



P+S Polyurethan-Elastomere
GmbH & Co. KG

Diepocell

The ideal solution for optimal damping results

Ideal for extremely high force absorption

Diepocell®

Diepocell® BM and MH materials form a family of materials that are particularly valued for their damping properties. The formulations, based on high-quality polyester and polyether polyols, meet strict technical requirements and have proven themselves particularly in safety components in elevators and emergency buffers in crane systems.

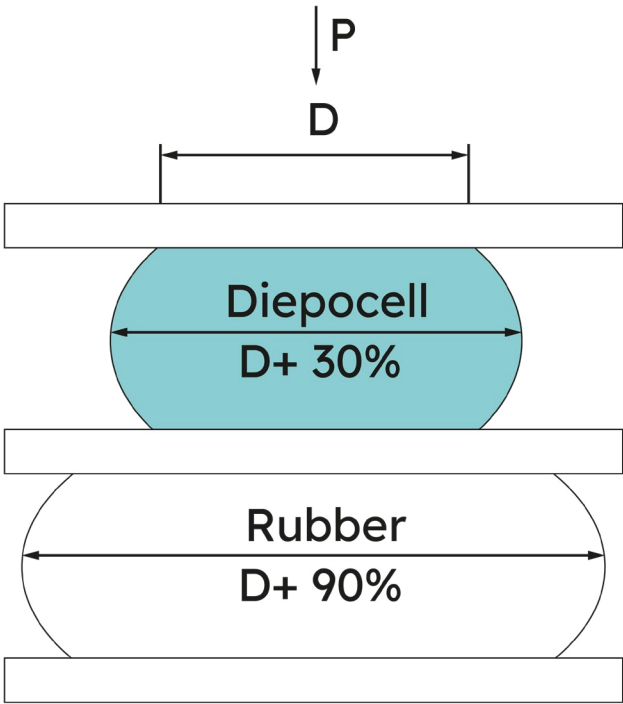
Thanks to their high deformability and low transverse elongation, they are also ideal for use in compact installation positions/situations. The hydrolysis resistance of Diepocell BM materials also allows them to be used in areas with high humidity, such as tropical climates.

Property profile of Diepocell

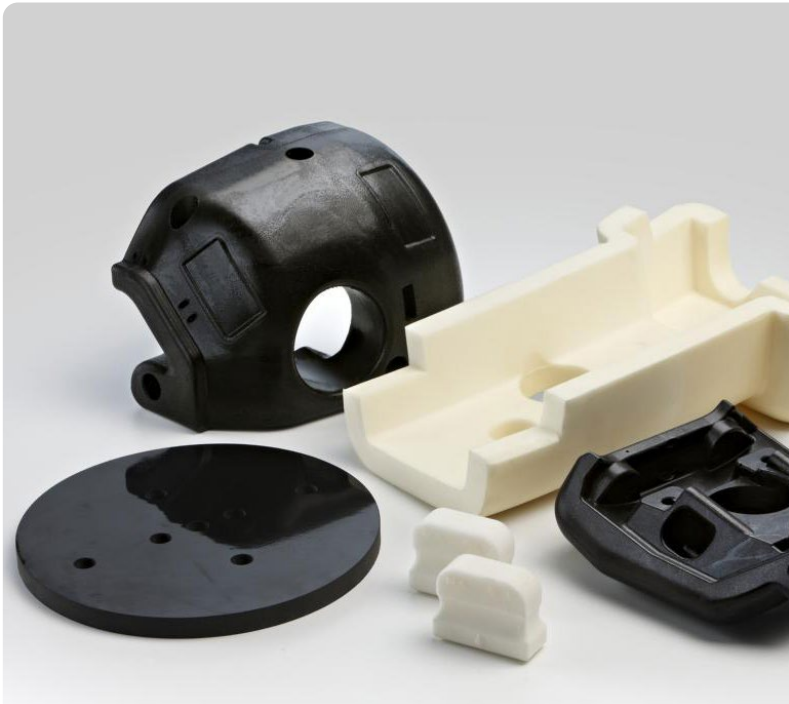
- Excellent damping properties
- Maximum energy absorption
- Uniform pressure deformation behavior
- High volume compressibility with low transverse elongation
- Good resistance to mineral oils and greases
- Good resistance to ozone and UV radiation
- Temperature range from -30°C to +80°C
- Hydrolysis-resistant settings on request
- Special grades approved according to LFGB

