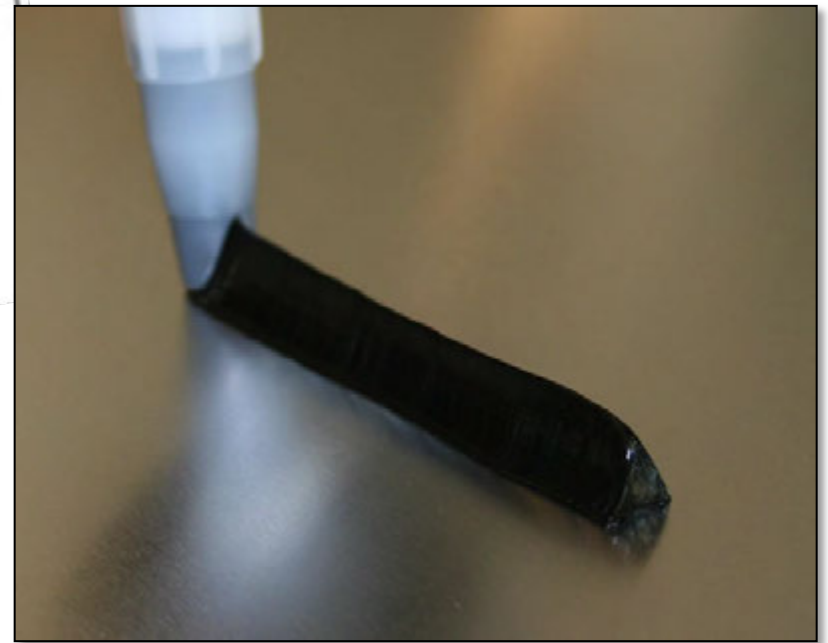


DIN 2304

Quality Requirements for Bonding Processes



TechnologieCentrum Kleben
www.tc-kleben.de

Source: TC Kleben

DIN_2304_Website.002

Publicly accessible standards and regulations have been developed and written by interested expert circles

They are considered "state of the art"



Their use is not compulsory, but highly recommendable

unless a public regulation obliges use
e.g. Federal Office of Railways (EBA) - DIN 6701

Necessity of the application of DIN 2304

- ➔ **For product liability**
(application of the state of the art/technology)

- ➔ **For a customer** (contract law)

- ➔ **Official regulation?** (not yet)

- ➔ "Last-transfer adhesive bonds"
- ➔ Meaning: the main function is the transmission of mechanical loads
- ➔ Functionality and operational safety are ensured by means of the complete process cycle:
 - development, process planning, manufacturing, repair
- ➔ The adhesive contributes to the cohesion of overall/partial construction
- ➔ Therefore: standard applies not for the primary purpose of sealing

The selection of requirements is made pursuant classification into "Safety Classes"

- ➔ Due to the consequences of possible glue failure (potential effects of failure)
- ➔ Especially the "force transfer function"
- ➔ For different injurious effects, the highest class is always assumed
- ➔ Special regulations from other regulations remain unaffected, e.g.
 - Emission regulations
 - Work health and safety and environmental protection
 - Fire protection
 - Food grade quality, drinking water, medical products, etc.

Tabelle 1 — Klassifizierung der Klebverbindungen hinsichtlich ihrer Sicherheitsanforderungen

Classification according to

- ➡ Danger to life and limb
- ➡ Environmental damage
- ➡ Direct and indirect
- ➡ Loss of assets
- ➡ Probability

Sicherheitsklasse	Definition der Sicherheitsanforderungen
S1	<p>High safety requirement The failure of the adhesive bond - leads directly or indirectly to an inevitable danger to life and limb; - leads to a failure of the functionality, the effects of which most likely lead to an inevitable danger to life and limb.</p>
S2	<p>Medium safety requirement The failure of the adhesive bond - can lead to a danger to life and limb; - leads to a failure of the functionality, the effects of which most likely lead to injury to persons or greater environmental damage; - leads to a failure of the functionality whose effects are most likely associated with far-reaching property damage.</p>
S3	<p>Low safety requirement The failure of the adhesive bond - leads to a failure of the functionality, the effects of which most likely will not lead to injury to persons or greater environmental damage; - leads to a failure of the functionality, the effects of which are, at the most, losses of comfort or performance; - leads to a failure of the functionality, the effects of which are probably not greater property damage.</p>
S4	<p>No safety requirement The failure of the adhesive bond - leads to a failure of the functionality, the effects of which under foreseeable conditions are not associated with damage to persons or the environment; - leads to a failure of the functionality, the effects of which are exclusively associated with loss of comfort or performance; - leads to a failure of the functionality, the effects of which are not associated with major property damage.</p>

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Certification

On the basis of DIN 2304-1 and our DIN 2304 certification program, TC Kleben GmbH can audit operations and - if the result is positive – certify them.

We then hand over a certificate to the applicant that confirms that he/she reliably controls the bonding process chain.

This is certainly a bargaining chip for the applicant in contract negotiations.



Certification

The certificate is then listed in the DIN 2304 online register (www.din2304.de).

This is also an important marketing tool. Customers can use it to select qualified subcontractors.

After successful certification we can also create a "Certified Adhesive Specialist" certification mark on request, which can be used by the applicant according to our trademark regulations.



Certification

We gladly support your enterprise and provide advice concerning the necessary steps on the path to a certificate pursuant to DIN 2304.

We would also be pleased to provide you with an offer in this regard.

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