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/CERTNOHD 10 98

1998-07-17

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.

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 arranged 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 clearance 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 against 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 2014/33/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.

01/08/2016

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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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Diepocell® lift buffers

EU type-examination

Details of test results for lift buffers type **E1** until **E13**, also **E6 HS** and **E10 HS.**
Configuration **A**, **B, C** and **D**, respectively configuration **A** and **C**

production control by: TÜV NORD CERT GmbH Notified body: 0044

The type-examination tests for **P+S**-lift buffers made from **Diepocell®** have been carried out in accordance with the lift directive **95/16/EU**. **The certficate number** records the permissible load ranges for every type of lift buffer. A EU type-examination test certificate can be issued for every type of **P+S**- lift buffer on request. The bold printed types of buffers are available at short notice ex stock, the other types of buffer will be made available on request.
For lifts with **lower** speeds than the nominal speed (Vn_{max}) used for the EU type-certification, the load range is applicable if the max. car or counterweight loads are within the **max.** and **min.** load (kg) according to the EU type examination.

valid for buffers version A, B, C and D

Load limits acc. to EN 81	Notified body		0044						
	Buffer size		**E1-45**	**E1**	**E2-40**	**E2-45**	**E2**	**E2-55**	**E3-45**	**E3**	**E4-45**
	Dia (mm)	D	100	100	125	125	125	125	125	125	125
	Height (mm)	H	160	160	100	100	100	100	160	160	200
Nominal velocity (m/s)	Load range		Load (kg)								
0,40	max.		./.	1344	831	./.	1661	3500	./.	1504	./.
	min.		./.	103	113	./.	153	310	./.	128	./.
0,63	max.		./.	1030	672	./.	1504	3100	./.	1344	./.
	min.		./.	128	158	./.	263	310	./.	263	./.
1,00	max.		689	927	568	704	1486	2265	838	1106	822
	min.		103	128	163	148	263	310	203	263	203

Load limits acc. to EN 81	Notified body		0044								
	Buffer size		**E4**	**E5-45**	**E5**	**E13-45**	**E13**	**E6-45**	**E6**	**E11-45**	**E11**
	Dia (mm)	D	125	140	140	140	140	140	140	140	140
	Height (mm)	H	200	100	100	160	160	200	200	250	250
Nominal velocity (m/s)	Load range		Load (kg)								
0,40	max.		1661	./.	2744	./.	3117	./.	2451	./.	2744
	min.		103	./.	203	./.	203	./.	203	./.	228
0,63	max.		1504	./.	2120	./.	2120	./.	2120	./.	2744
	min.		153	./.	203	./.	303	./.	278	./.	228
1,00	max.		1442	1344	1980	1641	2046	1258	1966	1604	2502
	min.		253	303	303	303	303	253	278	163	228

Load limits acc. to EN 81	Notified body		0044								
	Buffer size		**E12**	**E7-45**	**E7**	**E8-45**	**E8**	**E9**	**E10**	./.	./.
	Dia (mm)	D	140	165	165	165	165	220	220	./.	./.
	Height (mm)	H	110	160	160	220	220	160	220	./.	./.
Nominal velocity (m/s)	Load range		Load (kg)								
0,40	max.		5300	./.	3434	./.	4079	7567	8132	./.	./.
	min.		190	./.	278	./.	203	465	465	./.	./.
0,63	max.		4489	./.	3117	./.	4079	7043	8000	./.	./.
	min.		190	./.	395	./.	303	568	727	./.	./.
1,00	max.		3000	2337	3035	2864	3919	6500	8000	./.	./.
	min.		310	228	465	573	777	1344	1604	./.	./.

valid for buffers version A and C

Load limits according to EN 81	Notified body		0044						
	Buffer size		**E6 HS**	**E10 HS**	./.	./.	./.	./.	./.
	Dia (mm)	D	140	220	./.	./.	./.	./.	./.
	Height (mm)	H	200	220	./.	./.	./.	./.	./.
Nominal velocity (m/s)	Load range								
1,25	max.		930	2010	./.	./.	./.	./.	./.
	min.		310	800	./.	./.	./.	./.	./.
1,40	max.		./.	1344	./.	./.	./.	./.	./.
	min.		./.	955	./.	./.	./.	./.	./.

P+S Polyurethan-Elastomere

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Assembly instruction for labelling of lift-buffers acc. to lift-directive 2014/33/EU

Lift-buffers of series **„E "** with type examination certificate acc. to lift-directive 95/16/EG for the use in elevators, acc. to EN 81-1/2 do not full-fill the requirement for labelling acc. to lift-directive 2014/33/EU **in its entirety** and have to be labelled with an extra label.

Information ON the buffer

Manufacturer: **P+S**

Type name of the buffer: **„ E "**

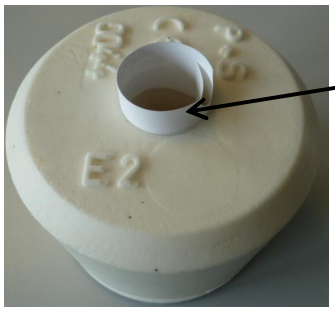
No. of the notified body: **0044**

Label of conformity: **CE**

Information ON the extra label

Manufacturer item no.: (xxxxxxxxx)
Type examination certificate no.: (Cert.:)
Production date of the part: (Batch No.:)
Full postal address of the manufacturer.

On following pictures the assembly of the label is shown.



At delivery the label is placed inside the central bore of the lift-buffer.

In general the label has to be installed in a way that the information of the label is visible. **The label has to be installed between installation surface and the lift-buffer.**

Bore for the installation between installation surface and the lift-buffer.

Information corresponds to the lift-directive 2014/33/EU and was installed in a proper way.

Information corresponds to the lift-directive 2014/33/EU **BUT** was installed wrong.

This way is NOT permitted.