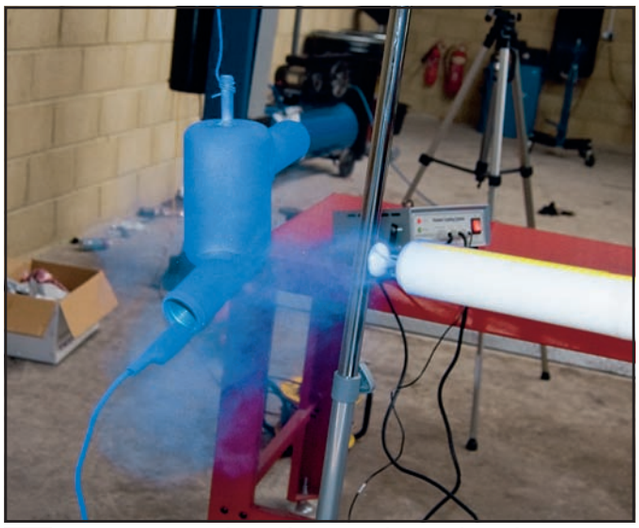
7 Pour the powder into the spray cup. There needs to be at least an inch in the bottom for the gun to work, but it doesn't matter if you fill the cup and don't use it all, as you can save it and reuse it again.

8 Screw the cup onto the gun, ensuring that the power supply to the kit is still OFF at this point.



9 Connect the airline to the gun and turn the machine on. Test the spray pattern by spraying a piece of scrap metal. Adjust the screw at the base of the gun until the powder exits in a gentle cloud.

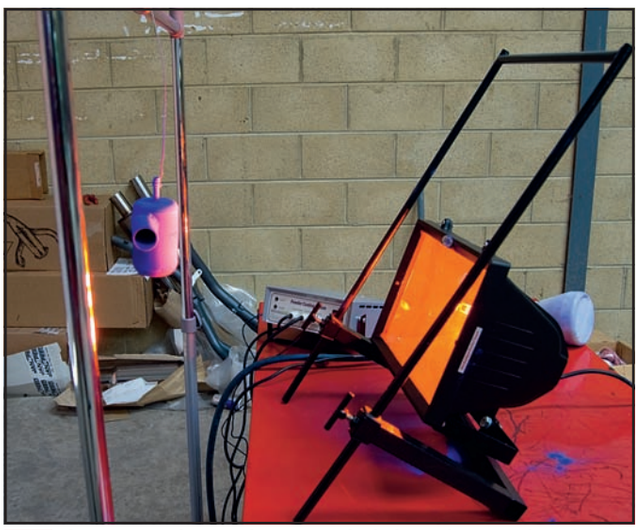
10 With the part thoroughly de-greased and securely hung in position you can connect the earth lead from the powdercoating machine.



11 Now you can coat the product. Keep the gun about 6in away and spray. Depress the foot pedal at the same time to positively charge the powder being sprayed.

12 The coated item will have a very textured and dull finish. Have a look to ensure it's completely covered. If not, coat areas which need it.

13 Remove the earth clip and without depressing the foot pedal coat the area masked by the clip.



14 Time to cure the powder, we used a halogen heater. When the powder starts to gloss over it is at the correct temp to cure. Leave for around 10mins. Allow the product to cool slowly before handling.

CONCLUSION

Wow! It worked. And it worked well. The whole process is unbelievably easy, and almost idiot proof. As long as you follow the instructions you really can't go wrong.

As with anything the more experience you have at it the better the finish will be. We are more than happy with the results of our first attempt, but have learnt a couple of tricks from it. The first is that the better prepared the item is the better the finish will be. Our products had been shot-blasted which left a slightly pitted surface. We are confident that with a bit of wet-and-dry paper we could have smoothed the surface prior to powdercoating and achieved an even better finish.

Also it's worth noting that the only tricky and time-consuming part is the curing process. Ideally you should cure the products in an electric oven, as this gives the best possible results. The halogen heater we used did the job, but it did take longer. With some of the heavier items like the crank pulley we did cheat and use a hot-air gun to speed up the curing process. If you are going to do this make sure you hold it at least 2 or 3in away from the product until the powder has started to cure. This prevents the air from the gun blowing any of the powder off it.

In our opinion, the kit is well worth the money (especially considering getting just one rocker cover powdercoated by a specialist costs more than this kit) and it is something you should definitely have a go at if you get a chance.