TÜV Hannover/Sachsen-Anhalt e.V. ● Member of TÜV CERT

EC type-examination certificate

Certification No.:	08/208/AP 003/E1
Specified Office:	TÜV CERT Certification body of the TÜV Hannover/Sachsen-Anhalt e.V., Ident. No.: 0032
Certificate owner:	P+S Polyurethan-Elastomere GmbH & Co. KG, Thüringer Straße 4, D-49356 Diepholz
Date of application:	1997-12-18
Manufacturer:	See Certificate owner
Product, type:	Lift buffer with non-linear characteristics, type E1, versions A and C
Test laboratory:	Test laboratory for safety of technical systems
Date and number of test report:	98/PM13180/E1 of 1998-07-17
EU Directive:	Lift directive 95/16/EC
Test result:	The safety component satisfies the basic safety and health requirements of the Directive indicated for the field of application as specified in the annex on page 1 of this type-examination certificate.
Date of issue:	1998-07-17

TÜV CERT-Zertifizierungsstelle
für Maschinen, Aufzugs- und Fördertechnik
des TÜV Hannover/Sachsen-Anhalt e.V.

Head of the
Certification Body

Rosin

DAR-Reg.-Nr.: ZLS-ZE-136/97
Ident.No.: 0032

AP/CERTNORD 10.98

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Annex to the EC type-examination certificate No. 08/208/AP 003/E1

1. Required information

1.1 Lift buffer versions A and C

1.2 Field of application: for use with lifts in accordance with EN 81-1/2

1.3 Permissible masses in dependence of the nominal speed
Impact speed = 1.15 x max. nominal speed

max. nominal speed	1 m/s	0,63 m/s	0,4 m/s
max. mass	927 kg	1030 kg	1344 kg
min. mass	128 kg	128 kg	103 kg

1.4 Ambient conditions according to manufacturer's specifications

1.4.1 Temperature range: -35°C to + 80°C, continuous use up to + 50°C

1.4.2 Humidity: Max. 70% relative humidity at room temperature, avoid long-term contact with water

1.4.3 The buffers must not come into contact with acids or lyes (cleaning agent). Observe manufacturer's consistency list

2. Note:
The EC type-examination certificate may be used together with the corresponding appendix only.

EU-Declaration of Conformity for ETN-lift buffers

Subject:	ETN-lift buffers
Dimensions and load ranges	see table, page 2

Materials:

ETN-lift buffer	Diepocell®-MH 30
Mounting plates	Steel

We hereby declare that the construction	***lift buffer attachments with non-linear characteristic***
conforms to the relevant regulations of the	***line group A, B and C lift directive 95/16/EU***
Harmonised standards used:	***DIN EN 81-1: Febr. 1999*** ***DIN EN 81-2: Febr. 1999***
Nominated test centre for the execution of EC type examination test:	***TÜV Cert-*** ***Zertifizierungsstelle für*** ***Maschinen, Aufzugs- und Fördertechnik*** ***des TÜV Hannover/Sachsen-Anhalt e.V.*** ***Kenn-Nr.0032***
EC type examination test certificate No.:	***see table,*** ***page 2***
Production monitoring by:	***TÜV Cert-*** ***Zertifizierungsstelle für*** ***Maschinen, Aufzugs- und Fördertechnik*** ***des TÜV Hannover/Sachsen-Anhalt e.V.*** ***Kenn-Nr.0032***
Year of manufacture of buffer attachment:	***2010***

Management:

04/01/2010
Date

Horst Eichler
Signature

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ETN-lift buffer

EU type examination

The type examination tests for **ETN**-lift buffers made from **Diepocell®** have been carried out in accordance with liftdirective **95/16/EU**. The **certificate number** records the permissible load ranges for every type of lift buffer. An **EU type examination test certificate** can be issued for every type of lift buffer on request. For lifts with slower speeds than the nominal speed ($V_{Nmax.}$) used for the EC type-certification, the load range is applicable if the max. car or the counterweight loads are within the **max.** and **min.** mass [kg] according to the EC type-tests.

Dimensions Ø x H [mm]	Buffer type Item-no.	Load range m max. [kg] / m min. [kg]
		for all max. nominal speeds up to 1,0 m/s
100 x 80	**EN2** 320202	3240 / 190
125 x 80	**EN3** 320203	6510 / 240
165 x 80	**EN4** 320204	8010 / 290

max. nominal speed

1,25 + 1,4 m/s

		1,0 m/s	1,25 m/s	1,4 m/s
125 x 150	**EN5** 320205		1707 / 600	
140 x 200	**E6HS** 320014HS	1344 / 310	930 / 310	
220 x 220	**E10HS** 320011HS	2907 / 672	2010 / 800	1344 / 955

