

# Surface Enhancement Technologies Training

## New course offers wider awareness of metal treatments



### Concept of the training:

This one-day course provides a broad understanding of the range of treatments commonly used to improve the performance and appearance of metallic surfaces. The course explains the fundamental aspects of surface enhancement by mechanical treatments. It will be of great use to design engineers, process owners, buyers, quality engineers and others who participate in or support any of these processes. It is also of benefit to technical personal wishing to explore the use of such processes on their products. The course can be offered as on-site training for groups of relevant colleagues and may also be offered in conjunction with the MFN open workshops.

### Who designed this training?

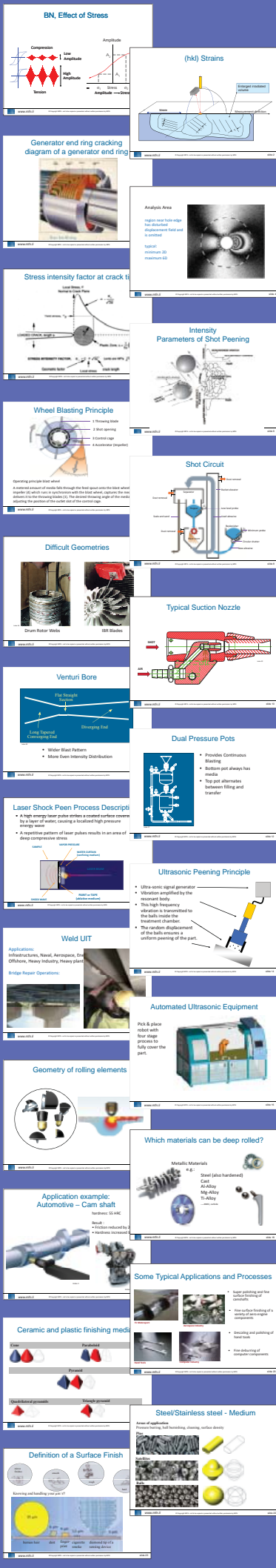
A team of MFN trainers from 19 different countries ([www.mfn.li/trainers](http://www.mfn.li/trainers)) was selected and companies within the industry were contacted from around the globe to donate training material and exhibit items. The creation of this program has been a real team effort, not just by the MFN trainers, but also by a number of companies which normally compete against each other. And this is especially worthy of mention - the common understanding that there is a need within the mass finishing industry to establish a qualified training program and to create the spirit to do this together.

### MFN Partners:

MFN is a partner in education in Nadcap ([www.pri-network.org](http://www.pri-network.org)). Nadcap and MFN have agreed to recognise and promote the cooperation between the two organizations in areas of common interest according to their purpose, namely aerospace special process assessment. Furthermore MFN is an Official Sponsor of FEMS (Federation of European Materials Societies, [www.fems.org](http://www.fems.org)).

### General Information:

- duration: 1 day
- registration fee: €550/person (minimum 5 persons)
- including trainings material
- payments to be made before the workshop, group discount available



Other Topics on Request! Pictures show training centre in Altena, Germany.



## MFN Surface Enhancement Technologies Course Training Syllabus

Main Topics	Description	Duration
- Stress and Strain in Metals	Definitions of stress and strain in metals, how they are measured or calculated. Topics include stress/strain relationship, yield stress and ultimate tensile stress, measurement techniques and terminology.	08:45 – 09:30 45 min.
- Fatigue & Stress Corrosion	Explains how the effect of stress in metals leads to fatigue and stress corrosion. Includes crack initiation & propagation, fatigue test methods, environmentally assisted cracking.	09:35 – 10:20 45 min.
- Shot Peening	Describes the fundamental principles of shot peening, the process most widely used to protect against metal fatigue. Topics include process control techniques, material effects, optimization of the process.	10:40 -11:20 40 min.
- Wheel Peening	Explores the characteristics of this particular technique, including benefits, limitation and equipment configurations.	11:20 – 12:00 40 min.
- Air Peening and Nozzles	Explores the characteristics of the most popular technique of peening, including working principles and equipment configuration.	12:40 – 13:20 40 min.
- New Peening Technology	Explains the principles and applications for laser, ultrasonic and cavitation peening.	13:40 – 14:20 40 min.
- Deep Rolling	A well established technique for surface improvement can also be used to prevent fatigue cracking. Includes plunge-in, feed mode and free form techniques.	14:20 – 15:10 50 min.
- Mass Finishing	Includes vibratory and other techniques used to provide required surface finishes economically on multiple parts. Explains the various techniques, media and equipment used for a variety of applications.	15:10 – 16:00 50 min.

### Registration:

Name of Person placing the Order:	
Company:	Street:
Postal Code:	City:
Country:	Phone:
E-mail:	Fax:
For Europe only - Company VAT Number:	
Surface Enhancement Technologies Course: No. of People ____ x €550 = _____	
Total for courses and tests: _____	
Travel Expenses of Trainer for Economic Class Ticket, Hotel, Taxi, and Expenses: _____ (depends on Destination)	



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The Trainers:  
Paul Huyton  
Official MFN Trainer,  
Book Author and Director of  
Course Content for the MFN  
Shot Peening Courses

More details at [www.mfn.li/trainers](http://www.mfn.li/trainers)

E-mail Registration Form to [paul@mfni](mailto:paul@mfni)



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