



Operational Instructions for ACLA® Lift Buffers
of article number series
300xxxAxxx, 300xxxBxxx, 300xxxLxxx, 300xxxMxxx

Translation of original manual

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1 Scope of validity

These operational instructions apply for ACLA® lift buffers of article number series: 300xxxAxxx, 300xxxBxxx, 300xxxLxxx, 300xxxMxxx (x = number, letter) for the use in lift engineering.

2 Product description, technical data

2.1 Configuration and function

These ACLA® Lift buffers consist of a high-quality cellular polyurethane foam with excellent elastic deformation and damping properties.

ACLA® lift buffers are used to dampen the impact of lift cabins or counterweights considering certain final limits so that the masses will not crash hard and undamped to the ground in case of an error. The buffers slow down the free-fall by their deflection, and decrease the retardation and impact forces. This reduces the risks for personal injuries in the cabin or lift damages.

2.2 Mounting types

The lift buffers are available in different types of mounting (picture 1). The mounting elements depend on the article number group:

- Type A round steel plate
- Type C square steel plate
- Type D foamed-in perforated plate
- Type AD round steel plate plus additionally foamed-in perforated plate
- Type CD square steel plate plus additionally foamed-in perforated plate

2.3 Ambient and application conditions

- Temperature range material: - 40 °C up to + 80 °C
- Temperature range buffer function: - 15 °C up to + 60 °C
- Relative humidity: max. 98 % at ambient temperature, non-condensing
- No exposure to liquids
- Mineral oils and greases only in minor superficial contact
- No exposure to acids, bases and solvents
- No permanent load and no transverse load
- Where applicable protected against damage caused by animals (termites, rats)

2.4 Definitions

In this Technical Sheet the following definitions are used: (picture 2)

- lift buffer, buffer: The complete component consisting of the elastic part and a fixing element. The fixing element and the elastic part are firmly connected to each other.
- elastic part: Elastic deformable part of the buffer.
- fixing element: Massive element of the buffer used for connection with clamping plate.
- counter-pressure plates: The 2 surfaces between which the buffer is compressed.
- clamping plate: The counter-pressure plate on which the buffer is fixed.
- connecting element: Element for connecting the fixing element with the clamping plate (screw, ...).



3 Safety instructions

3.1 Intended use, dimensioning

3.1.1 In general

ACLA® lift buffers of AUTAN® HE for lift engineering are safety components!

These buffers may only be used in lift engineering in compliance with the applicable type-test certificate and the operational instructions! Furthermore all other current regulations standards, rules and other specifications for the use of buffers have to be respected. The user has to inform himself of and to observe any such regulations.

The use of buffers outside of these regulations is the sole responsibility of the user.

3.1.2 Masses, speeds

It is particularly important to keep the mass and speed limits stipulated in the type-test certificates. If the max. nominal speed is not indicated in the type-test certificate the next higher value stipulated in the certificate applies.

3.1.3 Use of several buffers in parallel

If several buffers are parallelly used for a common impact mass only the same buffer type must be used and evenly loaded. In this case the min. and max. mass indicated in the type-test certificate will multiply to higher values depending on the number of buffers. The calculated speed of the buffer remains unchanged.

3.2 Modification or damage of buffers

Modifications of the buffers are not admissible.

It is neither possible nor allowed to repair a buffer.

Fixing elements must not be welded onto the buffer because the temperature will damage the buffer.

3.3 Misapplication

The buffers must only be directly loaded by the counter-pressure plates.

The buffers must be fully loaded. No partial loading or with profiles.

It is not allowed to drive buffers against each other (picture 3).

3.4 Case of fire

Harmful fumes and smoke may be produced if the buffer will be ignited by an external fire. Therefore it is necessary to take protective measures when constructing the lift in order to avoid personal injury.

3.5 Storage

The ambient conditions described in chapter 2.3 apply for the storage of buffers. The optimum storage is carried out at room temperature. We recommend to store the buffers on a flat surface. They can be stacked on each other up to a height of 1,5 m. This will prevent an accidental slipping. It is not allowed to put additional load on the buffers, i.e. by stacking of pallets. Attention must be paid that no edges are pressed against the buffers. In case of need the buffers must be secured by cushioning material. In case of horizontal storage several layers one on top or additional load is not allowed.



