



information

The Institute of Materials Finishing was very pleased to participate again at the 2017 Surface World Show held at the NEC on the 22nd & 23rd March.

The IMF stand was very busy on both days with many enquiries about membership both as Sustaining and Individual members as more and more people and companies recognize the need to be a part of the IMF. The Training Courses offered by the IMF were particularly the subject of the majority of the discussions together with various technical queries in all forms of materials finishing, covering both chemical treatments and paint / powder applications.

The rebranding of the IMF to cover a wider range of materials finishing and in particular the growth of the Organic Coatings section, has seen the Institute move to offering a far more diversified service whilst continuing to offer its traditional strong support in the Chemical treatments markets.

The Training Courses offered by the IMF have always been recognised as the Industry Standard and the extremely wide range of topics and modules on offer can provide both a starting point for apprentices and then continue through CPD and move onto Foundation, Technician, Advanced Technician and Licentiate levels. The IMF has a well-established history in this field and many comments from many people who have taken the courses, praising them very highly for their content and assistance to their career path.

There was also considerable interest in the latest range of Practical Workshop run by the IMF with requests for both off sitetraining and in house courses.



Companies today are more and more recognizing the need to have certified, trained operators, auditors and inspectors if they are to meet the challenges facing business growth in a very competitive market place, the IMF is recognized as the way to provide this.

We would like to thank everyone who attended the Show and visited our stand and to Surface World for the organization and excellent location; if you missed our stand then please visit our website and become a part of the sustaining growth in the important and growing Materials Finishing Industry.

Looking forward to seeing you all again next year.

IMF Events

2nd June 2017

Education Enrolment Date

1st & 2nd November 2017

Advanced Engineering

28th November 2017

AGM

Cobden Hotel Birmingham

25th & 26th September 2018

IMFAIR2018

Southern Branch Events

23rd May 2017

at FAST, Farnborough
Aerospace Theme

4th October, 2017

at Lloyds Register
Surface Engineering and
Welding Seminar Combined
meeting with The Welding
Institute

Keep in Touch

Please make sure we have your contact details up to date. Any changes please contact David on 0121 622 7387 or email: david@materialfinishing.org.

COSHH Assessments

For Managers and Supervisors confronted with the complicated job of risk assessing plating operations, the HSE's website is an excellent starting point.

The HSE's general information on CoSHH can be found at www.hse.gov.uk/coshh/index.htm

The link www.hse.gov.uk/surfaceengineering/information.htm carries more specific information on risks associated with surface engineering, including those of nickel and chrome plating solutions. These Guidance Notes have been compiled by the Surface Engineering Association and should be considered as Best Practice.

Scroll down on that page and you will see more general information, including:

- Cyanide dealing with poisoning - the latest recommendation is that an oxygen cylinder and someone trained in administering it should be available for such a risk
- Working with nickel – are you at risk? INDG351. A guide for employees
- Bulk storage of acids
- Preventing contact dermatitis and urticaria at work INDG233(rev2)
- COMAH

COSHH risk assessments are required to be "suitable and sufficient". By taking account of this guidance in your risk assessment, combined with safety data from chemical suppliers and your own working environment and practices, will add to the evidence that you have satisfied that requirement.

Please note that the Guidance Notes are all free for you to download, as are most of the documents on the HSE's site.

Secretary General's Column; April 2017

It seems I am always up against a deadline to submit my column for IMFormation, but then I remembered the extra edition of our magazine published for the Surface World show!

What an excellent event Surface World was! Held over 2 days at the NEC in Birmingham, we took a stand in the "Knowledge Centre" along with other august institutions and trade bodies. Over the two days our team at the show spent most of the time talking to professionals from the materials finishing community about technical issues, and the need for advanced practical and theoretical training. We have many leads to follow up and we do believe these will bring additional membership of our Institute and additional income from training.

Every time we take part in trade shows, we learn a lot about how to present our offer, and my thanks go to Helen for the sterling work she has put into this over the past few months.

