

# P+S

## IMPACT BUFFERS AND DAMPERS



# P+S POLYURETHAN-ELASTOMERE GMBH & CO. KG

The **dynamic and highly resilient** construction elements made of polyurethane elastomers have been impressing customers from a wide range of industries since 1972.

Both compact and foamed elastomers are characterised by outstanding technical properties. Customers from all over the world rely on the environmentally friendly elastomers from P+S.

Creative solution competence, a **strong knowledge of the industry**, modern polyurethane materials, as well as a **high degree in adherence to**

**lead times and service orientation**, are essential components of our corporate culture.

With the achievement of our **certifications**:

- ISO 9001:2015 (Quality Management)
- ISO 14001:2015 (Environmental Management)
- ISO 45001:2018 (Occupational Health and Safety)
- ISO 50001:2018 (Energy Management)

we are regularly confirmed that we design our processes to be efficient as well as sustainable and energy-saving.





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# IMPACT BUFFERS MADE OF DIEPOCELL® BM

## Description, instructions for use and versions available

### DESCRIPTION:

Discover the outstanding properties of **P+S impact buffers and dampers**, made from the innovative DIEPOCELL® BM polyurethane foam. This unique material combines exceptionally high damping and impressive load absorption with remarkable robustness.

DIEPOCELL® BM impact buffers are characterised not only by their resistance to many oils and greases, but also to ozone, UV radiation and ageing. They are hydrolytically stable, which means that they can also be used in areas with high humidity, such as harbour areas and tropical climates.

With an operating temperature range from -40 to

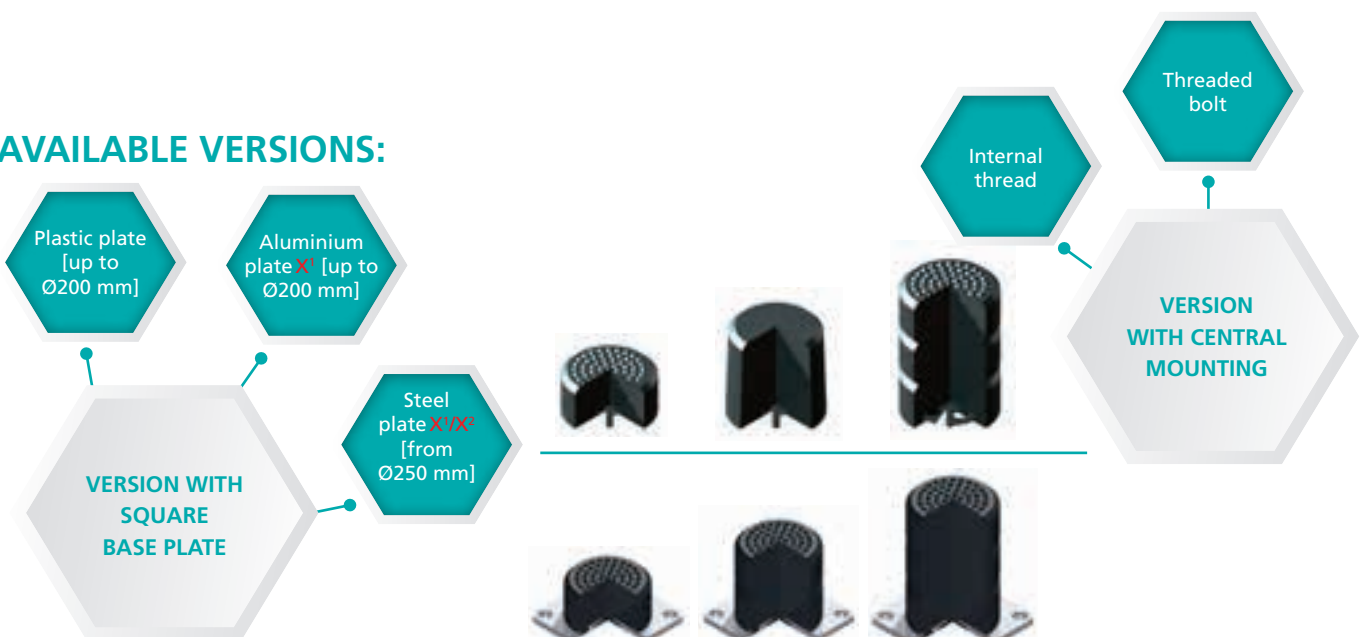
+80 °C, the impact buffers are extremely versatile. Short-term temperature peaks of up to +100 °C are also permissible. However, it should be noted that use at temperatures below 0 °C can lead to hardening of the material, affects the load limits accordingly.

You can rely on the proven quality and performance of **P+S impact buffers and dampers made from DIEPOCELL® BM**. Whether in industrial applications or in demanding environments, these products offer you the reliability and durability you need. Check the wide range of possible applications and benefit from the outstanding properties of this unique material.

### NOTES ON THE USE OF P+S IMPACT BUFFERS AND DAMPERS:

- We recommend using the buffer elements in the range of 20 – 70 % deflection.
- Buffer elements with central mounting and a height of  $\leq 100$  mm must never be loaded above 70 %, as there is a risk of permanent deformation.
- A transverse expansion of the buffers of up to approx. 50 % under full load must be taken into account.
- When using a **P+S buffer element**, a full-surface contact area and counter-pressure area must be guaranteed in order to achieve the technical load values specified later.
- We advise not to use buffer elements against each other (buffer on the crane against buffer on the stop), as this can cause buckling effects.
- Information on the calculation and design of the impact buffers is provided on the following page.
- Technical load curves and recommended load ranges can be found from page 7 onwards.

### AVAILABLE VERSIONS:



<sup>x1</sup> Impact buffers from size Ø160 mm are optionally available with additional cable safety device.

<sup>x2</sup> Impact buffers with steel plate are optionally available with hot-dip galvanised base plate or additional painting of the base plate.



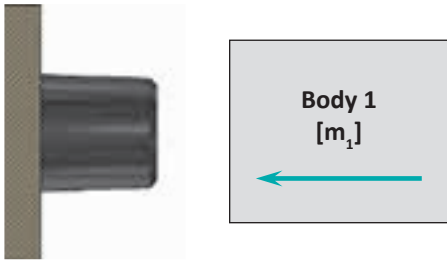
## Calculation bases

### CALCULATION BASIS FOR VARIOUS SITUATIONS:

#### MOVING MASS AGAINST FIXED STOP:

$$W = 0.5 * m_1 * v_1^2$$

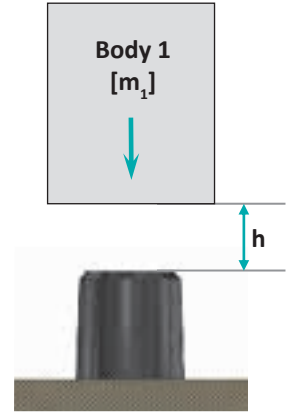
$W$  = kinetic energy [J]  
 $m_1$  = mass of body 1 [kg]  
 $v_1$  = velocity of body 1 [m/s]



#### FREE FALL:

$$W = m_1 * g * h$$

$W$  = kinetic energy [J]  
 $m_1$  = mass of body 1 [kg]  
 $g$  = gravitational acceleration (9.81) [m/s<sup>2</sup>]  
 $h$  = distance from mass to buffer [m]



#### MOVING MASS AGAINST MOVING MASS:

$$W = \frac{m_1 * m_2 * (v_1 + v_2)^2}{2 * (m_1 + m_2)}$$

$W$  = kinetic energy [J]  
 $m_1$  = mass of body 1 [kg]  
 $m_2$  = mass of body 2 [kg]  
 $v_1$  = velocity of body 1 [m/s]  
 $v_2$  = velocity of body 2 [m/s]



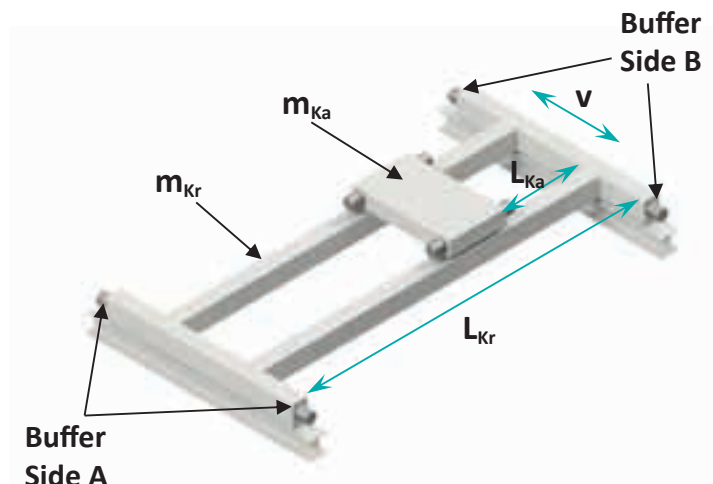
#### CRANE BUFFER CALCULATION (TROLLEY):

$$W_B = 0.5 * m_B * v^2$$

$$m_B = \frac{m_{Kr}}{2} + \frac{m_{Ka} * (L_{Kr} - L_{Ka})}{L_{Kr}}$$

$A$  = buffer on side A of the crane  
 $B$  = buffer on side B of the crane  
 $W_B$  = kinetic energy at buffer side B [J]  
 $m_B$  = mass to be taken into account on buffer side B [kg]  
 $v$  = acting velocity [m/s]

$m_B$  = mass to be taken into account on side B [kg]  
 $m_{Kr}$  = mass of crane base body [kg]  
 $m_{Ka}$  = trolley mass [kg]  
 $L_{Kr}$  = distance from side A to side B [m]  
 $L_{Ka}$  = distance trolley to side B [m]



#### Attention:

Oscillating masses are not taken into account in this calculation. Reduced speeds in accordance with applicable DIN standards should also be taken into account. Any momentum in the application should also be taken into account.