3.6 Disposal

Disposal with due regard of all applicable international, national and local laws, regulations and statutes.

4 Building requirements, fixing

This chapter describes the requirements for the buffers. All other building requirements for components, i.e. rail length, foundations, shaft sizes have to be met by the user.

The counter-pressure plates must be even and parallel to the front surfaces of the buffer (picture 4).

Considering a compression of the buffer from its initial diameter d_0 and a elastic height h_0 by a spring displacement e_1 to the remaining height h_1 , the buffer will be expanded convexly to diameter d_1 . In case of a strong deformation the expanded area will be on the counter-pressure plates on diameter d_{G1} (picture 5).

As d_1 and d_{G1} strongly depend on the buffer and the application we are providing for the lift constructors special data sheets TB 341.XX on buffers showing among others the max. values.

Dia. d_G of the counter-pressure plates must be big enough to ensure full support over the whole surface even if the expanded area will be on the plates (picture 6).

There must be a free space next to the buffers so that they can expand freely on compressing (picture 7).

The counter-pressure plates and their base must be in a position to carry the whole force transferred by the buffer in case of a collision because the fixing elements of the buffer are no supporting elements. They serve for fastening only (picture 8).

All fixing elements have got through holes for fastening thread size M16. Please observe:

The buffer and the fixing element will be mounted towards the clamping plate (picture 9).

For screwing we recommend to use shims under the screw head. If it is not possible to ensure a permanent strength of the screw connection by other means, please use screw locks. There are also other ways for screwing than by means of M16 screws.

General advice cannot be given as the kind of fixing may strongly depend on the mounting conditions. It is up to the user's responsibility to ensure a permanent and safe fixing and to prevent that the fixing elements will affect the buffer function and the buffer itself.

It is necessary to ensure for all kinds of fixing that the fixing elements will not collide with the counter-pressure plate when the buffer is compressed (picture 10). If necessary, make recesses into the counter-pressure plate.



5 Installation

5.1 Personnel

The installation of the buffer may only be carried out by qualified personnel.

5.2 Tests

The buffer must be checked prior to installation:

5.2.1 Test for buffer use

To prevent misuse, it is necessary to check if the buffer is suitable for the application by comparing the buffer marking with the type-test certificate and any other important documents. In the event of any discrepancies the buffer must not be used (picture 11).

The following 3 data of the buffer marking are decisive for the assignment of the buffer to the type-test certificate: i.e. picture 12 shows these three markings. The arrangement of the elements on the buffer may vary. (picture 12).

1. name and address of the manufacturer: ACLA, DE 51065 KOELN
2. the eight-digit type designation 300xxxxx (x = letter / number)
3. the conformity mark(s) acc. to the scope(s) of the type-examination certificate(s) or guidelines, i.e.
 - CE XXXX, XXXX represents the number of the certified body as to quality assurance
 - EAC
 - others

Remarks

- a) identification mark of the buffer (picture 13)
Depending on the production system, the individual buffer can be uniquely identified by the information in the buffer marking, by one of the following 2 choices:
 - i. the 24 digit serial number
 - ii. date and time, if no 24 digit serial number is indicated
- b) 10 digit article number
The 10 digit article number 300xxxxxXX (x, X = letter / number) is stated in some accompanying documents, i.e. delivery notes. The ninth and the tenth digits are of no significance for the assignment to the type examination certificate. These digits only describe design variants, for example the additional marking with a 2D code.

5.2.2 Buffer inspection

The buffer needs be checked according to the criteria of chapter "6.3 Inspection" before it is mounted. In case of any damage it must not be used.

5.3 Assembly

The buffer needs to be mounted in accordance with the instructions of the lift constructor. Particular attention must be paid to the use of prescribed connecting elements, screw locks and torques.



6 Operation

6.1 Personnel

The inspection of the buffer may only be carried out by qualified personnel.

6.2 Inspection intervals

6.2.1 Normal operation

Considering the above ambient and operation conditions (see chapter 2.3) the buffer needs to be inspected at every lift maintenance but not later than 2 years after production. The production date is engraved on the side of the buffer in the format DD.MM.YYYY. The service life may be shortened by different operating conditions like high humidity at simultaneously increased temperature – in this case shorter inspection intervals will be necessary. Any subsequent inspections depend on the current state and the operating conditions, for instance once per year. As the specific conditions are unknown it is up to the user to take reasonable care.