Whilst thinking about training, I must also thank and congratulate David for the continued success of selling our training courses, the last intake of students for both foundation and technician courses was a record for the Institute, an excellent reflection on David's efforts!

Talking to colleagues and associates concerned with the materials finishing industry, we are constantly surprised and worried by the seeming lack of training available these days. I remember when I started in the paint industry, day release for study into both academic and practical subjects was the norm; we don't see this emphasis on education so much now, even though we are told about many proposals for apprentice schemes. I am sure we can help to promote our industry and this is under discussion by our board.

Our institute is actively assisting an initiative being promoted by the IOM3, to look to introduce career paths in materials finishing and surface engineering to schools and pupils approaching their GCSE's. A presentation is planned to interested and relevant teachers to enable them to understand the various career paths into our industry, with a view to them taking this information back to their schools and energise students to actively think of materials finishing for their future.

I've discussed in the past the Government initiative to help companies involved in research and development with the R&D tax credit scheme.

There is an article elsewhere in this copy of

IMFormation with more details, which I hope will be of interest.

I don't think it's possible to leave this column without mentioning Brexit. Now that Article 50 has been activated, at least the period of uncertainty of the past few months should be ended. I'm sure the next two years of negotiation will bring many both helpful and unhelpful items to the fore that could have an effect on our industry, but it is of course much too early to be too concerned about this.

Have a great Easter celebration; at least as this is quite late this year, we can hope for some reasonable weather!!

Graham Armstrong



The IMF are pleased to announce that IMFAIR 2018 will take place on 25th and 26th of September 2018 and we request that you put a place marker in your diary.

The theme this year will be primarily 'Coatings in the Automotive Industry' and we would like to announce a call for papers with an emphasis on Innovative coatings and applications to include pre-treatments and surface preparation. We would particularly welcome any papers referencing coatings on Non-metallic surfaces.

We also invite any sustaining members who would like to sponsor parts of the seminar to contact us for details.

As in previous IMFAIR's there is the opportunity to have an exhibition stand to further promote your company and be a focus for the extremely important networking opportunities.

IMFAIR has always been well attended and proven to be an important event in the Materials Finishing world, don't be late or you may miss this opportunity to hear about or announce the very latest technology.

Contact helen@materialsfinishing.org for further details or to pre book

The Coating Of Metal Substrates In The UK

The Institute of Materials Finishing has recently briefly reviewed the surface coatings industry in the UK. Although there are least 40 different surface engineering and advanced coatings processes currently associated with the general coatings industry, the dominant 10 processes used for coating metals are summarised in Table 1 and Figure 1, where it is seen they had a sales value of £1,105.5m. Once the other, non-specified metal coating processes are included (eg roll-to-roll, sherardizing, enamelling etc) this total increases to £1,253.3m.

Figure 1: The coating of metal substrates by method and sales value, in 2015

This is marginally less than the sales values in 2013 and 2014, when they totalled about £1.32bn, but it is very similar to the sales in 2012 and is the fourth highest on record. The most important type of metal coating remains coating with another metal, such as zinc, nickel, chromium etc, with sales of £440m, or 35% of the total. However, plastic and paint coatings amassed sales of £397m, or 32% of the sector. Surface treatments, such as anodising and phosphating totalled another £98m, or 8% of total sales. The remaining £319m, or 25%, are attributed to heat treatments, vapour deposition and other niche processes.

