

Rockhard

The Indestructible Paint Newsletter issue 1

**Our regular
feature this issue:
'SMART' Coating
of the Year**

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As this is the first of our new format newsletter, which will be circulated to over 1,000 companies - many more than previously - I thought it would be a good idea to introduce Indestructible to those who don't already know us.

So, what is Indestructible Paint Ltd., and who are the people who make the company what it is?

Built on a philosophy of providing technically sound products plus helpful and efficient customer service, Indestructible remains a friendly family organisation despite having grown enormously since its foundation in 1978 by current Chairman Doug Norton.

The company is, and has been for many years, a leading supplier of aerospace coatings to companies such as Rolls-Royce Aero Engines, Pratt & Whitney, Sikorsky, British Aerospace and many others.

Indestructible also manufactures and supplies coatings for the general industrial sector plus Rylard marine paints and is currently expanding its activities in both these market sectors with a number of new products.

Some of these are described later in this newsletter. With a wide range of advanced surface coatings available, including water based inorganic materials, epoxies, polyurethanes and many others, Indestructible can almost certainly provide the coating or coating system that your products need.

The company's office, manufacturing and laboratory facilities are conveniently situated on one site at Sparkhill in Birmingham, where a team of professionals are on hand to assist you.

They will be pleased to take your enquiries, advise you on the right coating for your purposes or assist with any paint problems you may have.

Please call us.

Brian Norton

Meet the team



L-R - Graham Armstrong (Sales Manager), **Aneesa** (Sales office staff), **Alan Teague** (Chief Chemist), **Sally Pearson** (Office Manager), **Gary** (Sales office staff), **Jean** (Sales office staff) and **Brian Norton** (Managing Director).
Joanna (Sales office staff - not in photo)

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Hot service

A call for help was received from Royal Air Force Bruggen, in Germany, who urgently needed a high temperature resistant marking paint.

The paint was in use at RAF Bruggen the following Monday - just three days later.

Required to distinguish a new series of Rolls-Royce Adour engines from a previous series, the paint had to be green and permanently resistant to operating temperatures of 500°C. It also had to resist hot phosphate ester lubricants - notorious as very effective paint removers.

The material supplied, off the shelf, was PL150A a special water based inorganic high temperature and chemical resistant marking paint.

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Slick & Slippery

Indestructible has launched a new range of dry film lubricants. Marketed under the name of **Ipslip**, the new products are aimed at the automotive, earth moving equipment, medical, offshore and other industries.

Developed from the company's long established range of aerospace dry film lubricants, the **Ipslip** range also incorporates several new organic and inorganic binders.

These are used in combination with a variety of dry lubricants including graphite, molybdenum disulphide, PTFE or boron nitride, depending on the application.

Applied by conventional spray or dip- spin methods, **Ipslip** products can be tailor-made to suit many diverse applications. They can, for example, be formulated for use at cryogenic temperatures, at one extreme, or 700° C plus at the other.

Ipslip products can be used to impart high slip, non-stick or erosion resistance properties to product surfaces, as well as providing conventional dry film lubrication for mechanical parts.

They can also be formulated as high slip decorative finishes or be colour coded.

One of the latter materials, **IP9286 red**, has now been specified by a major brake manufacturer.

The new products also provide a high level of corrosion protection when required. Salt spray resistance, for example, can be as high as 3000 hours ASTM B117.

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All it's cracked up to be

The wings of many glass fibre gliders flex up and down by as much as a metre or more, at the tips.

After several years use, and exposure to the elements, lateral hair line cracks sometimes develop in the white polyester gel-coat covering the wings.

Although these cracks are not structural and present no safety problem they are, nevertheless, unsightly. However, the cost of stripping off the gel coat and replacing it is usually too high to be worthwhile.

This problem was solved, when two gliders were cleaned, rubbed down and re-coated with **IP37000** 2-pack acrylic urethane from Indestructible.

After three years of use the finish on the gliders is still as new.

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Environmentally friendly

A Low VOC system, comprising an epoxy primer, **IP2**, to BSX33 and DEF80-161, and a polyurethane finish, **IP6**, to BSX 34, is designed for aerospace/airframe use.