6.2.2 Tests after special incidents

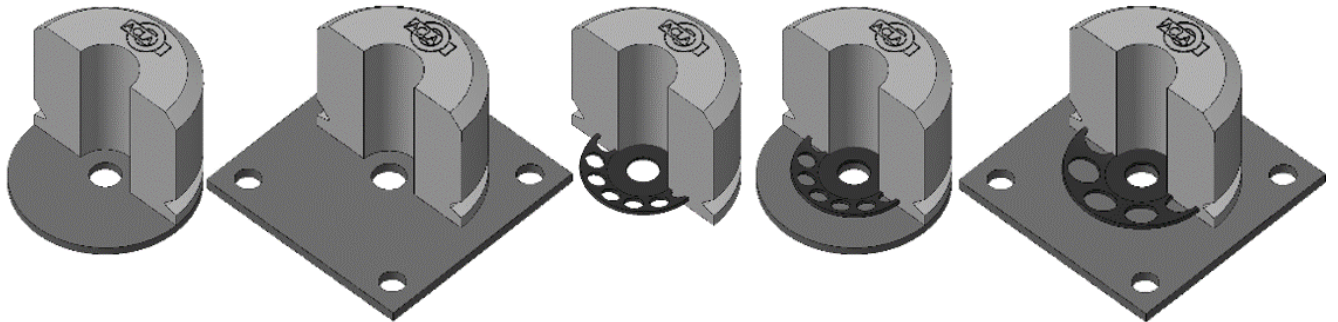
In case of any special influences on the buffer, i.e. emergent operation or submerged in water, it needs to be inspected immediately regardless of any inspection interval and replaced, if necessary.

6.3 Inspection

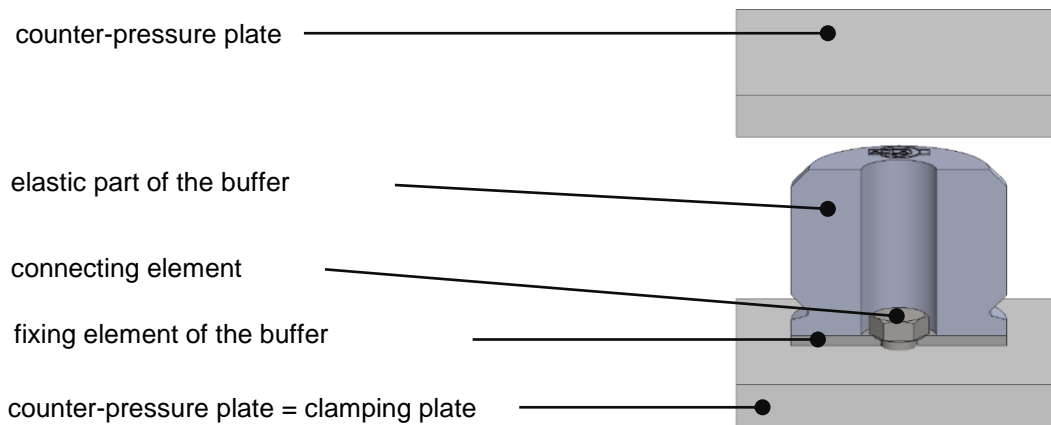
After a dry cleaning the buffer is checked for alterations like geometrical changes, brittleness, cracks, decollations or absorbed liquids (picture 14). The buffer and the stability of fixing elements is checked by pressing a hand moderately against the buffer and visual control. The buffer fastening to the clamping plate (i.e. screw joint) needs to be checked as well and corrected in case of need (picture 15). In case of any damages or modifications the buffer must be replaced.

