



# MFN Shot Peening Workshop, Tilburg

**Date: November 3-5, 2020**



- FAA approved courses with **19 different Topics**
- **Basic/Intermediate/Advanced Courses (L1-L3)**
- **MFN is a Partner in Education in Nadcap**
- **Hands-on training for Flap Peening**



Basic/Level 1 Course	Intermediate/Level 2 Course	Advanced/Level 3 Course
November 3, 2020	November 4, 2020	November 5, 2020
<p>Level 1 is the minimum requirement for shot peen operators and is the foundation for level 2. The level 1 course provides training in peening workshop operations &amp; inspections. The content includes: Introduction to peening; Intensity L1; Coverage; Engineering, Planning, Documentation; Masking; Peening media L1; Shot peening in the automotive industry L1.</p> <p style="color: red;">FAA approval ref. no. will be on certificate of achievement</p>	<p>Level 2 is the minimum requirement for shot peen supervisors &amp; technicians. Level 2 builds on the knowledge gained in level 1 to provide further capability in: Intensity L2; Preparing for shot peening audits; Wheel peening machines &amp; equipment; Air peening &amp; nozzles; Peening media L2; Flap peening; Shot peening in the automotive industry L2.</p> <p style="color: red;">FAA approval ref. no. will be on certificate of achievement</p>	<p>Level 3 is the recommended standard for auditors, trainers &amp; specifying engineers. Level 3 provides greater breadth and depth of knowledge to enhance the competence gained from the previous levels. Residual stresses &amp; their measurement; Fatigue stress corrosion; Optimization of shot peening; Shot peening in the automotive industry L3; Durability &amp; performance test / Photo optical particle analysis; New technologies &amp; alternatives; Conducting a Shot Peening Audit.</p> <p style="color: red;">FAA approval ref. no. will be on certificate of achievement</p>

**Location:** - Straaltechniek International BV, Tilburg, further information see page 4

- Registration Fees:**
- € 550 per person and course, group discount available
  - Included: course documentation, break refreshments and lunches
  - Not included: transportation, lodging and other meals
  - Class size is limited. Make early reservations.
  - Certificate of completion is issued to each participants
  - Optional certificate of ACHIEVEMENT (€ 100)
  - Payments have to be made before the workshop
  - Cancellation will be charged € 50 and must be made in writing 7 days prior to the start of the workshop. - "No Shows" will be liable for the full fee.

**Description about the courses at: [www.mfn.li/workshop/courses](http://www.mfn.li/workshop/courses)**



Note: Workshops sometimes get cancelled. Check with organizer before making non-refundable flight or hotel arrangements.

**Registration:** (One form per person. You may copy this form.)

Name:	Surname:
Company:	Street:
Postal Code:	City:
Country:	Phone:
E-mail:	Fax:
For Europe only - Company VAT Number:	

**New Topics!  
Completely revised!**

	basic/level 1	intermediate/level 2	advanced/level 3
<b>Shot Peening Course</b> € 550 per course, group discount available. Each course to be paid separately.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Optional Test for Certificate of Achievement (€ 100)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Fax Registration Form to +41.44.831 2645 or E-mail to [marco@mfn.li](mailto:marco@mfn.li)**

**For questions call Marco Klijsen at +31.162.748 010 or the headquarters at +41.44.8312644**

# Why attend the MFN Shot Peening Workshop



MFN is organizing frequently these international 1-4 days Shot Peening Workshops and to attract a wide spread audience. Operators, supervisors, process & maintenance engineers, buyers, even trainers will be able to either learn something completely new, or at least be able to refresh their knowledge.

### FAA approved Courses:

All 3 courses offered during the workshop are FAA approved. Participants who passed the optional examination receive a "Certificate of Achievement", which has the related FAA identification number on it. The FAA approval gives the courses a general credibility. However, there are a lot of aviation repair and overhaul stations, which do receive frequent FAA audits. Especially those companies will appreciate to have access to a FAA approved shot peening training.

### MFN is Partner in Education in Nadcap:

Nadcap and MFN have agreed to recognise and promote the cooperation between the two organisations in areas of common interest according to their purpose, namely aerospace special process assessment. The cooperation will be known as "Partners in Education" and is intended to create synergy, making optimal use of the resources available, for the accreditation related activities offered by both organizations so as to provide an effective and efficient service to the aerospace industries in the world.

### Topics of Workshop:

- introduction to peening and theory, -peening intensity, -effect of peening, -Almen saturation curve, -peening coverage, -exposure time, -peening location, -process documentation, -masking solutions, -workpiece fixtures, -shape & size inspection of peening media, -specifications, -shaded strips, -audits by 3<sup>rd</sup> parties, -durability/performance tester for shot peening media, -specifications & standards, -peening equipment components, -air & wheel peening, -machinery styles and application examples, -hole peening, -flap peening, -peen forming, -optimization of shot peening for fatigue critical applications, -residual stress, -XRD and BNA measurement of shot peening induced stresses, -laser peening, ultrasonic peening, cavitation peen, -deep rolling, -photo optical particle analysis, -shot peening in the automotive industry, -etc.

