

Hot Bonder Heat console use

This EFC course complies SAE-CACRC, AIR 4938 and EASA standards. This is a Training 'level 1-2' Hot bonder Heat console course. This course designed to meet the requirements of a wide range of participants/technicians from beginner to intermediate who want to have a better understanding of working with Hot bond heat consoles in curing/drying in repair of advanced composites.

EFC Course ID : TECH-060

Nr. of days: 3

Advised pre-requisites

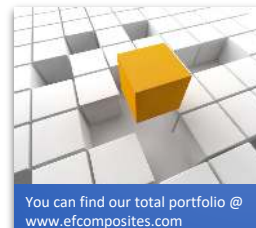
Our TECH-001 Basic Composites and fabrication course, or other similar Basic Composite repair knowledge gained in the industry.

Participants

Personnel of technical departments having prior experience in working with Fiber Reinforced Composites and wanting to gain a better understanding of curing advanced composite materials with Single and Dual zone Hot Bond Heat consoles. This to control the heat application, vacuum, and time necessary to dry, cure critically sensitive composite resins, Film and Foam adhesives

Number of participants

Minimum required 2 and maximum 8 per course.
Courses will be confirmed as running by EFC as soon as sufficient applications are received!



Objectives

To provide participants with the theoretical knowledge and Hands-On practical skills necessary to carry out a hot bond repair by using a Hot Bond heat console.

At the end of this course the participant:

- Can work according to Safety regulations and recognise Hazardous situations & materials
- Must be able to work independently with minimum supervision
- Must be attentive to details in working with a Heat console, Thermocouple placement and correct heat blanket usage.
- Can check Thermocouples, heat blankets before installation
- Knows materials properties and is familiar with "Handling & Storage" of frozen materials
- Can program, change and abort running cure cycles

Course content theory

Course content theory Level 1-2

- Health and Safety using AC/DC powered Hot bond systems on composite parts
- Different brand/types of Hot Bonders compared pros and cons
- Hot bond terminology (composite glossary of terms)
- How a Heat blanket works, needs to be checked and use of its active area
- How Thermocouples (TC's) work, are inspected, repaired and welded
- TC placement on /in various materials and TC. mapping
- Cold & hot spots and heatsink insulation
- High temp 171 C. cures and insulation of heat blanket
- Cycle running, changes, monitoring and cycle abort
- Programming of more than three steps cure cycles
- Use of ceramic and UV heat lamps and other heat devices controlled by a Hot Bonder.
- Storage of cured cycles on PC/Lap Top or USB and Printing cured cycles
- Filing of cured cycle print out with the part repaired



Workshop exercises

Workshop exercises Level 1-2

Participants will be intensively monitored during the installation and use of different types of Single & Dual-zone Hot bonders.

They participant are able to:

- connect all necessary equipment, cables
- program any type of Hot bonder,
- check & install thermocouples
- check and place heat blankets on a composite part
- Lay-Up of all vacuum materials per OEM spec,
- perform vacuum leak checking and curing.
- determine the correct size of heat blankets according to the specific repair size
- Apply Thermocouple mapping.
- Apply materials and vacuum bags,
- run a cure cycle and monitor the Hot-bonder while running
- De-bag the vacuum bag in the correct way removing TC's and heat blankets

Examinations

- Multiple choice questions from each of the teachings Level 1-2
- Successful completion is 75% correct answers
- The examination will be closed book and can be conducted by a Part 147 approved Examiner upon request
- The practical mark will be the average of all marks gained from the practical exercises
- All grades will be recorded in the participant individual training records and kept on record at EFC for unlimited time (compliant with Reference EASA Commission Regulation (EU) No 1321/2014) and the GDPR rules
- A certificate of accomplishment is handed out to each participant
- Assessment activities are built into our courses, to give feedback on the achievement and personal potential and kept a record in their personal logbook.
- The final outcome of the participant's Examination, assessment document and logbook per student will be digitally sent to your company responsible manager or HR department.
- We also comply with the European [GDPR rules](#) as effective on May 25th, 2018 concerning storage of private information of participants who attended our courses.



Leipzig, Germany

This course can also be held on our new location nearby Leipzig Airport, Germany. Here we use classrooms and practical workshop in the HEICO Aircraft Maintenance Part 145 facility. We can run this course on a course start date of your choice.

Please contact our purchasing manager [Rolf Hovener](#) via his personal page on the website of Eart & Flight Composites: <https://www.efcomposites.com>.

Course run on site and at special request

- For your company to benefit, this course can be held 'On-Site' at your facility under certain conditions.
- Click on this link to the [Onsite information webpage!](#)
- Courses as noted on our [course schedule page](#) can be run on request to meet your required start and end date.

Course pricing

All listed course prices are **Excl VAT**. (Dutch VAT is 21%). EFC complies with Dutch tax laws. On request, companies can be sent an invoice instead of paying direct On-line with PayPal, IDEAL or credit card. Payment is securely arranged via Mollie.nl . More information can be found on [the website of Mollie](#).

Mollie





Did you already visit our webshop?

Vacuum Valves/ Vacuum Sniffers



Smart vacuum Valve/Ports for a curved surface
In the images shown the vacuum valves/ports are fitted with standard quick connect couplings.

These quick connect standard couplings are not supplied with the vacuum valves/ports. They merely serve to show the connectivity options. These conventional couplings, male or female type, are available at many vacuum equipment suppliers. EFC can deliver them to you if required.

Contact us by email at info@efcomposites.com
These Vacuum ports/valves are specially designed and patented by EFC owner Bert Groenewoud
Tha can be used use with Hot bonders, in ovens, autoclaves on flat and curved surfaces.

Visit our [webshop](#) for more information!

B- Aluminium tap hammer



The B- Aluminium tap hammer, is used to detect delamination (separation of plies) and dis-bonds from the core in advanced composite structures.

This tap Hammer is a must have, for Composite Repair Technicians, Composites certifying staff Composite engineers and Quality inspectors to perform a correct damage assessment in thin laminates and metal bonded parts!

It is fabricated to OEM standard drawings and sizes and anodized for a better protection of the material. The material used is Alum type EN_AW_ 6082-T6
let us know if you want to order the B-tap hammer in larger quantities and ask us for a quotation
Coming soon; A tap-hammer lanyard with a B-tap-hammer plastic click-in holder

Visit our [webshop](#) for more information!