Metal coatings, by method (£m of UK manufacturing sales) in 2015

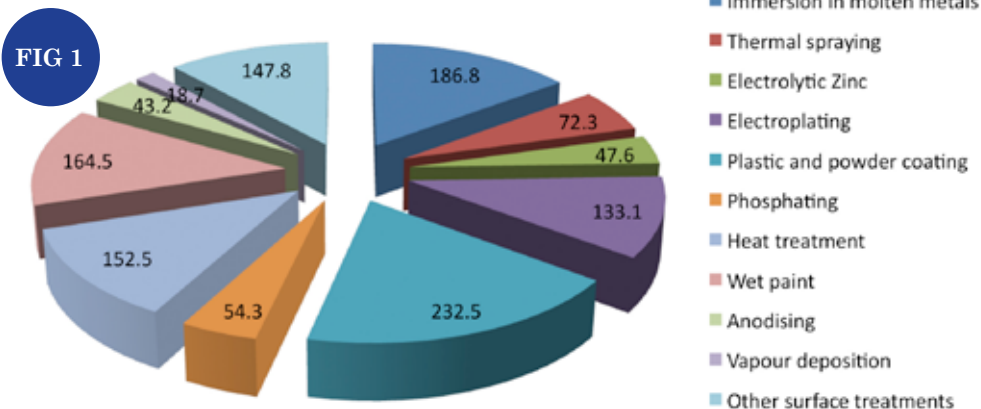


Table 1: The UK's sales, by value (£M) for coated metals

Coating	£m
Immersion in molten metals	186.8
Thermal spraying	72.3
Thermal spraying	47.6
Electroplating	133.1
Plastic and powder coating	232.5
Phosphating	54.3
Heat treatment	152.5
Wet paint	164.5
Anodising	43.2
Vapour deposition	18.7
Other surface treatments	147.8
Total Value	1,253.30

Source: Office of National Statistics / IMF

Metal coatings, buy method (% market share)

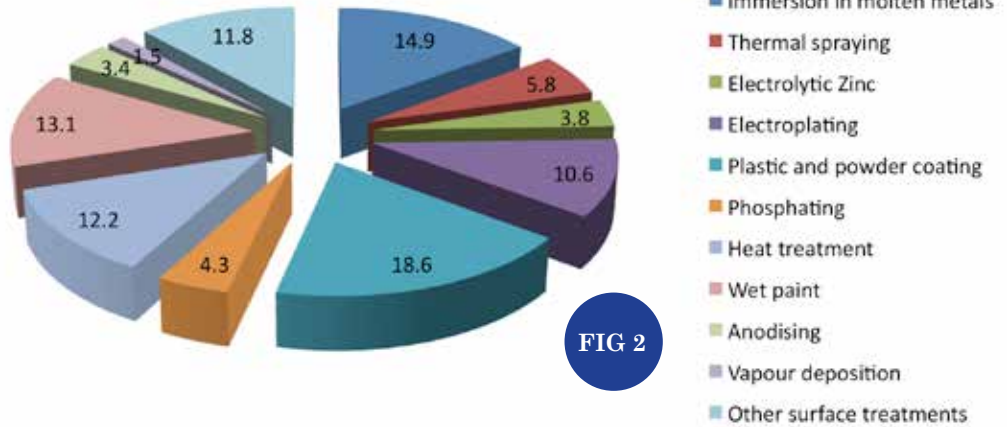


FIG 2

Table 2: The UK's sales, by percentage for coated metals

Coating	%
Immersion in molten metals	14.9
Thermal spraying	5.8
Thermal spraying	3.8
Electroplating	10.6
Plastic and powder coating	18.6
Phosphating	4.3
Heat treatment	12.2
Wet paint	13.1
Anodising	3.4
Vapour deposition	1.4
Other surface treatments	11.8
Total Value	100

Source: Office of National Statistics / IMF

However, if the different coating processes are studied more deeply, it is apparent that the most important method for coating metals is plastic and powder coating, with almost 19% of sales by value. This is followed by immersion and molten metal dipping (ie galvanising and hot dipping), with almost 15% of sales. The coating of wet paint commands another 13%, whilst heat treatments command a further 12%. Electrodeposition of metals, including zinc, nickel, chromium, copper and precious metals, totalled slightly over 14%, but of that, almost 4% was electrolytic zinc. This is summarised in Figure 2 above.

Figure 2: Methods of coating metal, by % share of sales value

In 2014 there were just over 1,300 enterprises treating and coating metals in the UK. These companies are predominantly SMEs, employing an estimated total of 21,600 people, with an average of about 17 people.