Application-specific products

- Buffer mouldings
- Semi-finished products for further processing
- Buffers for the elevator industry



Compression between two plates.



Like Vulkocell, Diepocell is also available as standard in a bulk density range of 350 to 650 kg/m³, although special versions with lower or higher bulk densities can also be produced. Diepocell is also characterized by a maximum deformability of 90% with minimal transverse elongation. This means that small installation spaces and low space requirements can be

achieved. The advantage of volume compressibility is particularly well illustrated in a comparison with a compact, elastic material of the same spring stiffness (in the initial range), e.g., rubber. Another advantage over rubber or compact polyurethanes is the significant weight reduction of the components, which also allows for cost optimization.

Areas of application for Diepocell

- Crane and plant construction
- Conveyor technology
- Road construction
- Elevator technology
- Mechanical engineering
- Leisure
- Automotive industry
- Lifting technology
- Furniture industry
- Vehicle technology

Mechanical and physical properties

Diepocell materials

Material: Diepocell BM

Property	Basis for testing	Unit of measure	Measured values						
Designation	-	-	BM 35	BM 40	BM 45	BM 50	BM 55	BM 60	BM 65
Density	DIN 53 420 ISO 845	g/cm³	0,35	0,40	0,45	0,50	0,55	0,60	0,65
Breaking stress	DIN 53 571 ISO 1798	N/mm²	1,95	2,50	2,80	3,50	3,80	4,20	4,60
Elongation at break	DIN 53 571 ISO 1798	%	200	195	195	195	190	190	185
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	11	15	16	18	19	20	21
Impact elasticity	DIN 53 512 DIN 4662	%	19	19	19	19	19	19	19
Compression set	DIN 53 572 70 h - 23°C	%	12,0	13,0	14,0	14,0	15,0	15,0	16,0
	ISO 1856 24 h - 70°C	%	46,0	48,0	51,0	54,0	54,0	55,0	55,0

Property		Measured values						
Average compressive stress [N/mm²]	Deformation	BM 35	BM 40	BM 45	BM 50	BM 55	BM 60	BM 65
	20%	0,27	0,39	0,56	0,68	0,83	1,14	1,43
	30%	0,35	0,50	0,73	0,88	1,08	1,50	1,88
	40%	0,50	0,69	1,01	1,22	1,49	2,06	2,61
	50%	0,81	1,10	1,63	1,94	2,38	3,31	4,09
	60%	1,40	1,95	2,77	3,35	4,35	5,80	7,09
	70%	2,92	4,16	6,02	7,47	9,86	13,15	15,84

Temperature range:
- 40 to + 80 °C

Color:
anthrazit

Special features:
Hydrolysis resistant

Area of application:
Damping

Material: Diepocell MH 30

Property	Basis for testing	Unit of measure	Measured values						
Designation	-	-	MH 30-35	MH 30-40	MH 30-45	MH 30-50	MH 30-55	MH 30-60	MH 30-65
Density	DIN 53 420 ISO 845	g/cm³	0,35	0,40	0,45	0,50	0,55	0,60	0,65
Breaking stress	DIN 53 571 ISO 1798	N/mm²	3,2	4,00	4,50	5,00	6,50	8,50	9,00
Elongation at break	DIN 53 571 ISO 1798	%	450	490	525	550	560	570	575
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	14	16	18	20	21	23	24
Impact elasticity	DIN 53 512 DIN 4662	%	50	50	50	50	50	50	50
Compression set	DIN 53 572 70 h - 23°C	%	3,5	4,0	4,0	4,5	5,0	5,0	6,0
	ISO 1856 24 h - 70°C	%	9,0	11,0	13,0	14,0	14,5	15,0	17,0