# IMPACT BUFFERS MADE OF DIEPOCELL® BM

## Overview of load values

| NOMINAL SIZE | DIMENSIONS |        | RECOMMENDED LOAD RANGE |      |                  |                  |                             |                  | LINK TO THE LOAD DIAGRAM |
|--------------|------------|--------|------------------------|------|------------------|------------------|-----------------------------|------------------|--------------------------|
|              | ØD         | HEIGHT | BUFFER DEFLECTION      |      | STATIC LOAD      |                  | DYNAMIC LOAD WITH 1 – 4 m/s |                  |                          |
|              | [mm]       | [mm]   | [%]                    | [mm] | Work intake [kJ] | Final force [kN] | Work intake [kJ]            | Final force [kN] |                          |
| 70           | 70         | 70     | 20                     | 14   | 0.01             | 1.75             | 0.04                        | 6.40             | Page 7                   |
|              |            |        | 70                     | 49   | 0.34             | 14.00            | 1.24                        | 50.00            |                          |
| 80           | 80         | 40     | 20                     | 8    | 0.01             | 2.30             | 0.03                        | 6.70             | Page 8                   |
|              |            |        | 70                     | 28   | 0.28             | 20.00            | 0.85                        | 60.00            |                          |
|              | 80         | 80     | 20                     | 16   | 0.02             | 1.90             | 0.05                        | 5.80             |                          |
|              |            |        | 70                     | 56   | 0.41             | 15.00            | 1.25                        | 44.00            |                          |
|              | 80         | 120    | 20                     | 24   | 0.02             | 1.80             | 0.07                        | 5.60             |                          |
|              |            |        | 70                     | 84   | 0.60             | 14.00            | 1.80                        | 42.00            |                          |
| 100          | 100        | 50     | 20                     | 10   | 0.02             | 3.50             | 0.05                        | 10.50            | Page 9                   |
|              |            |        | 70                     | 35   | 0.55             | 31.00            | 1.65                        | 95.00            |                          |
|              | 100        | 100    | 20                     | 20   | 0.04             | 3.00             | 0.09                        | 9.00             |                          |
|              |            |        | 70                     | 70   | 0.80             | 23.00            | 2.45                        | 70.00            |                          |
|              | 100        | 150    | 20                     | 30   | 0.04             | 2.90             | 0.13                        | 8.80             |                          |
|              |            |        | 70                     | 105  | 1.15             | 21.00            | 3.45                        | 66.00            |                          |
| 125          | 125        | 63     | 20                     | 13   | 0.03             | 5.50             | 0.10                        | 16.40            | Page 10                  |
|              |            |        | 70                     | 44   | 1.10             | 50.00            | 3.30                        | 148.00           |                          |
|              | 125        | 125    | 20                     | 25   | 0.06             | 4.70             | 0.17                        | 14.10            |                          |
|              |            |        | 70                     | 88   | 1.60             | 36.00            | 4.75                        | 108.00           |                          |
|              | 125        | 190    | 20                     | 38   | 0.08             | 4.50             | 0.26                        | 13.70            |                          |
|              |            |        | 70                     | 133  | 2.30             | 34.00            | 6.85                        | 103.00           |                          |
| 160          | 160        | 80     | 20                     | 16   | 0.07             | 8.90             | 0.22                        | 26.80            | Page 11                  |
|              |            |        | 70                     | 56   | 2.25             | 81.00            | 6.80                        | 243.00           |                          |
|              | 160        | 160    | 20                     | 32   | 0.12             | 7.70             | 0.37                        | 23.20            |                          |
|              |            |        | 70                     | 112  | 3.30             | 59.00            | 9.90                        | 178.00           |                          |
|              | 160        | 240    | 20                     | 48   | 0.18             | 7.50             | 0.54                        | 22.40            |                          |
|              |            |        | 70                     | 168  | 4.70             | 56.00            | 14.10                       | 168.00           |                          |
| 200          | 200        | 100    | 20                     | 20   | 0.14             | 14.00            | 0.42                        | 42.00            | Page 12                  |
|              |            |        | 70                     | 70   | 4.40             | 127.00           | 13.30                       | 380.00           |                          |
|              | 200        | 200    | 20                     | 40   | 0.24             | 12.00            | 0.72                        | 36.00            |                          |
|              |            |        | 70                     | 140  | 6.50             | 93.00            | 19.40                       | 278.00           |                          |
|              | 200        | 300    | 20                     | 60   | 0.35             | 11.60            | 1.00                        | 35.00            |                          |
|              |            |        | 70                     | 210  | 9.30             | 88.00            | 27.70                       | 264.00           |                          |
| 250          | 250        | 125    | 20                     | 25   | 0.27             | 22.00            | 0.82                        | 66.00            | Page 13                  |
|              |            |        | 70                     | 88   | 8.80             | 198.00           | 26.00                       | 595.00           |                          |
|              | 250        | 250    | 20                     | 50   | 0.47             | 19.00            | 1.40                        | 57.00            |                          |
|              |            |        | 70                     | 175  | 12.70            | 145.00           | 38.00                       | 435.00           |                          |
|              | 250        | 375    | 20                     | 75   | 0.69             | 18.00            | 2.10                        | 55.00            |                          |
|              |            |        | 70                     | 263  | 18.00            | 137.00           | 54.00                       | 412.00           |                          |
| 315          | 315        | 158    | 20                     | 32   | 0.55             | 35.00            | 1.60                        | 105.00           | Page 14                  |
|              |            |        | 70                     | 111  | 17.00            | 314.00           | 52.00                       | 944.00           |                          |
|              | 315        | 315    | 20                     | 63   | 0.94             | 30.00            | 2.80                        | 90.00            |                          |
|              |            |        | 70                     | 221  | 25.00            | 230.00           | 76.00                       | 690.00           |                          |
|              | 315        | 475    | 20                     | 95   | 1.40             | 29.00            | 4.10                        | 87.00            |                          |
|              |            |        | 70                     | 333  | 35.00            | 210.00           | 104.00                      | 627.00           |                          |
| 400          | 400        | 200    | 20                     | 40   | 1.10             | 56.00            | 3.40                        | 168.00           | Page 15                  |
|              |            |        | 70                     | 140  | 36.00            | 508.00           | 106.00                      | 1532.00          |                          |
|              | 400        | 400    | 20                     | 80   | 1.90             | 48.00            | 5.80                        | 144.00           |                          |
|              |            |        | 70                     | 280  | 52.00            | 370.00           | 155.00                      | 1113.00          |                          |
|              | 400        | 600    | 20                     | 120  | 2.80             | 46.00            | 8.40                        | 140.00           |                          |
|              |            |        | 70                     | 420  | 74.00            | 351.00           | 221.00                      | 1054.00          |                          |
| 500          | 500        | 250    | 20                     | 50   | 2.20             | 87.00            | 6.60                        | 260.00           | Page 16                  |
|              |            |        | 70                     | 175  | 70.00            | 793.00           | 209.00                      | 2380.00          |                          |
|              | 500        | 500    | 20                     | 100  | 3.80             | 76.00            | 11.40                       | 226.00           |                          |
|              |            |        | 70                     | 350  | 101.00           | 580.00           | 305.00                      | 1741.00          |                          |
|              | 500        | 750    | 20                     | 150  | 5.50             | 73.00            | 16.40                       | 219.00           |                          |
|              |            |        | 70                     | 525  | 144.00           | 550.00           | 432.00                      | 1650.00          |                          |
| 600          | 600        | 300    | 20                     | 60   | 3.80             | 126.00           | 11.40                       | 378.00           | Page 17                  |
|              |            |        | 70                     | 210  | 120.00           | 1140.00          | 360.00                      | 3430.00          |                          |
|              | 600        | 600    | 20                     | 120  | 6.50             | 109.00           | 19.50                       | 326.00           |                          |
|              |            |        | 70                     | 420  | 175.00           | 834.00           | 525.00                      | 2500.00          |                          |
|              | 600        | 900    | 20                     | 180  | 9.40             | 105.00           | 28.40                       | 315.00           |                          |
|              |            |        | 70                     | 630  | 250.00           | 791.00           | 748.00                      | 2370.00          |                          |

# IMPACT BUFFERS - STANDARD PROGRAMM

Case study & nominal size Ø70 - DIEPOCELL® BM (anthracite)



## CALCULATION OF AN APPLICATION AND EVALUATION OF THE DIAGRAMS:

Application: Mass against stop

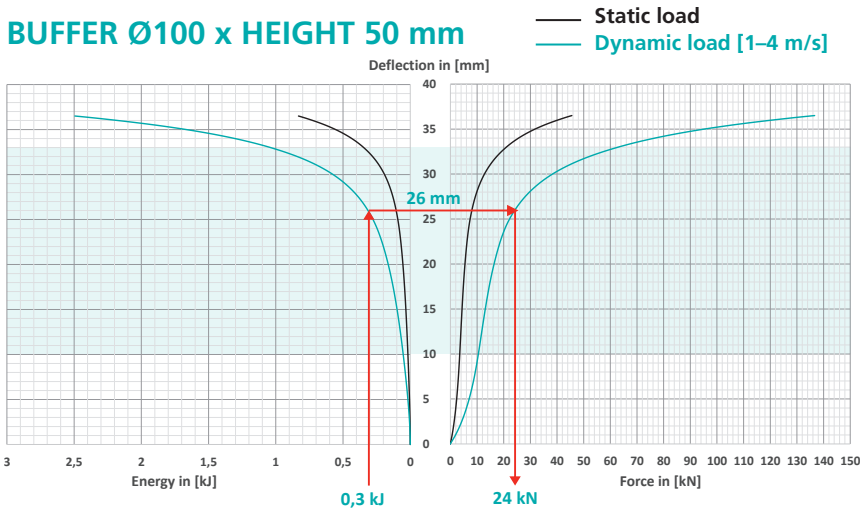
Calculation according to formula  $[W = \frac{1}{2} \times m \times v^2]$  -> see p. 5

Specifications: Mass (m) = 150 kg

Calculation:  $W = \frac{1}{2} \times 150 \text{ kg} \times (2 \text{ m/s})^2$

Velocity (v) = 2 m/s = **300 J or 0.3 kJ**

### BUFFER Ø100 x HEIGHT 50 mm



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 10   | 0.02             | 3.50             |
|                        | 70            | 35   | 0.55             | 31.00            |
| Dynamic [1-4 m/s]      | 20            | 10   | 0.05             | 10.50            |
|                        | 70            | 35   | 1.65             | 95.00            |

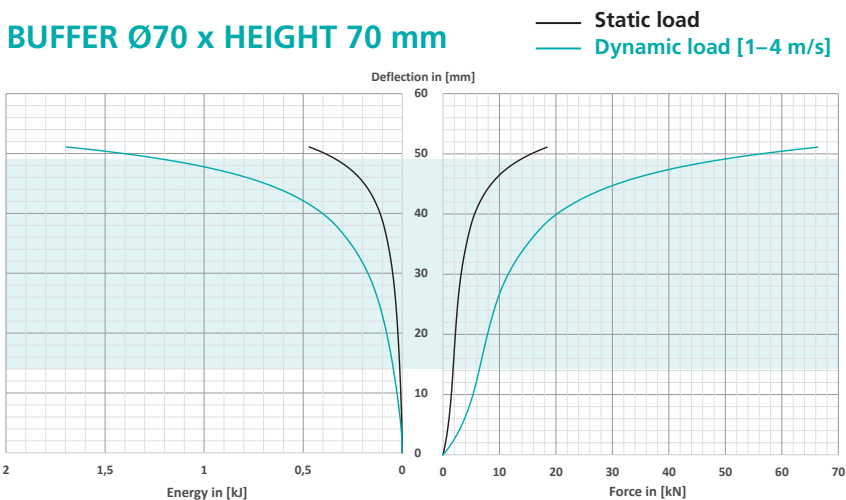
| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35   |                       | 233101074 |
| Internal thread    | Central fastening M12  |                       | 235101074 |
| Plastic plate      | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) |                       | 255101074 |
| Aluminium plate    | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) |                       | 202101074 |
| Steel plate        | -  |                       | -         |

### Step-by-step instructions:

1. Start by finding the calculated work intake (W) on the X-axis of the left-hand graph.
2. Trace vertically from this point to the corresponding graph (dynamic – green).
3. Then follow the X-axis horizontally to determine the deflection.
4. Continue your horizontal movement to get to the matching curve in the diagram on the right.
5. Then go from the point of intersection with the graph perpendicular to the X-axis of the right-hand graph to read off the final force.