Pexa Win Business Of The Month For November 2016

Each month, the non-profit organisation, Business For Calderdale, teams up with the Halifax Courier and makes an award to a company who the judges feel is flourishing and deserves recognition. Pexa were delighted to receive the Business of the Month award for November 2016 and they will go into a hat with other monthly winners for the chance of picking up the overall winner award at the Halifax Courier Business Awards later in the year.



The event took place on Tuesday 14 February at Croft Myl where some of the team enjoyed a tour of the recently renovated building as well as an opportunity to network with other businesses in the local area. Pexa is very pleased to be recognised in this way and is proud to be a part of the vibrant business sector in Calderdale.

For further information, please contact:

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Aimee Kay on +44 (0)1422 314400 or
email aimee.kay@pexa.com

Pexa: Managing Director
Jim Rowbotham
on +44 (0)1422 314400 or
email jim.rowbotham@pexa.com



Pexa To Exhibit At Bindt Aerospace Event

Following the success of the 2015 Aerospace Event in Sheffield, the BINDT Aerospace and Composites Groups are continuing with their biennial Aerospace Event in April 2017 at TWI Ltd, in Cambridge, on the 25-26 April.

The theme of this year's event will be Joining Technologies and their respective inspection techniques.

The day of the 25th will be hosted by the Aerospace Group and will focus mainly on metallic technologies, such as friction stir welding, the advantages it offers over conventional welding and the challenges it presents for inspection of the resultant product. John Haslam from Pexa will be exhibiting on stand 4 and will be available to discuss our range of NDT products.

For more information, or to register to attend, please visit: <http://www.bindt.org/events/aerospace-event-2017/>

For further information, please contact:

Pexa: Sales & Marketing Co-ordinator
Aimee Kay on +44 (0)1422 314400 or
email aimee.kay@pexa.com

Pexa: NDT Sales Manager John Haslam,
email john.haslam@pexa.com



Sheffield & North East Dinner Dance 2017

On behalf of Exeter House, Barry Gay and I attended the annual dinner dance organised by John Torr and his team, held on the 4th March at the Thorpe Park Hotel on the outskirts of Leeds.

As usual, this was an excellent event, and I must congratulate John on the superb organisation. The hotel lived up to its usual standard with excellent food and wines, the beef being particularly memorable!

It was a great opportunity to catch up with friends old and new, and “chew the fat” over several gin & tonics!

John was his usual fiendish self, organising a particularly challenging quiz which I have to admit caused me and my fellow table mates great difficulty coming up with correct answers. Needless to say, we didn't win!!

Live music was provided and we were treated to a mixture of old and new rock classics, and I must say they were very good!

Here's looking forward to next year; as usual John has set the bar pretty high but I'm sure he's up to the challenge of beating this year's event!



Graham Armstrong

London's Indestructible Surprises

It isn't obvious, but many of London's famous landmarks - according to publicity at the time - owe much to Indestructible Paint. The Houses of Parliament, Buckingham Palace, the British Museum and even outside the capital at Windsor Castle - all have benefitted from Indestructible Paint's technology and expertise... at least as it was around the turn of the 19th/20th century.

In each case, protection of these world-renowned structures owes much to one Mr Henry Browning, who not only developed 'Browning's Indestructible Preservative' but is also recorded at the time as manager of Indestructible Paint.

“A case in point is Cleopatra's Needle,” says today's Managing Director, Brian Norton. “Arriving from Egypt in 1878, and already some 3300 years of age, there were widespread fears about the granite's ability to withstand the London air of the day - not least the myriad coal fires powering rapid industrialisation at the time.

“Henry Browning's mixture of wax and resin was used immediately as a protection and was seen as so successful it went on (literally) to a list of other famous structures which still, of course, delight to this day,” adds Brian Norton.