The **IP2** system, however, has recently been adopted by a major aero engine manufacturer for use on composites.

Intended, originally, for metal substrates these products are also ideally suited for composites.

A demand, by its local council, for the customer to reduce VOC's triggered its use of these products.

Smooth (and environmentally friendly)

Indestructible have recently introduced a new low VOC 2-pack epoxy filler.

Spray applied, the new material also has the added benefits of being a good insulator and can be used over large areas, if required, at film thicknesses up to 500 microns.

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It's on TV.....

IP51000 is a UV cured coating, developed specially for television cabinets and is now fully approved by Philips Electrical of Bruges. The result of a joint project with Aquagraphics (UK) Ltd., of Corby, the coating had to provide: -

- a 'piano' finish
- very high build
- high gloss
- no orange peel or other surface blemishes

Applied at 97-100% convertible solids, it also had to have humidity resistance of at least 21 days when tested in accordance with BS EN 60068-2-20.

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What's going on at Indestructible?

Development of new coatings is an ongoing process at Indestructible Paint's laboratories.

Products developed to meet the specific requirements of a particular customer may often be useful to many others.

Telling our customers and potential customers about the many coatings available from Indestructible is a difficult task.

In this newsletter we highlight a number of materials, some of them unique, and on the back page is a list of the most significant coatings available from Indestructible. However, there are many others and, as already mentioned, we can tailor-make coatings to suit your purposes. Please ask.

Current development projects

A high corrosion and erosion resistant epoxy phenolic coating, **Rockhard 961-450-002**, is undergoing approval testing as a protective coating for aero engine heat exchangers for aircraft such as the Boeing 747.

Laboratory work is taking place at Indestructible on behalf of Turbomeca and Eurocopter, to develop a chrome free protection system for magnesium.

Work on a water based thermal barrier coating to be used on its own or under intumescent paints to lower the substrate temperature is almost complete.

Expansion & the environment

Building on its success has always been the name of the game at Indestructible, especially during the last two or three years.

Purchase of a neighbouring factory unit in early 1998 doubled the existing floor area and enabled Indestructible to better accommodate the manufacture and storage of its Rylard marine products, previously purchased from Llewellyn Rylands Ltd.

A relatively recent decision to expand the company's general industrial business has required a substantial increase in staff plus a further increase in factory area.

The latter has been achieved by purchasing two more neighbouring factory units to provide a total working area of about 5,000 square metres. This, plus office space and an area of land purchased for storage, provides the company with a total of about 6,000 square metres. A sharp contrast to the original 500 square metres occupied in 1978.

The company, in common with any paint manufacturer, uses many hazardous chemicals and its proximity to the river Cole, in Birmingham, makes any spill a potential pollution hazard. The increase in production, a result of the expansion, substantially increased the risk of a pollution incident.

All this heightened the Indestructible Board's awareness of the need to keep up to date with sound environmental practices and the need for a more effective risk management policy.

In addition, the coatings industry as a whole is under ever increasing pressure to reduce VOC emissions and its customers demand higher standards of environmental performance from its products.

As a consequence the Board took the decision to implement a formal ISO 14001 accredited environmental management system. (EMS).

The system is currently under development, and the company is on course to achieve certification by the end of 2000.

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'SMART' Coating of the Year

Indestructible Paint Company Limited won a SMART Achievement award for the effective use of DTI cash grants.

An Injection of funds, from a Department of Trade & Industry 'Smart' grant, plus a subsequent SPUR grant, provided financial assistance to continue development of high temperature resistant organic and inorganic coatings.

Now widely used by the aero engine industry throughout the world, Indestructible's main inorganic products, known as the Ipcote range, are 'high temperature ceramic sacrificial gas turbine blade coatings.' It is the success of these materials in particular that prompted the award.



Designed to protect turbine blades for aero engines, Ipcote products use the 'sacrificial corrosion' method. They also protect the blades from erosion and have to operate at extremely high temperatures.

During the last few years jet engine operating temperatures have been increasing to obtain greater efficiency. A trend that will, no doubt, continue.

Higher temperatures, of course, increase the demands on all surface coatings and lubricants used inside engines and further development of high temperature materials continues at Indestructible.

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