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Sanding and Sanding Techniques (Part 1)



General Terminology

To better understand what sanding specifically entails and what the basic components of a sanding product are, we will start with the basics.

Various types of adhesives, sanding grains and backings determine the sanding product.

A sanding product always consists of a backing, a layer of grains of various sizes, an adhesive coat and possibly a second specific adhesive coat or coating. Then there are the

manufacturing process, coating method and special treatments, each of which accounts for different sanding results and properties.

Basic Components

Abrading particles

Both natural and synthetic grains are available on the market. Natural grains include garnet, emery and iron oxide, and synthetic grains include aluminium oxide, silicon carbide and zirconia alumina. Each is used as a basic component and has its own qualities.

Natural grains have a soft quality and are microscopically semi-sharp, which is why they are predominantly used for polishing and burnishing.

Synthetic grains are more commonly used. Aluminium oxide comes in two types, light brown and dark brown, ranging from hard to extremely hard. Silicon carbide comes in both a bluish black colour and green. It is very sharp but breaks easily. Zirconium, which is ultra hard, is used for rapid material removal.

The Grain

Grit size

Grit size is always preceded by the letter 'P', the European standard set by the FEPA (Federal European Producers of Abrasives). As a result, every manufacturer's and supplier's grit sizes are generally comparable if not identical.



Grain shape

Grain shape has a huge influence on the sanding profile of the surface. Sharp, narrow or pointed grains create deep, narrow furrows. Wide, obtuse-angled and flattened grains create wider and shallower furrows.

Adhesive coats

There are two types of adhesive: natural and synthetic. Though supple and cost-effective, natural animal adhesives have a low moisture and heat resistance. Synthetic adhesives are stiff and fairly expensive. They have better moisture and heat resistance properties and can be used in many different combinations.

Backing

Possible backings include paper, cloth and fibre.

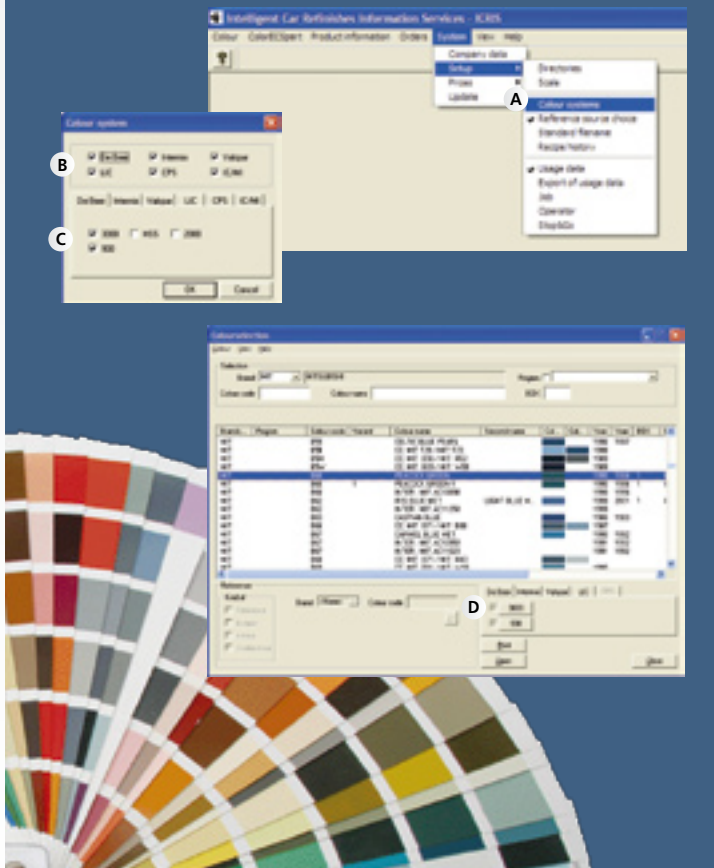
Coating

The way in which the grains are scattered across the backing will partly determine the quality. Grains are attached to the backing both arbitrarily and electrostatically, a closed coat up to 90% to 95%, an open coat up to approximately 50%. In addition, a No-Fil treatment with zinc stearate is carried out to ensure that the material saturates less quickly.



A next TechFlash will discuss sanding stages and applications.

Series selection system



- A Select in the system menu Coloursystem.
- B In this screen you make your choice for the brand.
- C Then select the series you want to enable and these will become visible in the colour selection screen.
- D The selected colour (B60) now is available in the selected series from the colour systems menu.

ICRIS updates

In addition to the ICRIS updates that we issue every 3 months, we are continuously developing and enhancing our software. To enable such development, we are forced to drop support for Windows versions older than Windows XP later this year.

This might mean that ICRIS will no longer run optimally if you use Windows 95 or 98. To prevent problems with ICRIS, we recommend that you upgrade to a newer Windows version.



HSS: Gray Shades

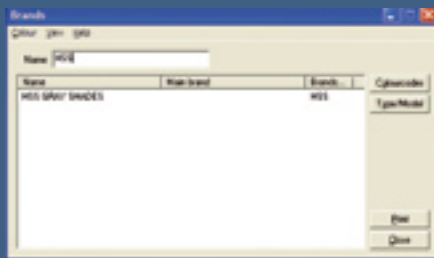
HSS: Gray Shades, new options for Filler 8-14540 and 8-14510. With ICRIS it is possible to choose more accurately the shade needed, so that you have the correct light to dark graduation and improved coverage of the final colour.