A mixture of cleaning and coating at periodic intervals since then has maintained not only a pleasing appearance but has also provided the protection needed to survive everything the capital's atmosphere has thrown at it for almost 140 years. “Proof, it seems, that the name Indestructible Paint stood for as much technical capability then as it does today,” concludes Brian Norton.

The IMF's Toughest Academic Award

Two members of the staff of South West Metal Finishing, Leigh Cox and Chris Mayer, have undertaken the most difficult course that the Institute of Materials Finishing can set. The Licentiate grade has not been awarded for 10 years and is the culmination of several years of study, passing through Foundation, Technician, Advanced Technician and finally Licentiate grade.

To satisfy the needs of this award they have had to complete, over two years, a literature study of their chosen project, the project itself including experimental work and finally provide a 10,000 word report; not an objective to be taken lightly!

The two students were presented with their certificates by Barry Gay, the IMF's President, and Allen Turner, their tutor and mentor, at the premises of their Exeter employer South West Metal Finishing.

Chris Mayer is quoted as,
"The reason I undertook the Licentiate program was because it was an opportunity to push and test myself to see what I could achieve academically as well as increasing my knowledge within the Surface Engineering Sector. Although the program was hard and required a lot of work what I got out of it was more than just a deeper understanding of the subject matter I researched and studied but also the development of a new set of skills previously unknown to me."

Leigh Cox also added,
"These past 2 years have been very challenging, finding the balance between working in our high pressure industry, family life and undertaking the Licentiate course was difficult. That being said the challenge was very beneficial as I left school at an earlier age. I have worked my way up through



practical experience and this move into a more academic approach opened my eyes to a new way of researching which I feel will benefit me going forward.

I would especially like to thank Allen Turner for his continued support and tuition over the past 15 years to take me from knowing nothing about surface engineering to being capable of gaining this qualification."

Congratulation is due to both students and we wish them a successful career in our industry.



Indecent Exposure

What is the difference between a physicist and a chemist? Well, apart from the natural, extra intelligence we have, chemists also wash their hands BEFORE going to the toilet. Hygiene is vitally important when working with substances that are hazardous to health.

In our industry, we routinely come into contact with hazardous chemicals in all their various forms. In many cases, Health & Safety regulations provide information about levels, within which employers are expected to control their processes, to minimise risk of exposure, "so far as reasonably practicable". But dusty or volatile substances are not easily contained and we do not always know precise concentrations in our working environment at any given time.

As a final shield against accidental overexposure, it is common practice to use personal protective equipment (PPE). It is the employer's duty to provide the equipment. HSE and PPE suppliers provide lots of information on the subject. The effectiveness of that PPE in any particular workplace depends on many different factors, so each piece of equipment needs to be assessed to make sure it is appropriate for the process and any chemicals involved.

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For example:

- Gloves used for handling solvents will have a breakthrough time, after which the gloves will become ineffective. Any contamination carried inside the glove presents even more risk of irritation or absorption through the skin.
- Overalls may need to be dust solvent resistant. They should be changed and cleaned on a regular basis. Double lockers are the preferred method of avoiding cross contamination of outdoor clothes. Overalls should not be taken home to be cleaned.
- Masks for respiratory protection: air-fed masks are always better since they allow normal breathing, whereas filter masks become increasingly blinded over time and add to the respiratory load (the muscular effort of breathing).

It is the duty of management to train people in the correct use and limits of the PPE. Supervisors must make sure that operators wear the prescribed PPE and follow all other safety rules.

In one factory, I was asked by an operator if he could sign a note to say that he chose not to wear a mask. Of course, the answer was "no" - all operators have a duty to wear the PPE and to follow all other safety instructions.