7 Pictures

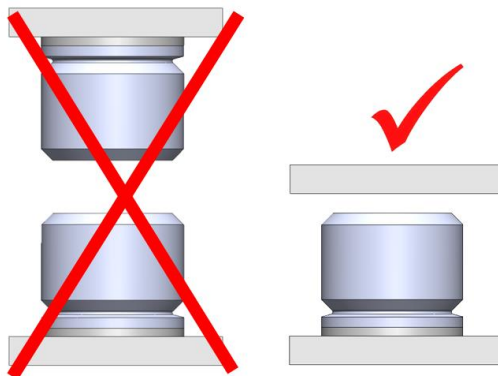
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picture 1: mounting kinds type A, C, D, AD, CD and fixing elements



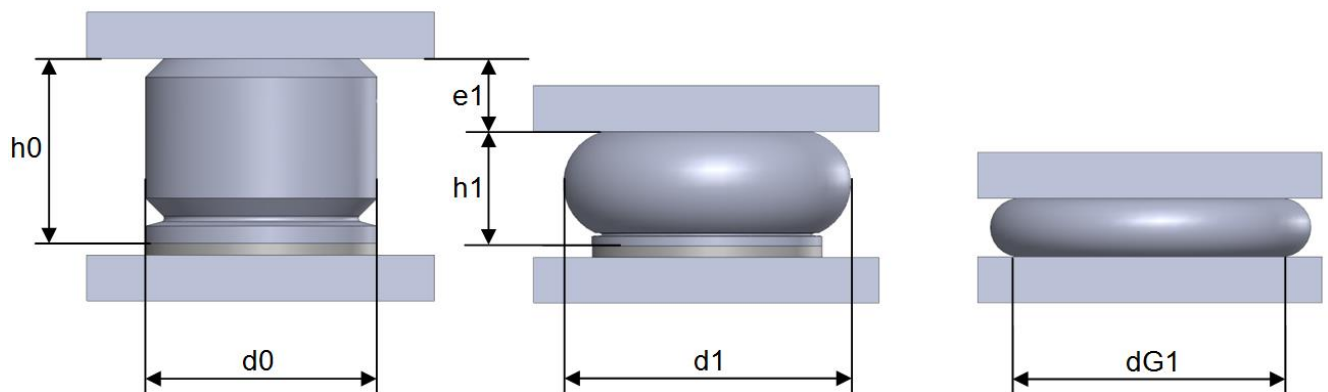
picture 2: definitions in these operational instructions



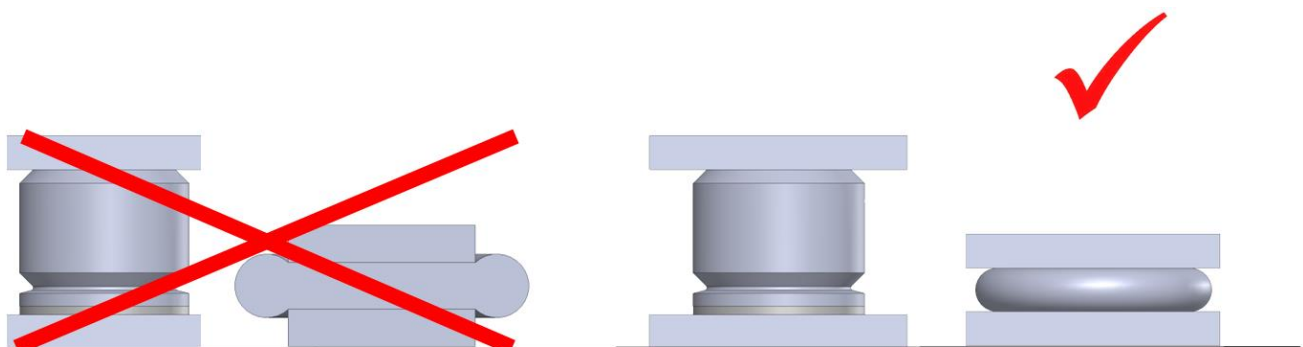
picture 3: do not use buffers against each other!