## LOAD DIAGRAMS:

### BUFFER Ø70 x HEIGHT 70 mm



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 14   | 0.01             | 1.75             |
|                        | 70            | 49   | 0.34             | 14.00            |
| Dynamic [1-4 m/s]      | 20            | 14   | 0.04             | 6.40             |
|                        | 70            | 49   | 1.24             | 50.00            |

| Available versions |                            | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|----------------------------|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35 |                       | 233701074 |
| Internal thread    | Central fastening M12      |                       | 235701074 |
| Plastic plate      | -                          |                       | -         |
| Aluminium plate    | -                          |                       | -         |
| Steel plate        | -                          |                       | -         |

To the load overview

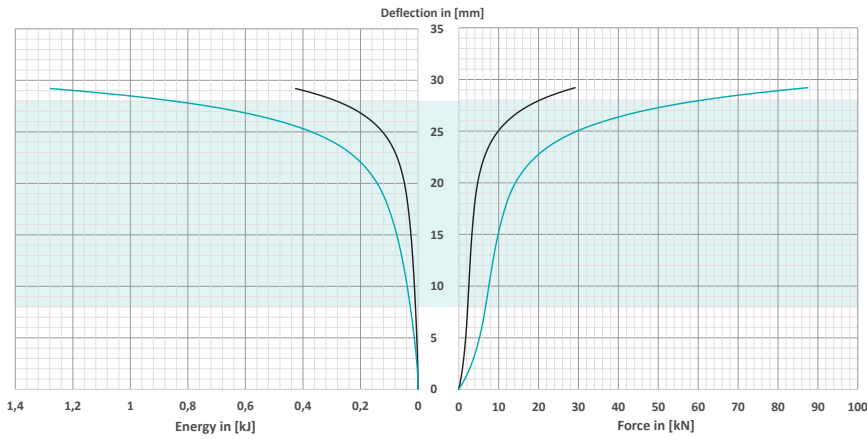


# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø80 - DIEPOCELL® BM (anthracite)

## BUFFER Ø80 x HEIGHT 40 mm

— Static load  
— Dynamic load [1–4 m/s]

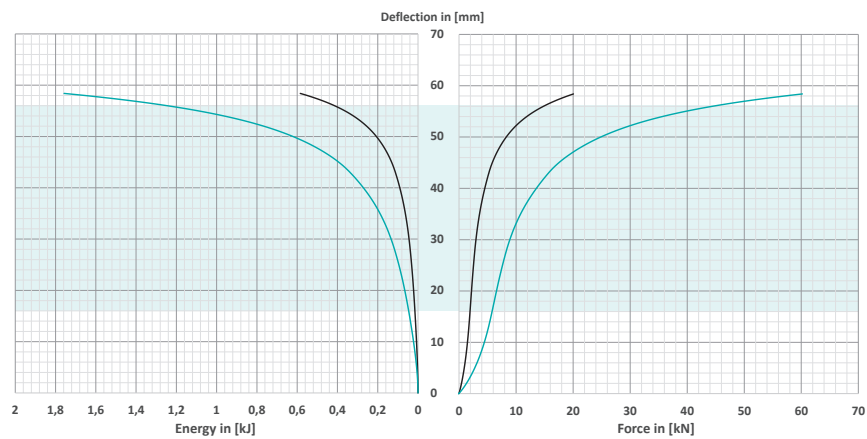


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 8    | 0.01             | 2.30             |
|                        | 70            | 28   | 0.28             | 20.00            |
| Dynamic [1–4 m/s]      | 20            | 8    | 0.03             | 6.70             |
|                        | 70            | 28   | 0.85             | 60.00            |

| Available versions |   | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|---|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35  |                       | 233801074 |
| Internal thread    | Central fastening M12   |                       | 235801074 |
| Plastic plate      | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 255801074 |
| Aluminium plate    | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 202801074 |
| Steel plate        | –   |                       | –         |

## BUFFER Ø80 x HEIGHT 80 mm

— Static load  
— Dynamic load [1–4 m/s]

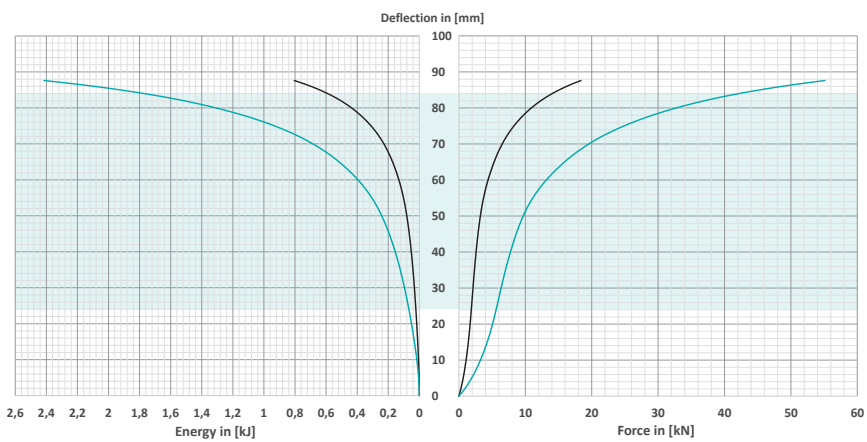


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 16   | 0.02             | 1.90             |
|                        | 70            | 56   | 0.41             | 15.00            |
| Dynamic [1–4 m/s]      | 20            | 16   | 0.05             | 5.80             |
|                        | 70            | 56   | 1.25             | 44.00            |

| Available versions |   | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|---|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35  |                       | 233802074 |
| Internal thread    | Central fastening M12   |                       | 235802074 |
| Plastic plate      | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 255802074 |
| Aluminium plate    | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 202802074 |
| Steel plate        | –   |                       | –         |

## BUFFER Ø80 x HEIGHT 120 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 24   | 0.02             | 1.80             |
|                        | 70            | 84   | 0.60             | 14.00            |
| Dynamic [1–4 m/s]      | 20            | 24   | 0.07             | 5.60             |
|                        | 70            | 84   | 1.80             | 42.00            |

| Available versions |   | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|---|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35  |                       | 233803074 |
| Internal thread    | Central fastening M12   |                       | 235803074 |
| Plastic plate      | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 255803074 |
| Aluminium plate    | Square base plate 110 x 110 x 10 mm with 4 holes Ø14 (distance = 80 mm) |                       | 202803074 |
| Steel plate        | –   |                       | –         |

To the load overview





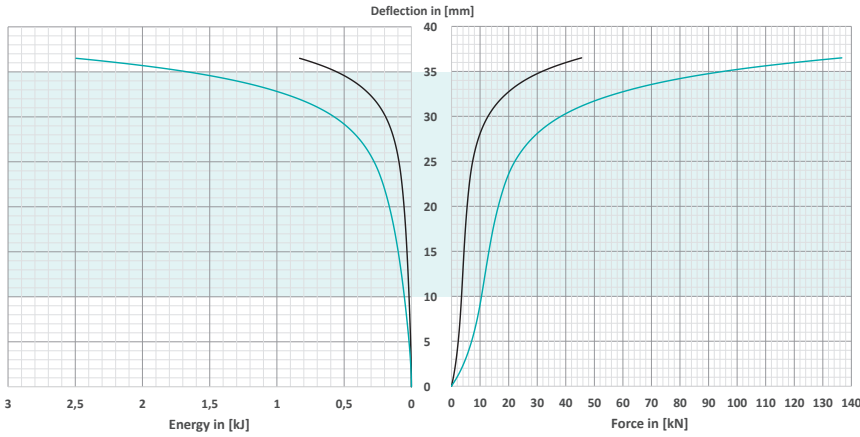
# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø100 - DIEPOCELL® BM (anthracite)



## BUFFER Ø100 x HEIGHT 50 mm

— Static load  
— Dynamic load [1–4 m/s]

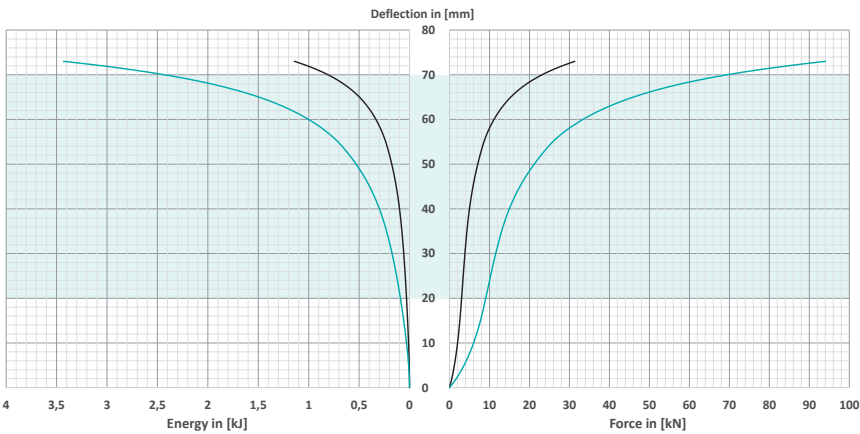


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 10   | 0.02             | 3.00             |
|                        | 70            | 35   | 0.55             | 31.00            |
| Dynamic [1–4 m/s]      | 20            | 10   | 0.05             | 10.50            |
|                        | 70            | 35   | 1.65             | 95.00            |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233101074 |
|                       | Internal thread | Central fastening M12  | 235101074 |
|                       | Plastic plate   | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 255101074 |
|                       | Aluminium plate | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 202101074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø100 x HEIGHT 100 mm

— Static load  
— Dynamic load [1–4 m/s]

