



1 Manual application of a moisture-curing polyurethane adhesive from a cartridge.

EWF-EUROPEAN ADHESIVE BONDER (EAB)

**Fraunhofer Institute for
Manufacturing Technology
and Advanced Materials IFAM
- Adhesive Bonding Technology
and Surfaces -**

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The Adhesive Bonder training course gives participants an understanding of the technical aspects and importance of their particular work procedures. Therefore, it enables them to carry out bonding work independently and professionally. The course provides a fundamental knowledge of adhesive bonding, so allowing the special aspects of adhesive bonding processes to be understood and taken into account in the production.

COURSE CONTENT

Fundamentals

The course starts by introducing fundamental aspects of adhesive bonding technology. A comparison is made between adhesive bonding technology and other joining techniques. The integrity of bonds and the factors that influence the quality of a bond are explained using the concept of bonding forces. Participants acquire a fundamental understanding of the properties of adhesives.

Adhesives

In this section of the course the participants are familiarized with the most important types of adhesives used in industry and learn about the properties of those adhesives and their main areas of application. Emphasis is put on correct processing and on the curing conditions for different adhesive systems. These aspects are reinforced by practical assignments.



Surface treatment

Customized surface treatment is vital if a bond is to function correctly and have good long-term stability. The course introduces surface treatment techniques that are normally carried out by workers as a direct part of the adhesive bonding process. Practical experiments give participants experience applying these techniques to a variety of substrates. Particular emphasis is put on the use of primers and adhesion promoters.

Test methods

In the practical part of the course adhesive bonds are created and then tested using commonly used procedures. Evaluation of the bond strengths and fracture patterns allows adhesive bond defects and their effects to be recognized, so complementing the theoretical part of the course.

Manufacturing technology

The participants will be introduced in the fundamental aspects of manual and automatic production methods and learn to identify and avoid sources of faults and defects.

Work safety and environmental protection

Participants learn how to recognize potential dangers when working with adhesives and auxiliary materials used in bonding processes. The importance of using protective equipment and wearing protective clothing is highlighted.

Certification and accreditation

| The Department of Adhesive Bonding Technology and Surfaces is certified according to DIN EN ISO 9001, and the Materials Testing Laboratory, Corrosion Testing Laboratory, and Paint/Lacquer Technology Testing Laboratory are further accredited according to DIN EN ISO/IEC 17025.

| The Center for Adhesive Bonding Technology has an international reputation for its training courses in adhesive bonding technology and is accredited via DVS-PersZert® in accordance with DIN EN ISO/IEC 17024. It is also accredited in accordance with the German quality standard for further training, AZWV.

| The Certification Body for the Manufacture of Adhesive Bonds on Rail Vehicles and Parts of Rail Vehicles is accredited by the Federal Railway Authority (FRA; Eisenbahn-Bundesamt) in accordance with DIN 6701-2 and following DIN EN ISO/IEC 17021.