Property		Measured values						
Average compressive stress [N/mm²]	Deformation	MH 30-35	MH 30-40	MH 30-45	MH 30-50	MH 30-55	MH 30-60	MH 30-65
	20%	0,20	0,25	0,33	0,36	0,42	0,48	0,63
	30%	0,24	0,31	0,39	0,44	0,52	0,60	0,80
	40%	0,31	0,38	0,49	0,57	0,67	0,78	1,01
	50%	0,40	0,51	0,67	0,79	0,95	1,23	1,45
	60%	0,59	0,77	1,04	1,30	1,57	1,92	2,41
	70%	1,10	1,49	2,08	2,82	3,41	4,30	5,34

Temperature range:
- 30 to + 80 °C

Color:
white

Special features:
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Area of application:
Damping

Material: Diepocell H-MH 30

Property	Basis for testing	Unit of measure	Measured values						
Designation	-	-	H-MH 30-35	H-MH 30-40	H-MH 30-45	H-MH 30-50	H-MH 30-55	H-MH 30-60	H-MH 30-65
Density	DIN 53 420 ISO 845	g/cm³	0,35	0,40	0,45	0,50	0,55	0,60	0,65
Breaking stress	DIN 53 571 ISO 1798	N/mm²	2,5	2,70	2,90	4,70	5,50	6,40	7,20
Elongation at break	DIN 53 571 ISO 1798	%	450	560	600	670	690	750	830
Tear resistance (Graves)	DIN 53 515 ISO 34-1	kN/m	12	14	17	17	19	22	26
Impact elasticity	DIN 53 512 DIN 4662	%	66	66	66	66	67	67	69
Compression set	DIN 53 572 70 h - 23°C	%	5,0	6,5	7,0	7,0	6,5	6,5	6,5
	ISO 1856 24 h - 70°C	%	7,5	10,0	11,0	11,5	11,5	12,0	12,5

Property		Measured values						
Average compressive stress [N/mm²]	Deformation	H-MH 30-35	H-MH 30-40	H-MH 30-45	H-MH 30-50	H-MH 30-55	H-MH 30-60	H-MH 30-65
	20%	0,22	0,26	0,33	0,52	0,57	0,84	1,09
	30%	0,26	0,36	0,48	0,68	0,70	1,13	1,46
	40%	0,33	0,46	0,66	0,88	0,89	1,74	2,13
	50%	0,44	0,76	0,97	1,30	1,32	2,38	3,46
	60%	0,86	1,49	1,69	2,59	2,64	4,55	6,66
	70%	2,09	4,08	4,34	6,39	6,68	9,98	14,18

Temperature range:
- 30 to + 80 °C

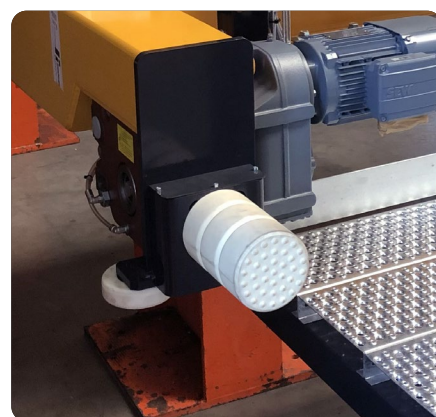
Color:
white

Special features:
hydrolysis-resistant

Area of application:
Damping / spring systems

Overview of application examples for Diepocell

- Crane stop buffers
- Damping rings
- Buffer elements
- Top buffers
- End stops
- Seals
- Insulation elements
- Rod supports
- Feed wheels
- Roller coatings
- Ramming/collision protection
- Sound insulation
- Tapered rollers
- As well as plates and cut-to-size pieces for individual further processing





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