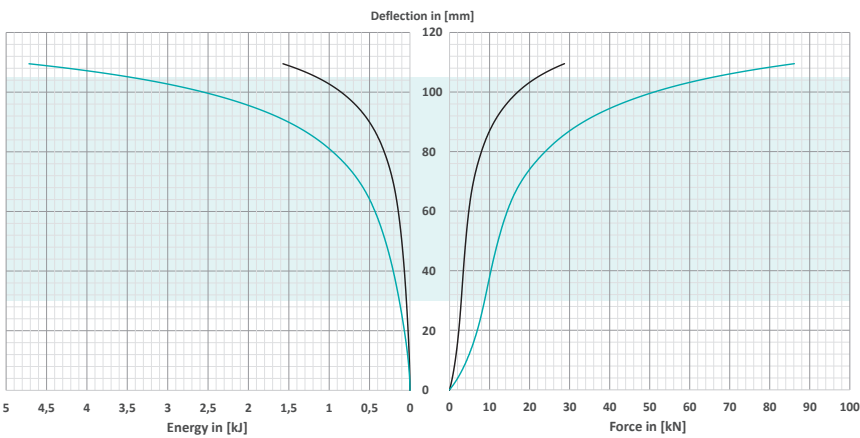


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 20   | 0.04             | 3.00             |
|                        | 70            | 70   | 0.80             | 23.00            |
| Dynamic [1–4 m/s]      | 20            | 20   | 0.09             | 9.00             |
|                        | 70            | 70   | 2.45             | 70.00            |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233102074 |
|                       | Internal thread | Central fastening M12  | 235102074 |
|                       | Plastic plate   | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 255102074 |
|                       | Aluminium plate | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 202102074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø100 x HEIGHT 150 mm

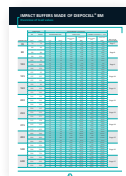
— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 30   | 0.04             | 2.90             |
|                        | 70            | 105  | 1.15             | 21.00            |
| Dynamic [1–4 m/s]      | 20            | 30   | 0.13             | 8.80             |
|                        | 70            | 105  | 3.45             | 66.00            |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233103074 |
|                       | Internal thread | Central fastening M12  | 235103074 |
|                       | Plastic plate   | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 255103074 |
|                       | Aluminium plate | Square base plate 125 x 125 x 10 mm with 4 holes Ø14 (distance = 100 mm) | 202103074 |
|                       | Steel plate     | –  | –         |

To the load overview

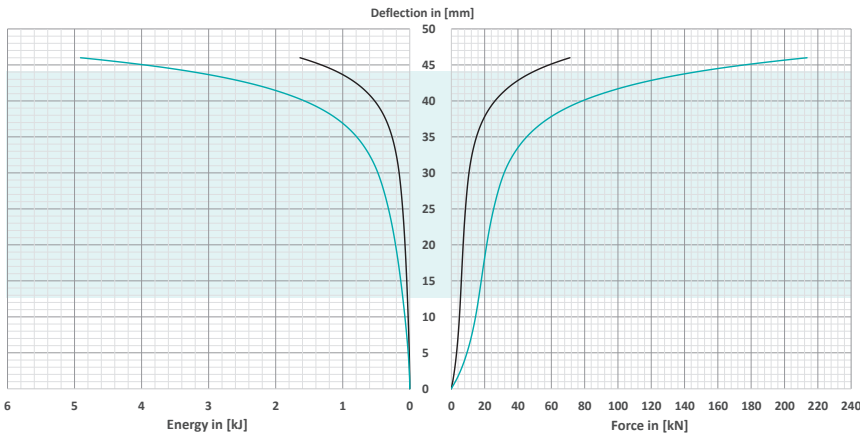


# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø125 - DIEPOCELL® BM (anthracite)

## BUFFER Ø125 x HEIGHT 63 mm

— Static load  
— Dynamic load [1–4 m/s]

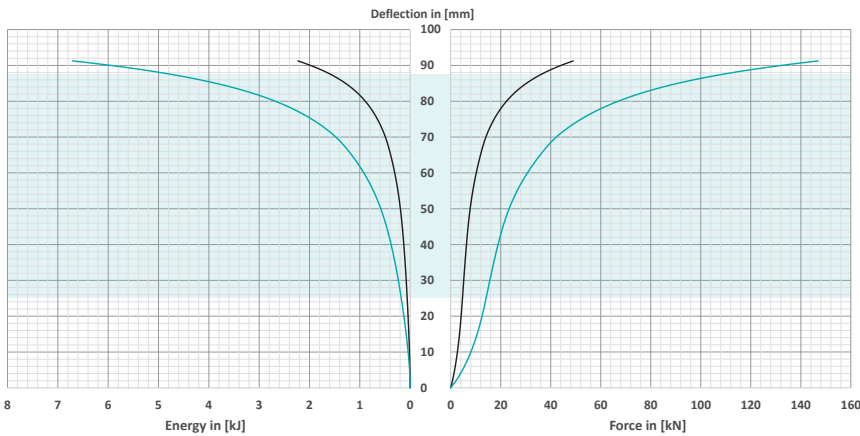


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 13   | 0.03             | 5.00             |
|                        | 70            | 44   | 1.10             | 50.00            |
| Dynamic [1–4 m/s]      | 20            | 13   | 0.10             | 16.40            |
|                        | 70            | 44   | 3.30             | 148.00           |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35   |                       | 233121074 |
| Internal thread    | Central fastening M12  |                       | 235121074 |
| Plastic plate      | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 255121074 |
| Aluminium plate    | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 202121074 |
| Steel plate        | –  |                       | –         |

## BUFFER Ø125 x HEIGHT 125 mm

— Static load  
— Dynamic load [1–4 m/s]

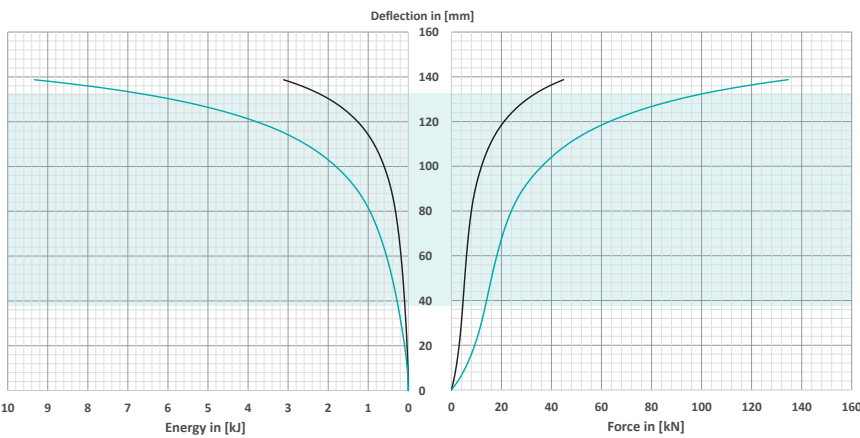


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 25   | 0.06             | 4.70             |
|                        | 70            | 88   | 1.60             | 36.00            |
| Dynamic [1–4 m/s]      | 20            | 25   | 0.17             | 14.10            |
|                        | 70            | 88   | 4.75             | 108.00           |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35   |                       | 233122074 |
| Internal thread    | Central fastening M12  |                       | 235122074 |
| Plastic plate      | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 255122074 |
| Aluminium plate    | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 202122074 |
| Steel plate        | –  |                       | –         |

## BUFFER Ø125 x HEIGHT 190 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 38   | 0.08             | 4.50             |
|                        | 70            | 133  | 2.30             | 34.00            |
| Dynamic [1–4 m/s]      | 20            | 38   | 0.26             | 13.70            |
|                        | 70            | 133  | 6.85             | 103.00           |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M12 x 35   |                       | 233123074 |
| Internal thread    | Central fastening M12  |                       | 235123074 |
| Plastic plate      | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 255123074 |
| Aluminium plate    | Square base plate 160 x 160 x 12 mm with 4 holes Ø18 (distance = 125 mm) |                       | 202123074 |
| Steel plate        | –  |                       | –         |

To the load overview



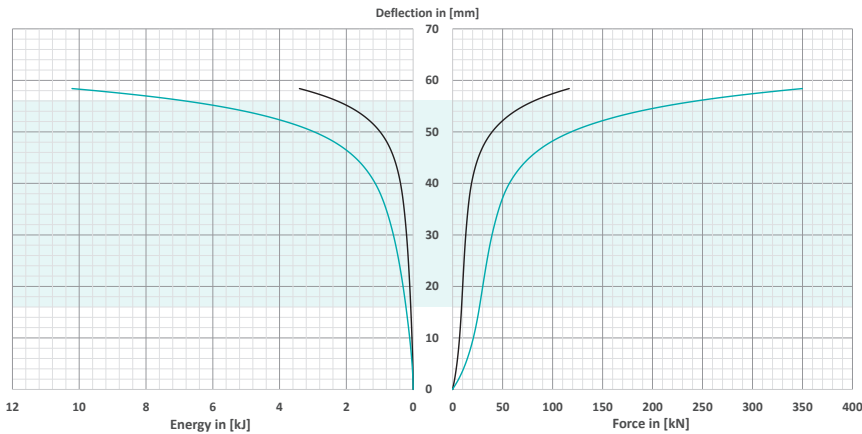
# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø160 - DIEPOCELL® BM (anthracite)



## BUFFER Ø160 x HEIGHT 80 mm

— Static load  
— Dynamic load [1–4 m/s]

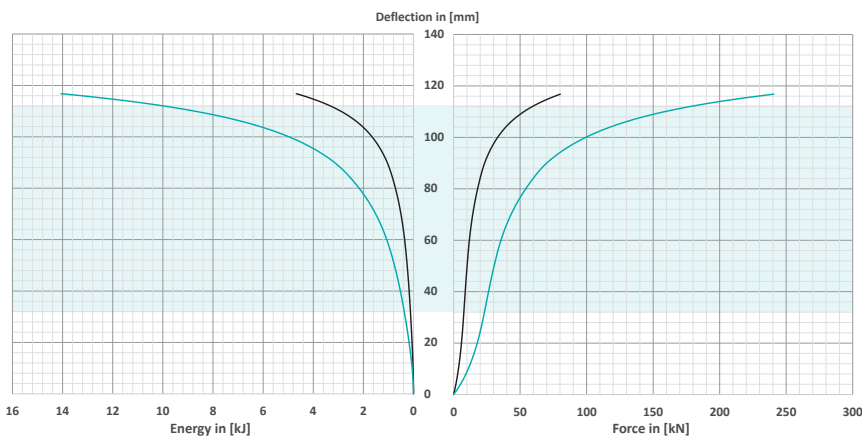


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 16   | 0.07             | 8.90             |
|                        | 70            | 56   | 2.25             | 81.00            |
| Dynamic [1–4 m/s]      | 20            | 16   | 0.22             | 26.80            |
|                        | 70            | 56   | 6.80             | 243.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233161074 |
|                       | Internal thread | Central fastening M12  | 235161074 |
|                       | Plastic plate   | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 255161074 |
|                       | Aluminium plate | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 202161074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø160 x HEIGHT 160 mm

— Static load  
— Dynamic load [1–4 m/s]