Example: a search of the formula of the filler:

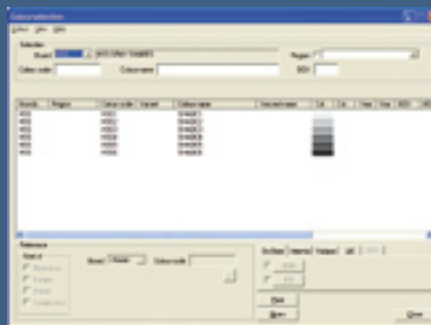
1. Colour-Car-Brand (click on brand):



2. Type HSS (Gray Shades). Click on HSS Gray Shades twice:



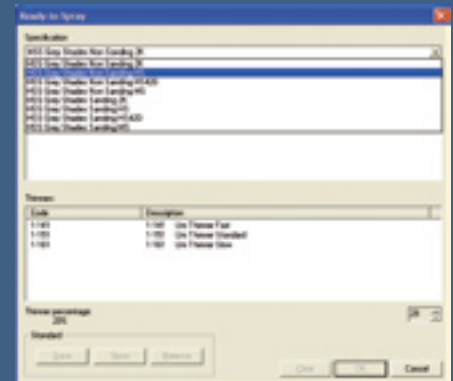
3. You have a choice that goes from white to black and 4 various graduations of gray. The most used (approximately 80%) is n° 5, especially in the silver met. Now just choose the formula whose shade is closest to the colour of the car:



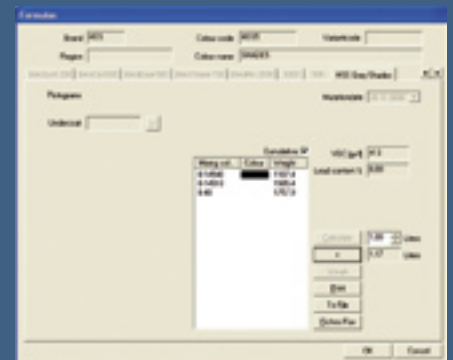
4. Click on your option HSS to see the formula:



5. Clicking on the "+" gives you the possibility to make the ready-to-use formula (inclusive of hardener and thinner). Just choose the hardener and thinner to use and then click on the save button in order to save the formula and to have it ready in case you need it again.



6. Formula of the filler n° 5 ready to use:



Working environmentally friendly

Crash Care Centre Ltd is based in the UK and has 18 years experience in the Car Bodywork and Accident Repair sector and focuses on providing a repair centre that deals with most of the UK's leading insurance companies.

This family owned business prides itself on all environmental and health and safety issues and leaves nothing to chance within these very important sectors both for staff and clients.

Two important additions to the Crash Care Centre over the last few years have been the waterborne paint system and Symach

Easydry paint drying system. Both these systems have added environmental benefits as well as taking the repair centre on to the next generation of paintwork technology. The paint system provides the paint shop with everything they require in refinish painting whilst adhering to the latest DEFRA paint product regulations. Lowering the cost



with this high quality, value for money system, providing the latest colour information with ICRIS and the latest technology.

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The Symach Easydry is an excellent accompaniment to waterbase products at Crash Care Centre, ensuring fast curing of the complete system. Steve Parking the main painter at Crash Care said "the HS Surfacers 8-145 can be applied, cured and sanded within 10 minutes. We also use the Easydry for drying waterbase. This will typically take 8 minutes and then we can apply the HS420 clear coat which is cured in 15 minutes and is

ready to polish when cooled."

While all the right technical advantages of the Symach Easydry are being exploited at Crash care so too are the financial rewards. The Symach has very low running costs. Lee Proctor Crash Care's owner said 'the addition of this drying system has reduced our gas bill by at least two thirds, we don't need to use the conventional baking facility in general refinish anymore.'

So in summary taking the environmental path in vehicle refinish carries the good feeling that you are doing the right thing for your local and global environment whilst adding high profit potential to your business.

Preventing errors

Avoidance of reworking

Rework or rectification in the refinish industry can be a high cost and therefore a loss of profit to each body shop. Avoidance of reworking is obviously the best way but not always so easy, but we should look at some of the reasons we may need to do a rework and how to avoid this.

Wrong colour

At De Beer we recommend the use of the colour box to identify the correct colour and shade. Then blend in to adjacent area, but if an edge to edge match is needed then producing a spray card is the best way to make sure the colour is correct. When producing a spray card follow a few simple rules:

- Use the correct spray gun and set up
- Spray the card vertically
- Apply correct amount of coats and dry the same way you would dry a vehicle
- Check colour in good daylight

Sinkage or visual preparation marks

There are many reasons why preparation marks could show up after paint work is finished:

- sinkage is mostly likely due to over application of primer or in-cured primer. At De Beer we recommend you only apply the recommended number of coats and where possible use force drying, like infra-red or baking. This will make sure the product is fully cured before sanding ensuring no movement of primer after sanding. We have found that infra-red is the better option for economic benefits and speed.
- Scratch marks under clear coat are generally caused by using the wrong type of abrasive to key the area, there are many new abrasives on the market for this most now work on sanding machines.

Scratch or fitting marks after paintwork is complete

This one is the most difficult to avoid but a quick and efficient way to rectify without the cost of going back though the booth is to do a smart repair. De Beer has specialist training and products to carry out this process with minimal cost involved.

All the above areas are covered in one of our many training courses carried out in many venues. Please contact your local De Beer distribution for details.