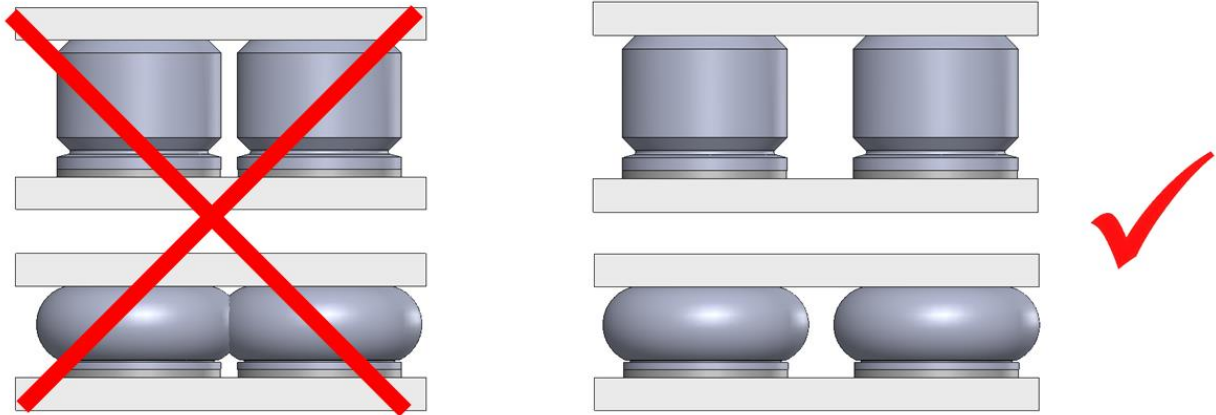
picture 4: even and parallel counter-pressure plates



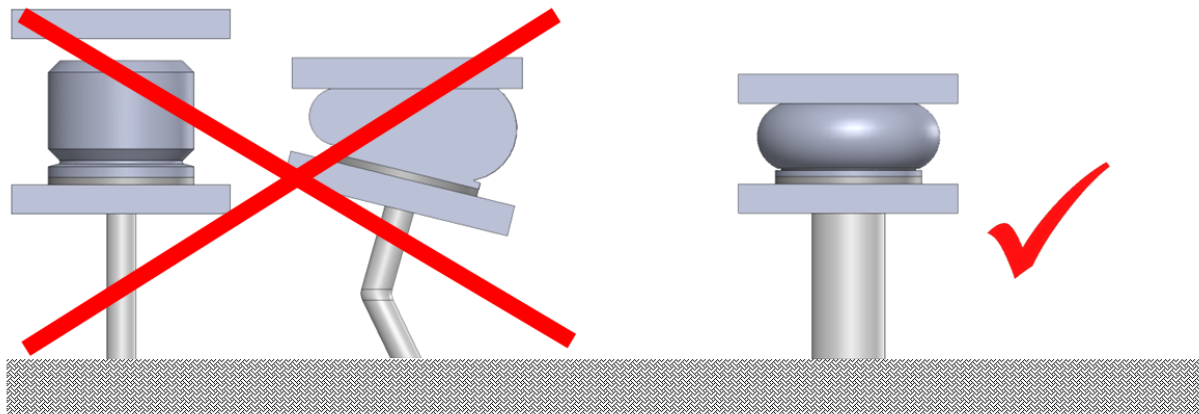
picture 5: convex expansion and contact to counter-pressure plates



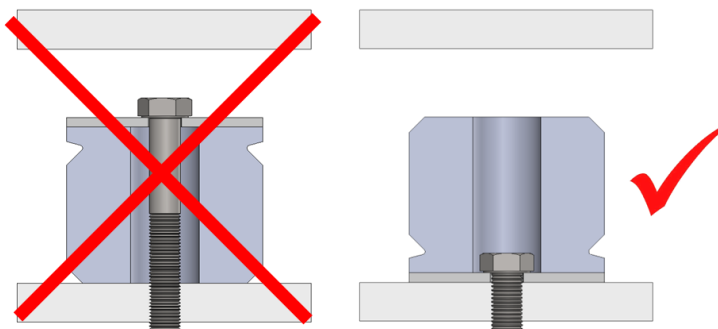
picture 6: sufficient dimensioning of counter-pressure plates