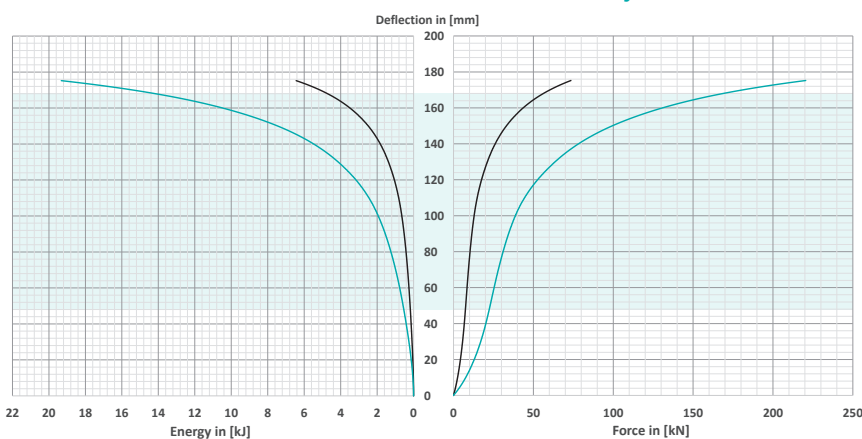


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 32   | 0.12             | 7.70             |
|                        | 70            | 112  | 3.30             | 59.00            |
| Dynamic [1–4 m/s]      | 20            | 32   | 0.37             | 23.20            |
|                        | 70            | 112  | 9.90             | 178.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233162074 |
|                       | Internal thread | Central fastening M12  | 235162074 |
|                       | Plastic plate   | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 255162074 |
|                       | Aluminium plate | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 202162074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø160 x HEIGHT 240 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 48   | 0.18             | 7.50             |
|                        | 70            | 168  | 4.70             | 56.00            |
| Dynamic [1–4 m/s]      | 20            | 48   | 0.54             | 22.40            |
|                        | 70            | 168  | 14.10            | 168.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233163074 |
|                       | Internal thread | Central fastening M12  | 235163074 |
|                       | Plastic plate   | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 255163074 |
|                       | Aluminium plate | Square base plate 200 x 200 x 12 mm with 4 holes Ø18 (distance = 160 mm) | 202163074 |
|                       | Steel plate     | –  | –         |

To the load overview

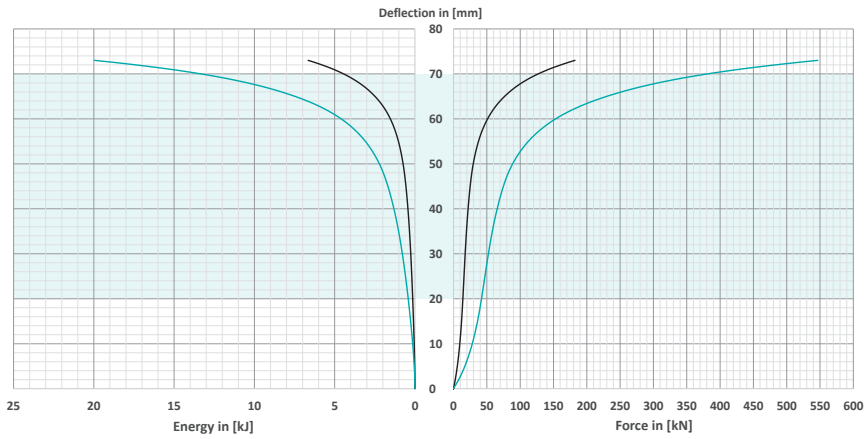


# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø200 - DIEPOCELL® BM (anthracite)

## BUFFER Ø200 x HEIGHT 100 mm

— Static load  
— Dynamic load [1–4 m/s]

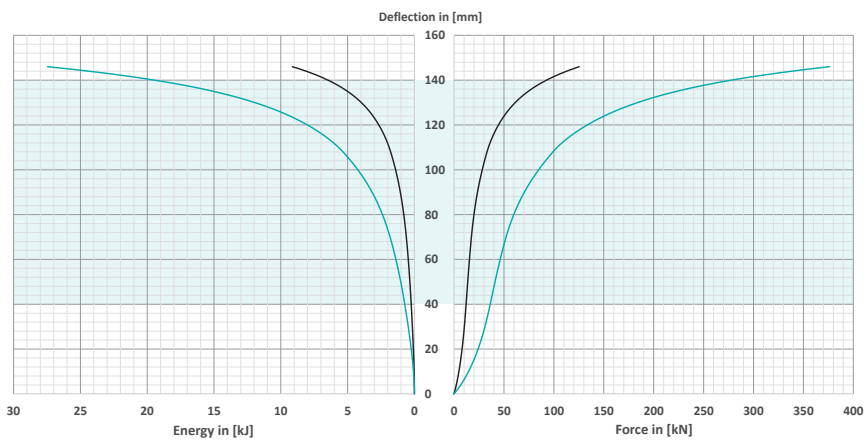


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 20   | 0.14             | 12.00            |
|                        | 70            | 70   | 4.40             | 127.00           |
| Dynamic [1–4 m/s]      | 20            | 20   | 0.42             | 42.00            |
|                        | 70            | 70   | 13.30            | 380.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233201074 |
|                       | Internal thread | Central fastening M12  | 235201074 |
|                       | Plastic plate   | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 255201074 |
|                       | Aluminium plate | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 202201074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø200 x HEIGHT 200 mm

— Static load  
— Dynamic load [1–4 m/s]

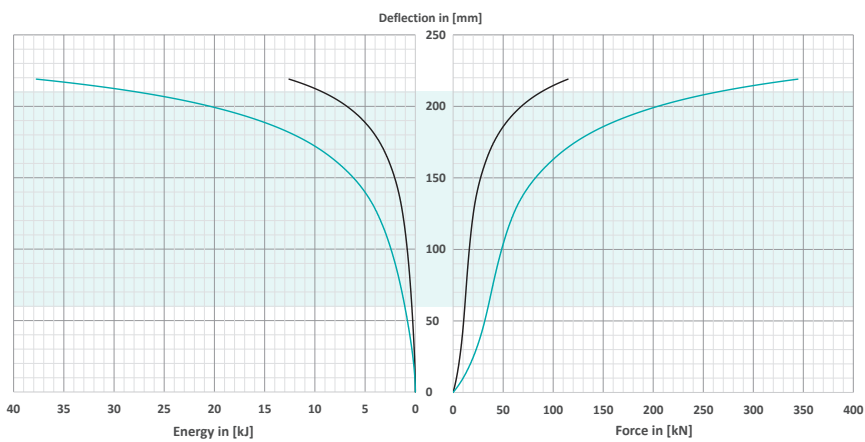


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 40   | 0.24             | 12.00            |
|                        | 70            | 140  | 6.50             | 93.00            |
| Dynamic [1–4 m/s]      | 20            | 40   | 0.72             | 36.00            |
|                        | 70            | 140  | 19.40            | 278.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233202074 |
|                       | Internal thread | Central fastening M12  | 235202074 |
|                       | Plastic plate   | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 255202074 |
|                       | Aluminium plate | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 202202074 |
|                       | Steel plate     | –  | –         |

## BUFFER Ø200 x HEIGHT 300 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 60   | 0.35             | 11.60            |
|                        | 70            | 210  | 9.30             | 88.00            |
| Dynamic [1–4 m/s]      | 20            | 60   | 1.00             | 35.00            |
|                        | 70            | 210  | 27.70            | 264.00           |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |           |
|-----------------------|-----------------|--|-----------|
| Available versions    | Threaded bolt   | Central fastening M12 x 35   | 233203074 |
|                       | Internal thread | Central fastening M12  | 235203074 |
|                       | Plastic plate   | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 255203074 |
|                       | Aluminium plate | Square base plate 250 x 250 x 14 mm with 4 holes Ø22 (distance = 200 mm) | 202203074 |
|                       | Steel plate     | –  | –         |

To the load overview



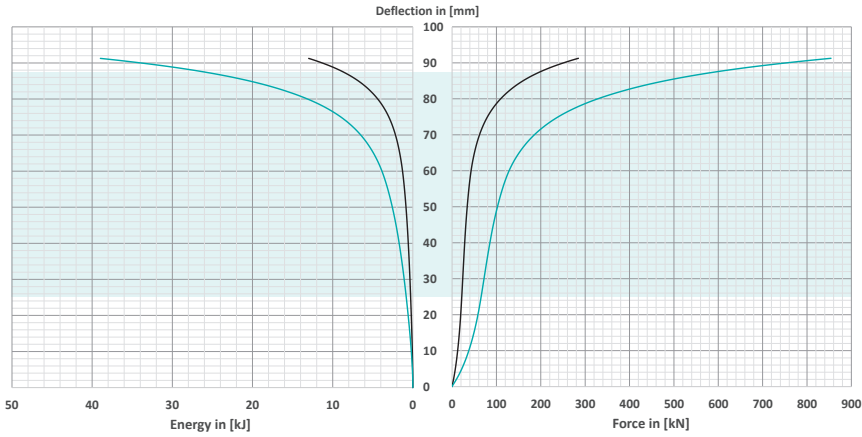
# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø250 - DIEPOCELL® BM (anthracite)



## BUFFER Ø250 x HEIGHT 125 mm

— Static load  
— Dynamic load [1–4 m/s]

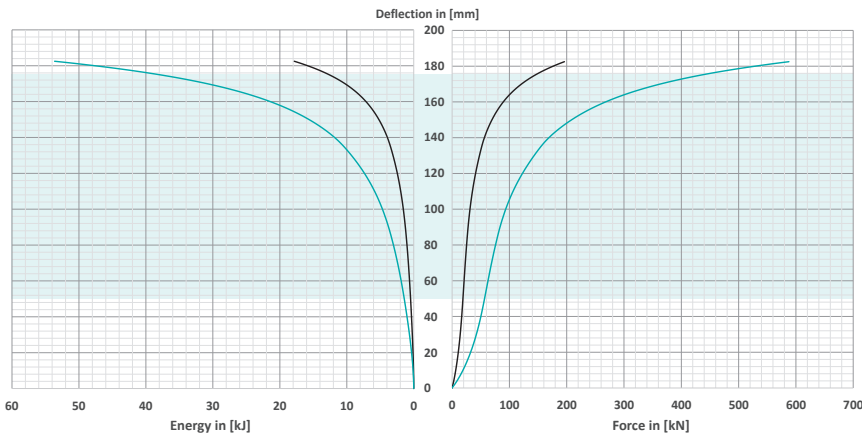


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 25   | 0.27             | 22.00            |
|                        | 70            | 88   | 8.80             | 198.00           |
| Dynamic [1–4 m/s]      | 20            | 25   | 0.82             | 66.00            |
|                        | 70            | 88   | 26.00            | 595.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233251074 |
|                       | Internal thread  | Central fastening M24      | 235251074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 315 x 315 x 15 mm with 4 holes Ø22 (distance = 250 mm) |                            | 202251074 |

## BUFFER Ø250 x HEIGHT 250 mm

— Static load  
— Dynamic load [1–4 m/s]