Description about the courses at: [www.mfn.li/workshop/courses](http://www.mfn.li/workshop/courses)





## Basic / L1 Course

Description about the courses at: [www.mfn.li/workshop/courses](http://www.mfn.li/workshop/courses)

Time	Subject	Course	Official MFN Trainer
8:15-8:25	-Official Opening of Basic Course / L1	-----	Marco Wildhagen
8:25-9:10	-Introduction to Peening	Basic, FAA recognized	Marco Wildhagen
9:10-9:55	-Intensity L1		
<b>New Topics! Completely revised!</b>			
Morning Break (35 minutes)			
10:30-11:15	-Coverage	Basic, FAA recognized	Marco Wildhagen
11:15-12:00	-Engineering, Planning, Documentation	Basic, FAA recognized	Marco Wildhagen
13:00-13:45	-Masking	Basic, FAA recognized	Marco Wildhagen
13:45-14:30	-Peening Media L1: Applications & Quality Control	Basic, FAA recognized	Marco Wildhagen
Afternoon Break (30 minutes)			
15:00-15:15	-L1: Shot Peening in the Automotive Industry	Basic, FAA recognized	Marco Wildhagen
15:15-15:45	-Repetition Basic Shot Peening Course	Basic, FAA recognized	Marco Wildhagen
15:45-16:30	-Test for FAA approved Certificate	Basic, FAA recognized	Marco Wildhagen

## Intermediate / L2 Course

Description about the courses at: [www.mfn.li/workshop/courses](http://www.mfn.li/workshop/courses)

Time	Subject	Course	Official MFN Trainer
8:15-8:25	-Official Opening of Intermediate Course / L2	-----	Marco Klijnsen / Marco Wildhagen
8:25-9:10	-Intensity L2	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
9:10-9:55	-Preparing for Shot Peening Audits		
<b>New Topics! Completely revised!</b>			
Morning Break (35 minutes)			
10:30-11:15	-Wheel Peening Machines & Equipment	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
11:15-12:00	-Air Peening & Nozzles	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
13:00-13:45	-Peening Media L2: Specification & Quality Control	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
13:45-14:30	-Flap Peening	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
Afternoon Break (30 minutes)			
15:00-15:15	-L2: Shot Peening in the Automotive Industry	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
15:15-15:45	-Repetition for Intermediate Shot Peening Course	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen
15:45-16:30	-Test for FAA approved Certificate	Intermediate, FAA recognized	Marco Klijnsen / Marco Wildhagen

## Advanced / L3 Course

Description about the courses at: [www.mfn.li/workshop/courses](http://www.mfn.li/workshop/courses)

Time	Subject	Course	Official MFN Trainer
8:15-8:25	-Official Opening of Advanced Course / L3	-----	Andrzej Wojtas (Ph.D.)
8:25-9:10	-Residual Stresses & their Measurement	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
9:10-9:55	-Fatigue Stress Corrosion		
<b>New Topics! Completely revised!</b>			
Morning Break (35 minutes)			
10:30-11:15	-Optimization of Shot Peening	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
11:15-12:00	-L3: Shot Peening in the Automotive Industry	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
13:00-13:45	-Durability & Performance Test / Photo Optical Particle Analysis	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
13:45-14:30	-New Technologies and Alternatives: Laser Peening, Ultrasonic Peening, Cavitation Peening, Deep Rolling	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
Afternoon Break (30 minutes)			
15:00-15:15	-Conducting a Shot Peening Audit	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
15:15-15:45	-Repetition Advanced Shot Peening Course	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)
15:45-16:30	-Test for FAA approved Certificate	Advanced, FAA recognized	Andrzej Wojtas (Ph.D.)

**MFN**

MFN North Europe in Holland  
Contact: Marco Klijnsen  
Tel. +31.162.748 010  
E-mail: [marco@mfn.li](mailto:marco@mfn.li)



The Trainers:  
Marco Klijnsen  
Official MFN Trainer  
and Book Author



The Trainers:  
Marco Wildhagen  
Official MFN Trainer



The Trainers:  
Andrzej Wojtas (Ph.D.)  
Chief Editor of MFN and  
Official MFN Trainer

Fax Registration Form to  
+41.44.831 2645 or E-mail  
to [marco@mfn.li](mailto:marco@mfn.li)

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





**MFN Workshop Location:**



MFN North Europe Office  
Lovense Kanaaldijk 61, 5013 BJ Tilburg  
The Netherlands

For questions contact:  
Marco Klijsen, Official MFN Trainer  
Tel. +31.162.748 010, E-mail: marco@mfn.li



The MFN Workshop is sponsored by:

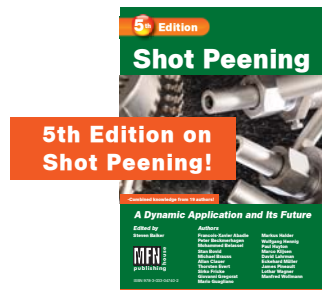
Straaltechniek International BV  
Lovense Kanaaldijk 61, 5013 BJ Tilburg  
The Netherlands



Hotel Recommendations:

Van der Valk Hotel Tilburg  
Dokter Bloemenlaan 8, 5022 KW Tilburg, the Netherlands  
Tel. +31.13.800.0800  
E-mail: tilburg@valk.nl, www.hoteltilburg.nl

Hotel De Postelse Hoeve  
Doctor Deelenlaan 10, 5042 AD Tilburg, the Netherlands  
Tel. +31.13.463.6335  
E-mail: info@depostelsehoeve.nl, www.depostelsehoeve.nl



For more information or ordering  
see [www.mfn.li/books](http://www.mfn.li/books)