

A-Z-Guideline of the Working Group 'Bonding in Defense Technology' (TL A-0023)

Non-official Version

In case of ambiguities, the German version of the A-Z Guideline applies

Revision level: 8 (22. May 2024)

Foreword

This A-Z-Guideline is a compilation of the resolutions of the working group "Bonding in Defense Technology".

It supplements the procedure for obtaining a certificate of operational qualification in accordance with the Technical Terms of Delivery of the German Federal Armed Forces (TL A-0023) for adhesive bonding technology and contains supplementary specifications, transitional regulations, restrictions and interpretations to TL A-0023 as well as the applicable standards and regulations.

For the certification of user companies according to TL A-0023 by the certification bodies recognised by WIWeB, the application of this A-Z-Guideline is binding for the companies to be certified and the certification bodies.

The current A-Z-Guideline is published in the online register TL A-0023 (<https://www.tla0023.de>). Only the version of the A-Z-Guideline published in the online register is binding.

The members of this working group are the "Wehrwissenschaftliche Institut für Werk- und Betriebsstoffe der Bundeswehr / WIWeB (Institute for Materials and Supplies of Bundeswehr) and all designated military and civilian certification bodies.

Content

1. Revisions.....	2
2. Normative references	2
3. Definitions and abbreviations	2
4. General.....	3
5. Requirements for the companies: Personnel requirements.....	4

1. Revisions

Changes since the last revision are underlined. In the case of the provisions in this A-Z-Guideline, the date of the provision and of all amendments is indicated by the revision number.

Revision	Date (dd.mm.yyyy)	
1	01.04.2019	(not published)
2	26.11.2019	
3	24.03.2020	
4	08.05.2020	
5	12.04.2021	
6	22.10.2021	
7	09.11.2023	
<u>8</u>	<u>22.05.2024</u>	

2. Normative references

(Revision 1, 2, 4)

The following standards and regulations apply in addition to TL A-0023. Unless otherwise stated, the current versions apply:

- DIN 2304-1
- DIN / TS 2305-1
- DIN / TS 2305-2
- DIN / TS 2305-3

3. Definitions and abbreviations

Manufacturer

(Revision 1, 4, 7)

Companies that manufacture according to external drawings and their own process planning are considered manufacturers within the meaning of TL A-0023. The restriction (without design) is noted in the certificate.

Companies that manufacture according to external drawings and external process planning are considered manufacturers within the meaning of TL A-0023. The restriction (without design and process planning) is noted in the certificate.

Composites

(Revision 1, 7)

The bonding of fiber-reinforced plastics (FRP) is regulated in DIN /TS 2305-2 „Klebtechnik – Qualitätsanforderungen an Klebprozesse –Teil 2: Kleben von Faserverbundkunststoffen“ ("Adhesive bonding technology - Quality requirements for bonding processes - Part 2: Bonding of fiber-reinforced plastics") and is subject to TL A-0023.

If a bonded add-on element is over-laminated during the production of FRP so that this additional lamination would also meet all the requirements of the bond alone (e.g. in terms of strength and long-term resistance), this is considered to be part of the laminate. The fiber layers used for this must be able to transmit all forces.

If not all forces can be transmitted by the covering FRP layers, this connection is considered to be an adhesive bond and is subject to TL A-0023.

4. General

Component class BK4

(Revision 4)

BK4 is the component class with the lowest requirements. No certification is required. The client and contractor must take into account how to deal with these bonds when drafting the contract.

Existing contracts

(Revision 4)

Existing contracts remain unaffected as long as there are no significant changes in terms of adhesive bonding technology.

However, an existing contract does not replace the certification in accordance with TL A-0023. Where necessary from a bonding point of view, appropriate quality assurance measures in accordance with TL A-0023 must be introduced. The certification bodies provide assistance for practical implementation in the course of audits.

It is to be ensured that companies whose processes are affected by TL A-0023 are certified in accordance with TL A-0023. This is to ensure that the basic adhesive bonding related requirements are implemented in the company's QM system, regardless of whether the company is processing new orders or existing orders.

5. Requirements for the companies: Personnel requirements

Change in personnel at the Adhesive Bonding Supervisors (retirement from function) *(Revision 1)*

If the requirements of TL A-0023 are no longer fulfilled, the responsible certification body must be informed immediately. Within two weeks, the company shall submit a concept for ensuring the supervision of adhesive bonding processes.

Qualification of the Adhesive Bonding Supervisor (KAP) *(Revision 5)*

For a transitional period, persons who are only in training to become an EAE or EAS can also be nominated as Adhesive Bonding Supervisor. If an application for EAE or EAS training has only just been submitted at the time of the audit, the Adhesive Bonding Supervisor must at least be able to provide evidence of level 2 qualification (if Adhesive Bonding Supervisor level 1 is required) or level 3 qualification (if Adhesive Bonding Supervisor level 2 is required).

In this case, the period of validity of the certificate must be limited to this transitional period until the Adhesive Bonding Supervisor is qualified.

The Certification Body shall decide on a restriction of the operational qualification to projects to be defined in consultation with the WIWeB.