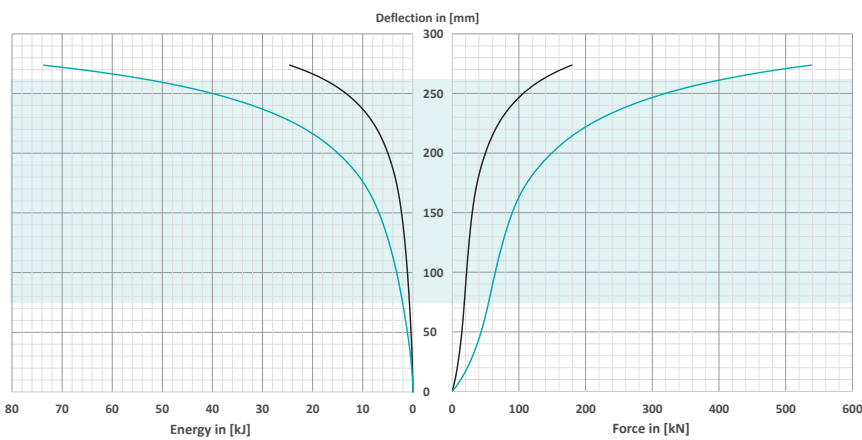


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 50   | 0.47             | 19.00            |
|                        | 70            | 175  | 12.70            | 145.00           |
| Dynamic [1–4 m/s]      | 20            | 50   | 1.40             | 57.00            |
|                        | 70            | 175  | 38.00            | 435.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233252074 |
|                       | Internal thread  | Central fastening M24      | 235252074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 315 x 315 x 15 mm with 4 holes Ø22 (distance = 250 mm) |                            | 202252074 |

## BUFFER Ø250 x HEIGHT 375 mm

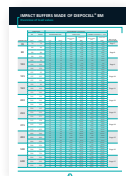
— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 75   | 0.69             | 18.00            |
|                        | 70            | 263  | 18.00            | 137.00           |
| Dynamic [1–4 m/s]      | 20            | 75   | 2.10             | 55.00            |
|                        | 70            | 263  | 54.00            | 412.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233253074 |
|                       | Internal thread  | Central fastening M24      | 235253074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 315 x 315 x 15 mm with 4 holes Ø22 (distance = 250 mm) |                            | 202253074 |

To the load overview

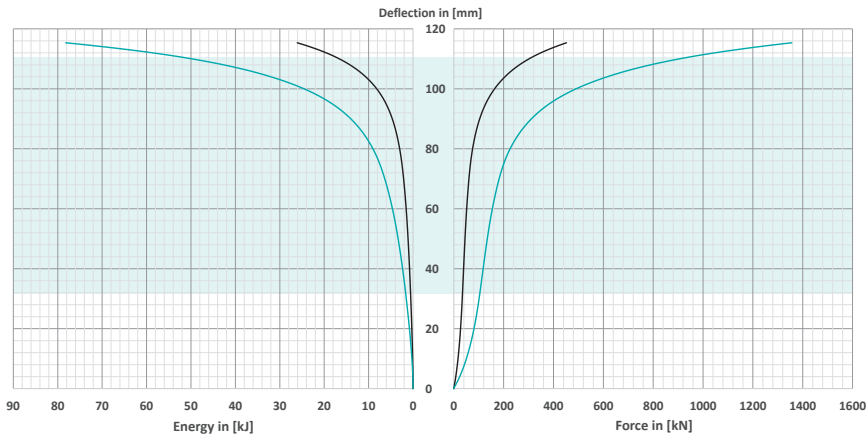


# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø315 - DIEPOCELL® BM (anthracite)

## BUFFER Ø315 x HEIGHT 158 mm

— Static load  
— Dynamic load [1–4 m/s]

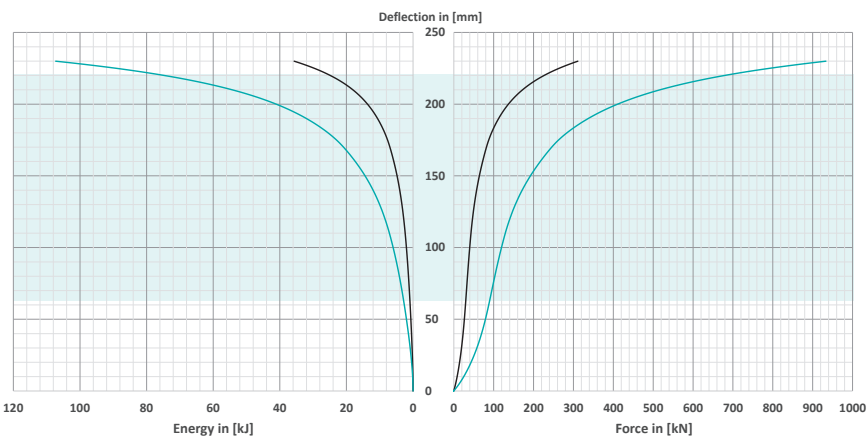


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 32   | 0.55             | 35.00            |
|                        | 70            | 111  | 17.00            | 314.00           |
| Dynamic [1–4 m/s]      | 20            | 32   | 1.60             | 105.00           |
|                        | 70            | 111  | 52.00            | 944.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233311074 |
|                       | Internal thread  | Central fastening M24      | 235311074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 400 x 400 x 15 mm with 4 holes Ø22 (distance = 315 mm) |                            | 202311074 |

## BUFFER Ø315 x HEIGHT 315 mm

— Static load  
— Dynamic load [1–4 m/s]

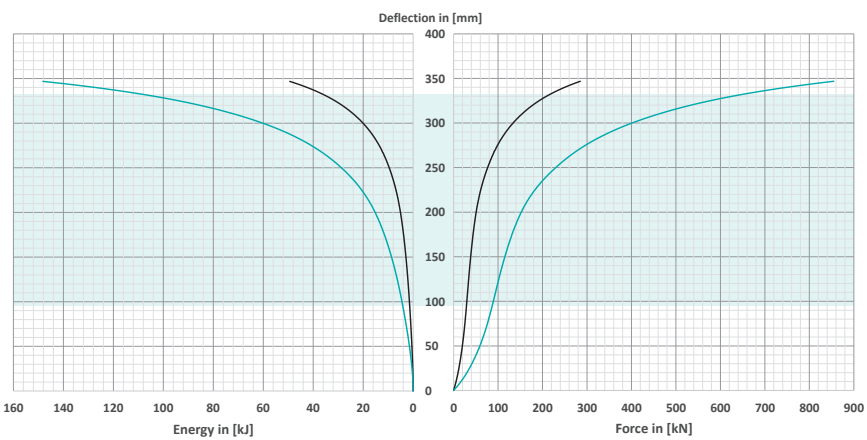


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 63   | 0.94             | 30.00            |
|                        | 70            | 221  | 25.00            | 230.00           |
| Dynamic [1–4 m/s]      | 20            | 63   | 2.80             | 90.00            |
|                        | 70            | 221  | 76.00            | 690.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233312074 |
|                       | Internal thread  | Central fastening M24      | 235312074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 400 x 400 x 15 mm with 4 holes Ø22 (distance = 315 mm) |                            | 202312074 |

## BUFFER Ø315 x HEIGHT 475 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 95   | 1.40             | 29.00            |
|                        | 70            | 333  | 35.00            | 210.00           |
| Dynamic [1–4 m/s]      | 20            | 95   | 4.10             | 87.00            |
|                        | 70            | 333  | 104.00           | 627.00           |

| DIMENSIONS / MOUNTING |  | ITEM NO.                   |           |
|-----------------------|--|----------------------------|-----------|
| Available versions    | Threaded bolt  | Central fastening M24 x 80 | 233313074 |
|                       | Internal thread  | Central fastening M24      | 235313074 |
|                       | Plastic plate  | –                          | –         |
|                       | Aluminium plate  | –                          | –         |
| Steel plate           | Square base plate 400 x 400 x 15 mm with 4 holes Ø22 (distance = 315 mm) |                            | 202313074 |

To the load overview



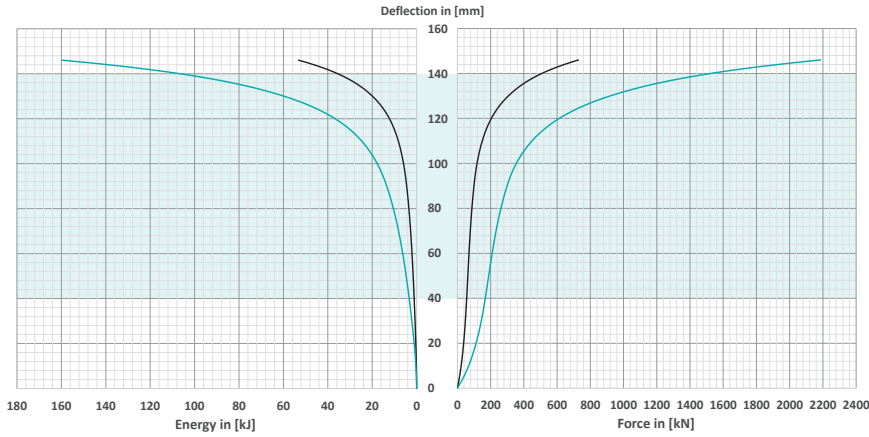
# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø400 - DIEPOCELL® BM (anthracite)



## BUFFER Ø400 x HEIGHT 200 mm

— Static load  
— Dynamic load [1–4 m/s]

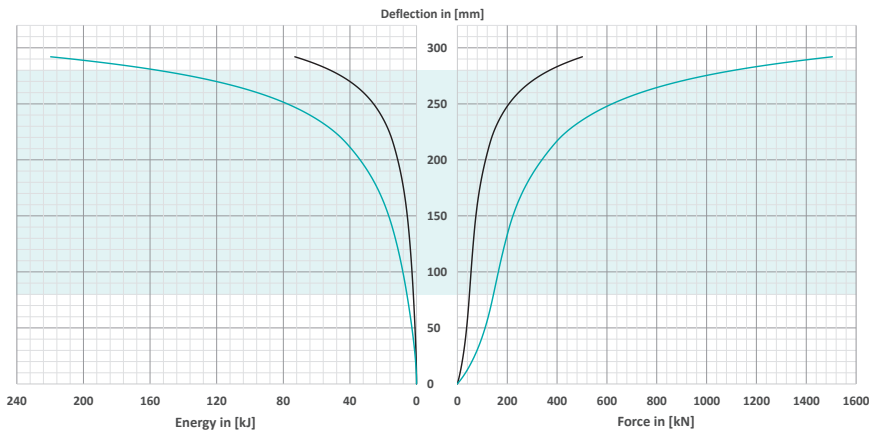


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 40   | 1.10             | 56.00            |
|                        | 70            | 140  | 36.00            | 508.00           |
| Dynamic [1–4 m/s]      | 20            | 40   | 3.40             | 168.00           |
|                        | 70            | 140  | 106.00           | 1532.00          |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M30 x 80   |                       | 233401074 |
| Internal thread    | Central fastening M30  |                       | 235401074 |
| Plastic plate      |  | –                     | –         |
| Aluminium plate    |  | –                     | –         |
| Steel plate        | Square base plate 500 x 500 x 20 mm with 4 holes Ø26 (distance = 400 mm) |                       | 202401074 |