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- Made environmental improvements to your processes
- Consistently made improvements to your manufacturing processes
- Developed/ improved software for your business

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Research & Development

R&D is more than staff wearing white coats in laboratories. We have found R&D in almost all sectors, including brewing, food production, fashion, construction, logistics, training, as well as the obvious ones, such as manufacturing and IT. There is much in the Materials Finishing sector

In summary:

- This is UK legislation, not a scheme
- HMRC is actively encouraging companies to make claims
- The average claim secured for our Clients across our 11,000 cases is £42,000
- We do all the work, as specialists, and handle any queries from HMRC

Contact: please email
richard.armstrong@rdtaxsolutions.com
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R A Chilton have a long history of copper electroforming. We produce the copper rotors for use in high speed air bearing spindles. The requirement for quality and reliability on these parts, which rotate at incredible speeds of up to 350krpm, is paramount; if they are not exactly right the copper could separate from the rotor and destroy the spindle.

Our reputation for quality, reliability, and attention to detail, led a customer to ask us to solve an ongoing quality issue with their electroless nickel plating. A combination of numerous blind threaded holes, and an end customer with exacting specifications was causing issues. The threaded holes at both ends of the part were suffering quality issues requiring them to inspect 100% of the threads on return from plating. Issues included non plating and rust, too much growth, and salt deposits trapped in the holes after plating.



We had never worked with electroless plating solutions before, but we like a challenge! Comprehending the electroless nickel process involved a sharp learning curve, but also enabled us to take a fresh approach unhindered by traditional methods or existing production. After 18 months of R&D we have progressed from the lab with a beaker on a hotplate, to a working production line.



Our threaded holes are now flawless, thanks to the use of ultrasonics and our innovative fixturing to ensure the cleaning, rinsing, and plating solutions access every hole at every stage of the process.

We look forward to a continued good relationship with our customer, and to establishing new relationships as we establish ourselves as a quality supplier for Electroless Nickel, alongside our traditional Copper Electroforming.

Coventya Ltd is celebrating trading for 5 years as the UK arm of Coventya International, the third largest supplier of electroplating chemicals globally.

This celebration coincides with another anniversary for the company, as although Coventya as an entity recently celebrated its formation in 2000, the core of the company was formed 90 years ago this year as Societe Continentale Parker. It then became Parker Chemetall and then Chemetall France in 1998. The company initially licensed technology from the USA into France before expanding and developing their own processes.



The philosophy within Parker created a technology driven company who were the first to utilise many new technologies, often being one of the few companies ahead of legislation targeted to reduce environmentally damaging and dangerous chemistries; legislation which has recently been such a driver for change within the surface finishing industry.

Following Coventyas' formation as a privately owned company in 2000, due to a management buy out of Chemetall Plating Unit, the company continued this strategic concept of thinking; that is of innovation in both internal product development and in purchasing companies who had developed, or had a history of, innovation such as Sirius corporation in the USA and Molecular Technology in the UK.



Recent areas where Coventya technology is offering advantages include:

- low hydrogen embrittlement zinc nickel (Performa 280.5)
- the most advanced zinc nickel (Performa 285)
- Lanthane 613.3, a patented process which can be used to replace hexavalent chrome in both aluminium passivation and sealing anodising
- completely ammonia free electroless nickel which operates as successfully as conventional ammonia containing processes, the Enova 587.

Coventya Ltd. was officially purchased on the 29th February 2012. It was a major supplier of Cataphoretic lacquers globally to distributors and some Coventya companies.

This purchase allowed Coventya to achieve 3 targets:

- 1.To secure the supply of the Molclear Cataphoretic lacquer technology for Coventya globally.
- 2.To create a UK company to sell their GMF (General Metal Finishing) products into the UK market.
- 3.To work with automotive and aerospace companies to support Coventya specified products as the UK still has considerable influence on the technology used in these industries.



All 3 objectives have been successfully achieved as Coventya Ltd has grown its business in the UK dramatically, whilst also helping to increase the number of automotive specifications to >220 at the last count and are currently introducing several innovative technologies into the aerospace market.

Coventya UK has also completely restructured and refurbished the old factory and research laboratory and now offers extensive analysis abilities including a state of the art XRF, and a pilot line for processing parts and testing new products. We have recently recruited another sales person for the UK and this takes the team to 11 people with more positions to be advertised soon.

