

# Adhesive Bonding of Rail Vehicles

## Scope and Requirements of DIN 6701

### Objective of the standard:

The standard DIN 6701 „Adhesive bonding of railway vehicles“ is being published and thus becoming the mandatory standard of adhesive technology. Within this standard, mandatory requirements of adhesive bonding for manufacturers of railway vehicles or their components are being described.

### Certification of the companies:

TC-Kleben offers as an independent institution to inspect and certify companies. We are accredited by the German accreditation body DAkkS according to DIN EN ISO / IEC 17065 for the scope of implementation of bonding processes in the manufacture and repairs of railway vehicles and vehicle parts (see certificate). The certification process and related requirements will be further explained below.



### Contents of the standard:

- DIN 6701 Adhesive bonding of railway vehicles
- Part 2: Qualification of manufacturer of adhesive bonded materials:
    - requirements for the bonding supervisors
    - requirements for the bonding personnel
    - scopes of approval of the standard
  - Part 3: Guideline for construction design and verification of bonds on railway vehicles (with classification)
  - Part 4: Manufacturing controls and quality assurance, maintenance

### Product component classes:

The requirements of the necessary qualification grade are established according to product component classes. The company has to have the appropriate adhesive bonding staff depending on the product component class and maintain the grade of quality assurance. These classes are defined by the adhesive bonding company according to the safety requirements of the product component.

### Adhesive bonding personnel:

Not only the requirements on organization and equipment but also those on staff are being referred to the standard which for example, defines the tasks of the adhesive bonding coordinator. Since many years the necessary qualifications of this job have been offered in the form of further training within Germany. These qualifications are based on the guidelines published by the DVS and meanwhile have been harmonized on a European level.

The standard DIN 6701  
Adhesive bonding of railway vehicles



## Certification of the companies:

Manufacturers of railway vehicles and their components as well as companies constructing adhesive bonds or deal with adhesive bonded structural components must provide appropriate certification in accordance with the requirements of the EBA (railway safety authority in Germany). This means that a certification body (certification authority) which is entitled by a accreditation body and by the working group adhesive bonding DIN 6701 has to carry out an audit including a technical discussion which will prove that the company is operating within the standard requirements. The base are the following documents in the last editions:

- Standard DIN 6701-2, -3 and -4
- A-Z-guideline of the working group adhesive bonding DIN 6701
- DVS guidelines 3311 and DVS 3310

About the DIN 6701 and the A-Z-guideline is regulated

- adhesive application scope
- Application for certification
- Validity of the certificate and surveillance
- Criteria for the revocation of certificates
- Contents of the company audit including the reporting
- Form and content of the certificates
- Scope of the certificates
- Changes during the validity period
- Waiting periods / Registration / Blocking periods

This audit includes e.g. evidence

- the necessary qualification of the company
- the designation of at least one responsible adhesive supervisor in charge (SiC)
- the necessary qualification of the operating bonding supervisors (SAB)
- the qualification of the operating bonding personnel
- the existing design verification
- the necessary work and test instructions

The Certification Body then certifies the user company after successful verification (audit) of the fulfillment of the requirement of this standard and issues the certificate. The validity of the certificate shall be limited to a maximum of three years. The recognition is tied to one location. Within the period of validity of the certificate, one surveillance audit by the Certification Body is mandatory.

TC-Kleben is accredited by the German accreditation body DAkKS and by the working group adhesive bonding DIN 6701 as a recognized body acc. DIN 6701, and is funded exclusively from its own resources.

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