## BUFFER Ø400 x HEIGHT 400 mm

— Static load  
— Dynamic load [1–4 m/s]

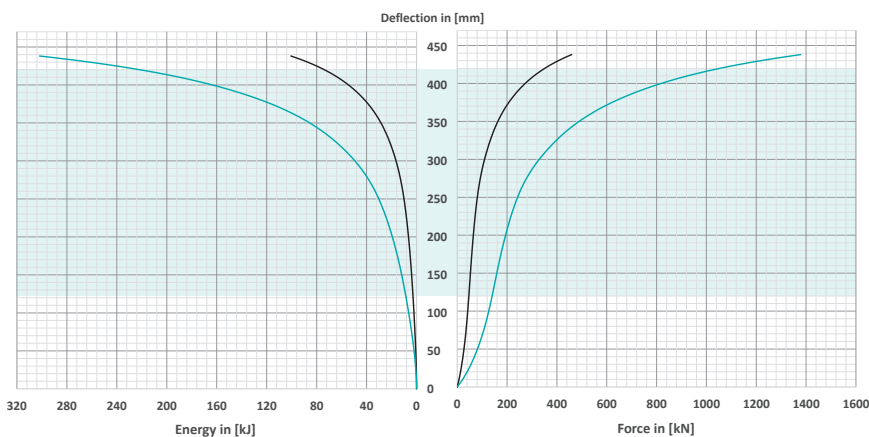


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 80   | 1.90             | 48.00            |
|                        | 70            | 280  | 52.00            | 370.00           |
| Dynamic [1–4 m/s]      | 20            | 80   | 5.80             | 144.00           |
|                        | 70            | 280  | 155.00           | 1113.00          |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M30 x 80   |                       | 233402074 |
| Internal thread    | Central fastening M30  |                       | 235402074 |
| Plastic plate      |  | –                     | –         |
| Aluminium plate    |  | –                     | –         |
| Steel plate        | Square base plate 500 x 500 x 20 mm with 4 holes Ø26 (distance = 400 mm) |                       | 202402074 |

## BUFFER Ø400 x HEIGHT 600 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 120  | 2.80             | 46.00            |
|                        | 70            | 420  | 74.00            | 351.00           |
| Dynamic [1–4 m/s]      | 20            | 120  | 8.40             | 140.00           |
|                        | 70            | 420  | 221.00           | 1054.00          |

| Available versions |  | DIMENSIONS / MOUNTING | ITEM NO.  |
|--------------------|--|-----------------------|-----------|
| Threaded bolt      | Central fastening M30 x 80   |                       | 233403074 |
| Internal thread    | Central fastening M30  |                       | 235403074 |
| Plastic plate      |  | –                     | –         |
| Aluminium plate    |  | –                     | –         |
| Steel plate        | Square base plate 500 x 500 x 20 mm with 4 holes Ø26 (distance = 400 mm) |                       | 202403074 |

To the load overview

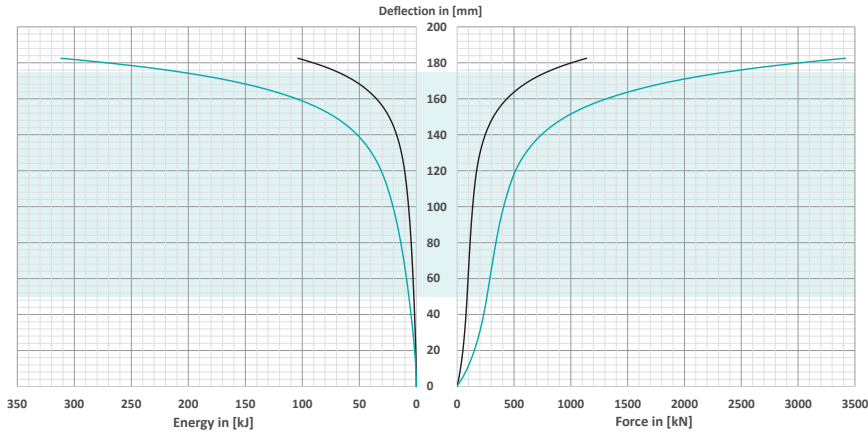


# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø500 - DIEPOCELL® BM (anthracite)

## BUFFER Ø500 x HEIGHT 250 mm

— Static load  
— Dynamic load [1-4 m/s]

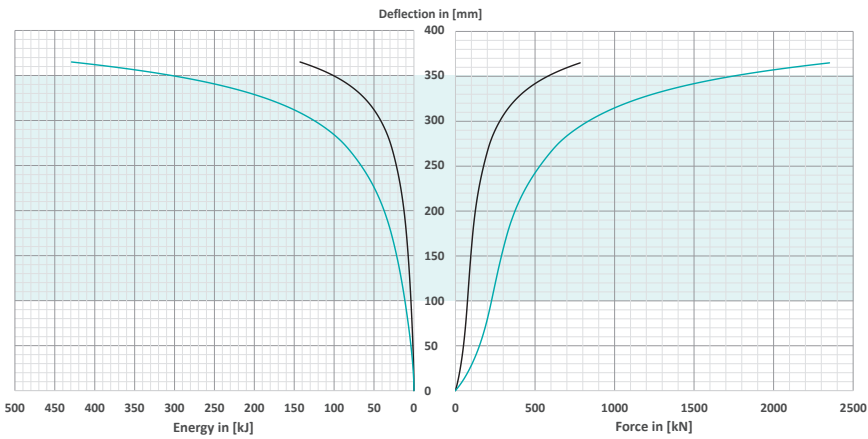


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 50   | 2.20             | 87.00            |
|                        | 70            | 175  | 70.00            | 793.00           |
| Dynamic [1-4 m/s]      | 20            | 50   | 6.60             | 260.00           |
|                        | 70            | 175  | 209.00           | 2380.00          |

| Available versions |  | DIMENSIONS / MOUNTING  | ITEM NO.  |
|--------------------|--|--|-----------|
| Threaded bolt      |  | -  | -         |
| Internal thread    |  | -  | -         |
| Plastic plate      |  | -  | -         |
| Aluminium plate    |  | -  | -         |
| Steel plate        |  | Square base plate 630 x 630 x 20 mm with 4 holes Ø26 (distance = 500 mm) | 202501074 |

## BUFFER Ø500 x HEIGHT 500 mm

— Static load  
— Dynamic load [1-4 m/s]

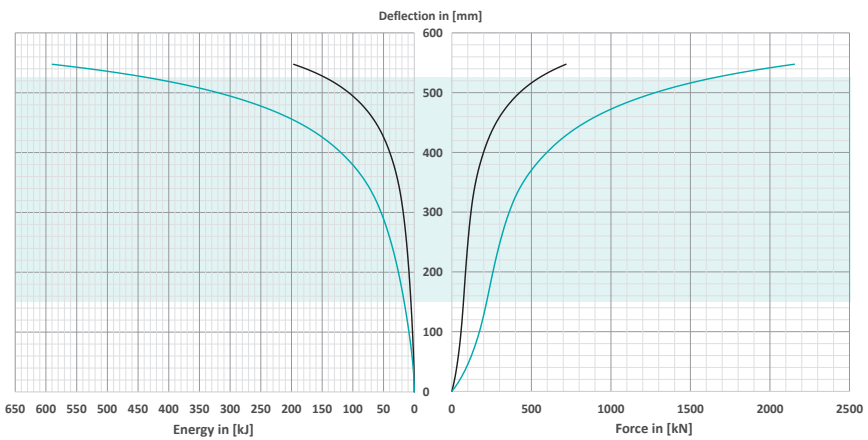


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 100  | 3.80             | 76.00            |
|                        | 70            | 350  | 101.00           | 580.00           |
| Dynamic [1-4 m/s]      | 20            | 100  | 11.40            | 226.00           |
|                        | 70            | 350  | 305.00           | 1741.00          |

| Available versions |  | DIMENSIONS / MOUNTING  | ITEM NO.  |
|--------------------|--|--|-----------|
| Threaded bolt      |  | -  | -         |
| Internal thread    |  | -  | -         |
| Plastic plate      |  | -  | -         |
| Aluminium plate    |  | -  | -         |
| Steel plate        |  | Square base plate 630 x 630 x 20 mm with 4 holes Ø26 (distance = 500 mm) | 202502074 |

## BUFFER Ø500 x HEIGHT 750 mm

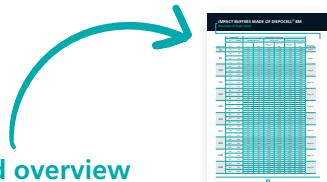
— Static load  
— Dynamic load [1-4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 150  | 5.50             | 73.00            |
|                        | 70            | 525  | 144.00           | 550.00           |
| Dynamic [1-4 m/s]      | 20            | 150  | 16.40            | 219.00           |
|                        | 70            | 525  | 432.00           | 1650.00          |

| Available versions |  | DIMENSIONS / MOUNTING  | ITEM NO.  |
|--------------------|--|--|-----------|
| Threaded bolt      |  | -  | -         |
| Internal thread    |  | -  | -         |
| Plastic plate      |  | -  | -         |
| Aluminium plate    |  | -  | -         |
| Steel plate        |  | Square base plate 630 x 630 x 20 mm with 4 holes Ø26 (distance = 500 mm) | 202503074 |

To the load overview





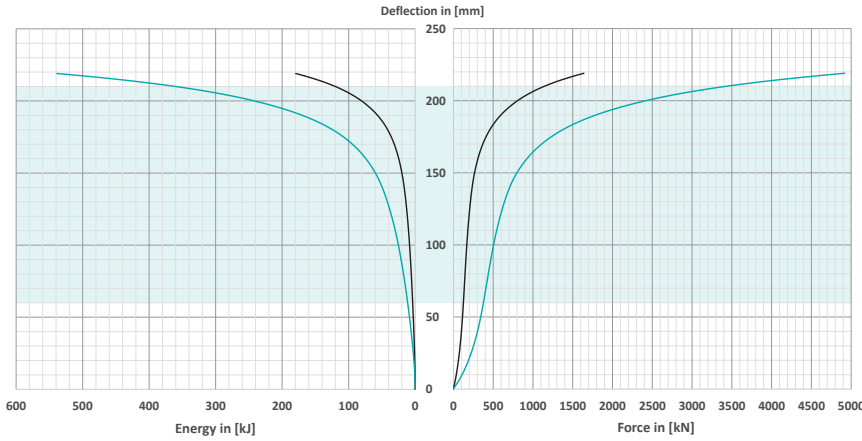
# IMPACT BUFFERS - STANDARD PROGRAMM

Nominal size Ø600 - DIEPOCELL® BM (anthracite)