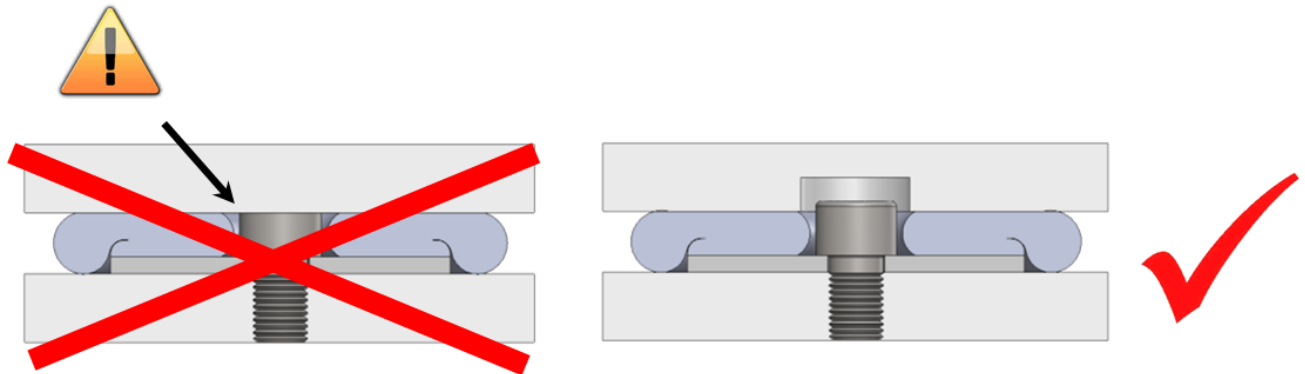
picture 7: pay attention to sufficient distance



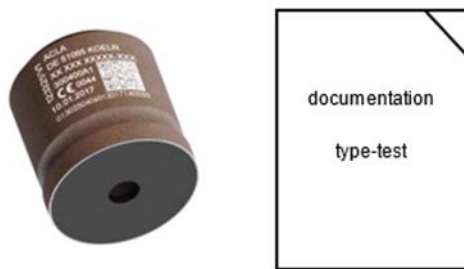
picture 8: pay attention to a stable base



picture 9: mount fixing element towards clamping plate



picture 10: avoid collision with connecting elements!



picture 11: identity check: compare buffer description and documents



picture 12: test for buffer use: example on criteria 1, 2 and 3

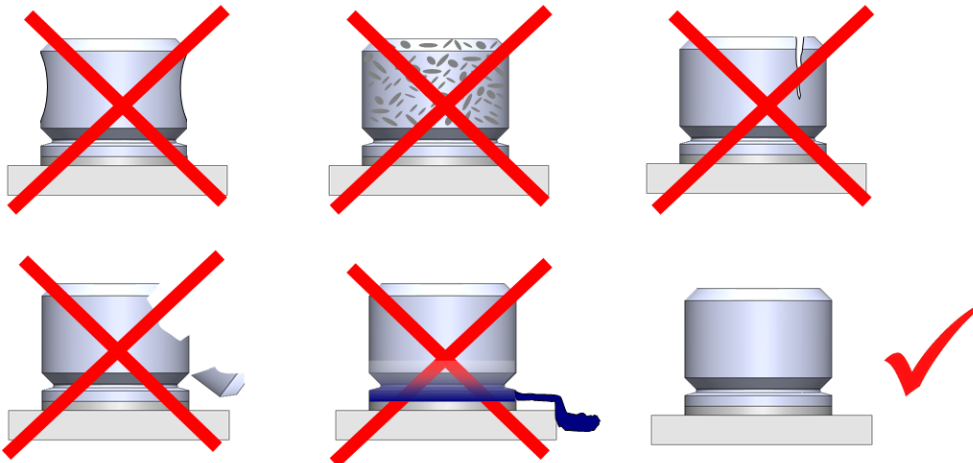


5.2.1. a) i

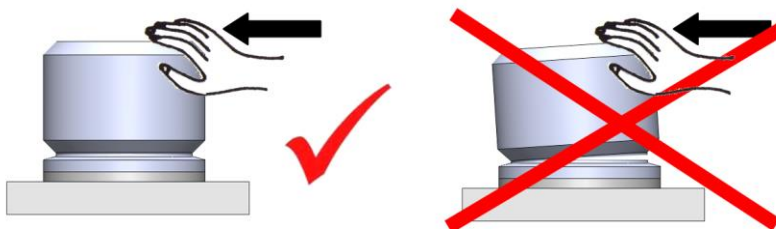


5.2.1. a) ii

picture 11: identification mark of the buffer



picture 12: check for alterations



picture 13: check fastening

Our verbal or written recommendations for any application as well as tests are carried out to the best of our knowledge. They are without engagement also as far as patent rights of third parties are concerned, and do not exempt you from checking the products supplied by us to their suitability for the intended procedure and purpose. Application, use and processing of the products are outside our control, and are exclusively the responsibility of the customer. Moreover our general sales conditions apply. This data sheet replaces all previous sheets. As it is not subject to any updating service the user has to check for relevance, whenever necessary.