Max. nominal speed

up to

1,6 m/s

		1,6 m/s
180 x 340	**EN6** 320206	1700 / 630

Dimensions Ø x H [mm]	Buffer type Item-no.	Load range m max. [kg] / m min. [kg]		
		max. nominal speed		
		0,4 m/s	**0,63 m/s**	**1,0 m/s**
80 x 80	**T1** 320001/321001	1450 / 153	1300 / 153	500 / 233
100 x 80	**T2** 320002/321002	1886 / 153	1137 / 153	800 / 290
125 x 80	**T3** 320003/321003	2650 / 228	1500 / 228	1000 / 253
165 x 80	**T4** 320004/321004	6170 / 310	3000 / 379	2450 / 568
220 x 80	**T5** 320005/321005	9200 / 465	7100 / 1000	6000 / 1344
125 x 100	**E2-55** 320024/321024	3500 / 310	3100 / 310	2265 / 310
125 x 100	**E2-40** 320017/321010	831 / 113	672 / 158	568 / 163
125 x 100	**E2** 320007/321011	1661 / 153	1504 / 263	1486 / 263
140 x 100	**E5** 320013/321013	2744 / 203	2120 / 203	1980 / 203
100 x 160	**E1 / T6** 320006/321006	1344 / 103	1030 / 128	927 / 128
125 x 160	**E3 / T8** 320008/321007	1504 / 128	1344 / 263	1106 / 263
140 x 160	**E13** 320021/321021	3117 / 203	2120 / 303	2046 / 303
165 x 160	**E7 / T9** 320009/321008	3434 / 278	3117 / 395	3035 / 465
220 x 160	**E9 / T10** 320010/321009	7567 / 465	7043 / 568	6500 / 1344
125 x 200	**E4 / T7** 320015/321012	1661 / 103	1504 / 153	1442 / 253
140 x 200	**E6** 320014/321014	2451 / 203	2120 / 278	1966 / 278
140 x 250	**E11** 320012/321015	2744 / 228	2744 / 228	2502 / 228
165 x 220	**E8** 320016/321016	4079 / 203	4079 / 303	3919 / 777
220 x 220	**E10** 320011/321017	8132 / 465	8000 / 727	8000 / 1604

specified office: ZFA Roßwein gGmbH
TÜV Industrie Service GmbH
TÜV Süd München

TÜV Cert-Zertifizierungsstelle für Maschinen, Aufzugs- und Fördertechnik des TÜV Hannover/Sachsen-Anhalt e.V.

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Operating instructions for ETN lift buffers

ETN lift buffers are used as springs and damping elements for lifts. Depending on the type of lift (with or without choke or choke non-return valve), **ETN** lift buffers are available in a range of sizes for different max. and min. loads. The load ranges for **ETN** lift buffers are recorded in the EC type examination certificates.

ETN lift buffers are manufactured with three types of fittings (**A**, **B** and **C**). These are

Version A Circular steel mounting plate with central hole for central screw fitting.

Version B Plastic bush for central screw fitting.

Version C Square steel mounting plate with 4 holes for screw fitting at the corners.

ETN lift buffers can be arrenged side-by-side or in line, but the following must be noted when fitting the units:

Side-by-side mounting of the lift buffers

The distance between the outer surfaces of the buffer must be at least **40 %** of the buffer diameter
(e.g. buffer ∅ 100 mm, distance 40 mm)

In line mounting of the lift buffers

With this type of mounting the buffer attachment must not be offset from the centre by more than **10 %** of the buffer-∅. If the offset is greater, the buckling resistance and therefore the power absorption of the lift buffer can no longer be guaranteed. The contact faces (on underside of the lift cage, counter-weight and buffer attachment) should be flat and parallel to each other:

Lift buffers with central plastic bush

If using this version, the size of the attachment surface and counter pressure face must be at least buffer ∅ + **40 %.** The buffer attachment must be secured so that full contact is always guaranteed, even when fully compressed.

Buffer contact

The lift producer has to determine the size of the buffer contact area. The size of this area depends on the diameter of the lift buffer and on the clearence of the guide system of either the car or counter-weight.

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Operating instructions for ETN-lift buffers

Ambient conditions

Temperature range:	-40°C to +80°C, continuous use up to 50°C
Humidity:	70% relative humidity at room temperature Avoid continuous contact with water
Contamination:	Oil and grease compatible, but protect agains acids and cleaning agents.

Life, maintenance

ETN lift buffers have a minimum life of at least 5 years, but we cannot guarantee this. They are maintenance-free, but they should be subjected to regular visual checks when inspecting and maintaining safety components. Should the shape of the buffer have undergone considerable visible change, it must be exchanged for a new item. The buffer must also be changed after the lift cage has dropped hard on to the buffer. Changes in colour of the buffer from white to brown relate to the material and have no influence on the technical and physical characteristics of **ETN** lift buffers.

Note

ETN lift buffer may only be used when it has been determined that the lift installation conforms to the **Lift Directive 95/16/EU**. **ETN** lift buffers must not be subjected to a continuous load and therefore must not be used as resting point during repair and maintenance work.

30/04/2007

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Lift buffers corresponding to EN 81 Calculation

Customer | Lift-no.

Operating speed V = m/s

1. Cage + Working load

Number of buffer (n) =

$m_{max} = \frac{Q + F}{n} = \frac{\quad + \quad}{\quad} =$ kg

Buffer-no.

$m_{min} = \frac{F}{n} = \frac{\quad}{\quad} =$ kg

2. Counterweight

Number of buffer (n) =

$m_G = \frac{F + Q/2}{n} = \frac{\quad + \quad/2}{\quad} =$ kg

Buffer-no.

m = Weight [kg]
Q = Working load [kg]
F = Cage weight [kg]
m_G = Counterweight [kg]

Lift producer:	Technical regularity body:
Signature:	Signature:
Dated:	Dated:

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