## BUFFER Ø600 x HEIGHT 300 mm

— Static load  
— Dynamic load [1–4 m/s]

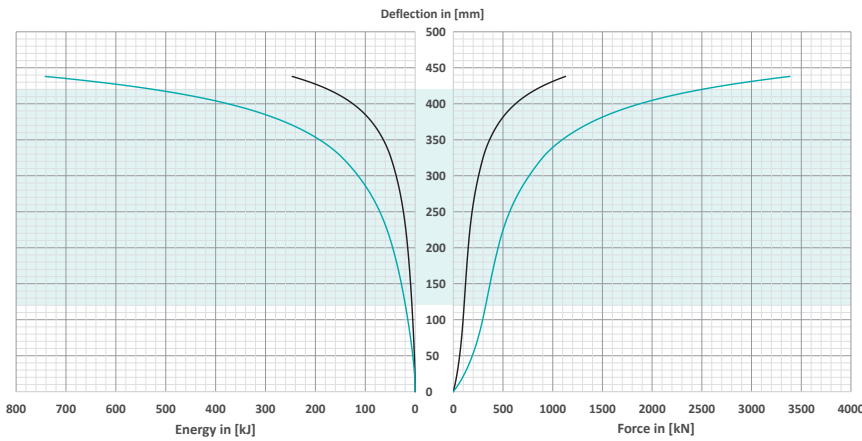


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 60   | 3.80             | 126.00           |
|                        | 70            | 210  | 120.00           | 1140.00          |
| Dynamic [1–4 m/s]      | 20            | 60   | 11.40            | 378.00           |
|                        | 70            | 210  | 360.00           | 3430.00          |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |
|-----------------------|-----------------|--|
| Available versions    | Threaded bolt   | -  |
|                       | Internal thread | -  |
|                       | Plastic plate   | -  |
|                       | Aluminium plate | -  |
|                       | Steel plate     | Square base plate 730 x 730 x 20 mm with 4 holes Ø26 (distance = 600 mm) |

## BUFFER Ø600 x HEIGHT 600 mm

— Static load  
— Dynamic load [1–4 m/s]

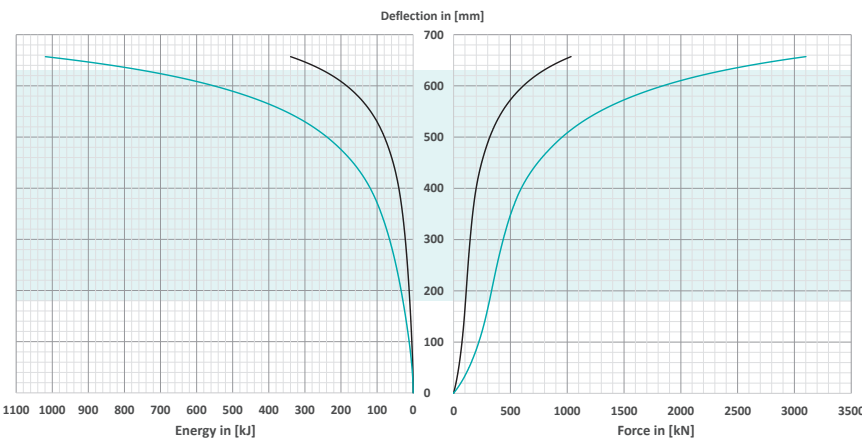


| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 120  | 6.50             | 109.00           |
|                        | 70            | 420  | 175.00           | 834.00           |
| Dynamic [1–4 m/s]      | 20            | 120  | 19.50            | 326.00           |
|                        | 70            | 420  | 525.00           | 2500.00          |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |
|-----------------------|-----------------|--|
| Available versions    | Threaded bolt   | -  |
|                       | Internal thread | -  |
|                       | Plastic plate   | -  |
|                       | Aluminium plate | -  |
|                       | Steel plate     | Square base plate 730 x 730 x 20 mm with 4 holes Ø26 (distance = 600 mm) |

## BUFFER Ø600 x HEIGHT 900 mm

— Static load  
— Dynamic load [1–4 m/s]



| Recommended load range | BUFFER TRAVEL |      | WORK INTAKE [kJ] | FINAL FORCE [kN] |
|------------------------|---------------|------|------------------|------------------|
|                        | [%]           | [mm] |                  |                  |
| Static                 | 20            | 180  | 9.40             | 105.00           |
|                        | 70            | 630  | 250.00           | 791.00           |
| Dynamic [1–4 m/s]      | 20            | 180  | 28.40            | 315.00           |
|                        | 70            | 630  | 748.00           | 2370.00          |

| DIMENSIONS / MOUNTING |                 | ITEM NO.   |
|-----------------------|-----------------|--|
| Available versions    | Threaded bolt   | -  |
|                       | Internal thread | -  |
|                       | Plastic plate   | -  |
|                       | Aluminium plate | -  |
|                       | Steel plate     | Square base plate 730 x 730 x 20 mm with 4 holes Ø26 (distance = 600 mm) |

To the load overview



# CUSTOMISED SOLUTIONS

## What options are there?

### BASIC DESCRIPTION:

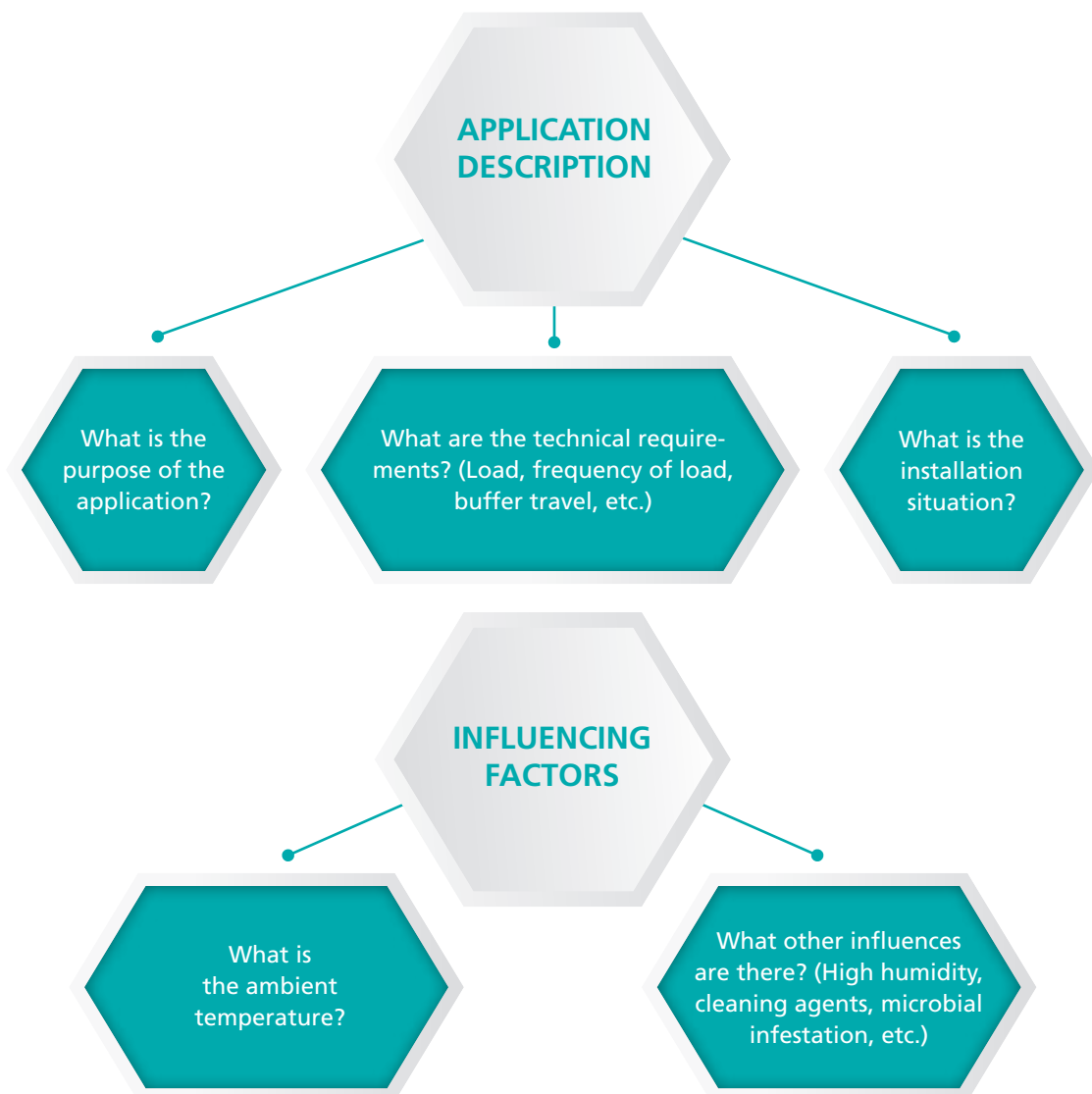
Our company can supply a wide standard programme of buffers, dampers and springs. We do, however, understand that these may not be suitable for all customer applications. For this reason, we have a technical department and a variety of different materials to ensure that we can help you customise a component to the exact requirements of your specific application. Irrespective of whether you require special loads, special areas of application, small installation spaces or special resistance to external influences, we are able to fulfil your requirements. Our experts are on hand to provide you with support in selecting the right ma-

terial, contouring the component and combining it with other materials in order to achieve outstanding design results.

Our many years of experience and specialised expertise enable us to assist you from design and toolmaking through to the creation of samples with precise approval processes. We also provide our support for series production of the component.

Put your trust in our expertise and let us work together to fulfil your individual requirements. Contact us today to find out more about our customised solutions.

### INFORMATION REQUIRED FOR DESIGN:





## Examples



Damping guide in a packaging system



End stops in large tensile testing machines



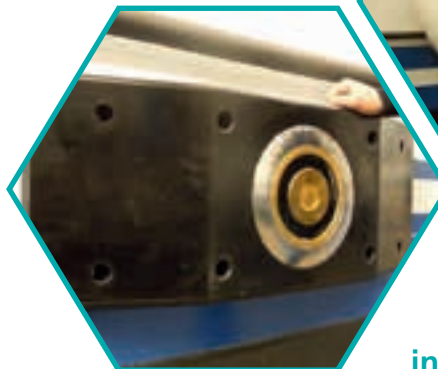
Miniature dampers in light weight aircraft



End stops in automatic storage systems



Rollers and buffer elements in cable trolleys



Impact dampers in boats and ferries



# P+S

## POLYURETHAN-ELASTOMERE GMBH & CO. KG

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