Coventya Ltd has a very positive future, with a clear focus on innovation and technical excellence especially in automotive and aerospace.



exam results

Foundation

Slawomir Owca • SWMF (Aerospace)
Slawomir Owca • SWMF (Electroplating)
David Barton* • SWMF
Mark Sherriff # • SWMF
Paul McMullan • Seagate
Scott Funston* • Seagate
Anwasha Fernandes # • Seagate
Andy Cockerill • Protech Finishing
Tom Everson* • Protech Finishing
Kerry Seaton* • Protech Finishing
Daniel Frost* • E2V
Aaron Hammond* • E2V
Alan King# • E2V
Christopher Moriarty* • Lufthansa
Technik
Cameron Glass# • Lufthansa Technik
Chris Jenkins • Texturing Technology
Gavin Thomas# • Texturing
Technology
Nicholas Veale# • Caldic (UK) Ltd
Gregory Pilsbury* • Global Metal
Finishers Ltd
Andrew Pridgeon# • T E Connectivity

Electroplating Practice

Richard Bennett • Schloetter
Sean Cox • Selex-ES Infrared Ltd
Alexandra Moraru • SWMF
Joshua Taylor • SWMF
Caity Weiner • SWMF

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Matthew Sharp# • MacDermid

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Ruben Camacho Burgos# • BJS
Richard Bennett • Schloetter
Sean Cox • Selex-ES Infrared Ltd
Alexandra Moraru • SWMF
Joshua Taylor • SWMF
Caity Weiner • SWMF

Licentiate

Leigh Cox • SWMF
Chris Mayer • SWMF

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Welcome to the first news page from the Southern Branch.

Going forward we will try and provide you with up and coming information of events happening around the Southern Branch and also any subject that may be of interest to both the Metal Finishing and the Paint industry.

We would welcome any topical articles that may be of interest to the IMF so if any IMF member wishes to suggest or write any articles that they feel may be of interest, please forward to JohnB_IMF@btinternet.com (John Burgess Publicity Officer for Southern Branch).

The Southern Branch holds seminar events 3 times a year (see details for this year below), therefore if there are any particular subjects of interest that you would like us to consider then once again please contact me at the above email address.

Upcoming Events

*Tuesday 23rd May 2017

FAST, Farnborough, Hants
(See website for details)

Aerospace Topics. A brief introduction to NADCAP. Martin Trigg Hogarth (Poeton) Development of selectively metallised 3D Polymer surfaces. Daniel Lloyd (Laser Optical Engineering). ISO Standards Nick Sawyer (LRQA). Material finishing in Aerospace engineering. Graham Armstrong (Indestructible Paints)

Wednesday 4th October 2017

Lloyds Register, Southampton, Hants

Joint Event seminar with the Institute of Welding

Tuesday 28th November 2017

AGM and skittles night

*The meeting on the 23rd May is limited seating and is restricted to around 35 people so early registration is recommended.

For registration please contact Helen@materialsfinishing.org or clive.arnold@lr.org

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Institute of Materials Finishing



Date: Tuesday 23rd May 2017 (17:00 - 21:00)

The Southern Branch of the IMF is pleased to invite you to an evening Seminar devoted to the aircraft industry.

**Venue: Farnborough Air Services Trust (FAST Museum),
Trenchard House,
85 Farnborough Road,
Farnborough,
Hampshire, GU14 6TF
(www.airsciences.org.uk)**

Presentations: Aerospace Coating Topics. Titles to be advised

Exhibition: 17:00 - 18:45

Space will be available for 7-9 small table exhibits in the auditorium area.

If you are interested in exhibiting then please contact:

Clive Arnold (e.mail: clive.arnold@lr.org).

Charge: £10:00 to cover the buffet payable on the day.

Registration: Please register in advance by completing the associated application form and forward to Clive Arnold (e.mail: clive.arnold@lr.org)

