**P+S**

## DURABLE

RESISTANT TO HYDROLYSIS

LIFE QUALITY

VIBRATION DECOUPLING

**POLYURETHAN ELASTOMERS**

# HIGHLY RESILIENT

DYNAMIC

### ACOUSTICS

COMFORT



**DIEPOLAST**

# WORKING CLIMATE

PROTECTION

SUSPENSION

SOUNDPROOFING

THEATRE STAGE

VIBRATION ELASTIC

APPRECIATION

LIFESPAN

**EXCELLENT MATERIAL**

DIEPOLAST®

IDEAL FOR VIBRATION ISOLATION

###### Diepolast

Diepolast is a high-tech, mixed- cellular elastomer consisting of a special polyether-urethane.

The material is used for vibration decoupling in mechanical engineering as well as in construction industry. Our Diepolast has excellent properties both under compression and thrust loads. The 13 base types Diepolast SD10

– Diepolast SD1900 are available, enabling solutions for almost every application. The desired requirements can be fulfilled by the choice of the respective type, the supporting surface and the height.

In addition to the flat sheet material, it is also possible to produce technical moulded parts made of Diepolast.

If necessary, special types can be produced with precisely matching strength. The special properties of the material will be adjusted. Colour changes are possible. Such special

designs require a minimum production quantity, differing by type.

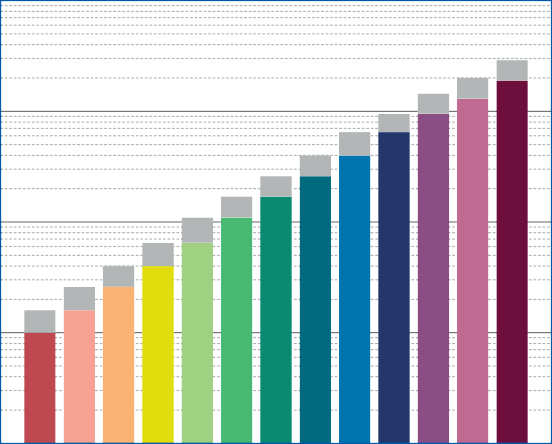
**At a glance: the profile of properties**

* large load ranges
* good vibration damping/-isolation
* for pressure and thrust loads
* good resistance to hydrolysis
* temperature range

of – 30°C bis + 70 °C

* low compression set
* good decoupling effect
* usable for isolation of source and/or recipient
* good resistance to mineral oils, greases and various solvents

In contrast to non-cellular elastomers, Diepolast has gas volumes enclosed in the fine-cell structure. Accordingly, the material is compressible both in static and dynamic stress. It is therefore also suitable for shallow construction sites in situ concrete way.

10

1

specific load [N/mm²]

0,1

**SD 40**

**SD 65**

**SD 110**

0,01

**SD 10**

**SD 16**

**SD 26**

0,001

**SD 170**

**SD 260**

**SD 400**

**SD 650**

**SD 950**

**SD 1300**

**SD 1900**

Diepo**last** type

Diepolast series Working range

**EXCELLENT MATERIAL**

DIEPOLAST®

##### IDEAL FOR VIBRATION ISOLATION

###### Diepolast dyn

**Applications overview:**

* construction industry
* general engineering
* transport and conveyor technology
* civil engineering
* lift technology
* sanitary technology
* heating, air condition and ventilation systems
* medical technologies
* pre-fabricated house production

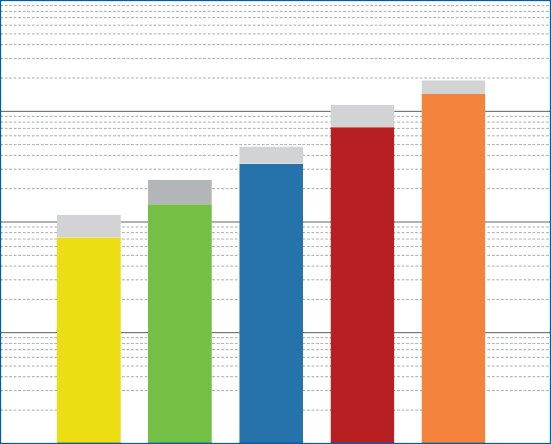
Diepolast dyn is a closed-cell high-tech elastomer and consists of a special polyether-urethane. Due to its strucutre, this material absorbs almost no fluids and can thus also be used in oppressive groundwater.

The 5 basic types Diepolast dyn S75

– Diepolast dyn S1500 are available, enabling solutions for almost every application. The desired requirements can be fulfilled by the choice of the respective type, the supporting surface and the height.

Due to its excellent dynamic

properties, Diepolast dyn is also suitable for difficult applications. Our product range offers special types for heavy load foundation bearer and dynamic loads up to 9 N/mm² (load peaks even up to 18 N/mm²). These types are called Diepolast dyn HL and are available upon request.

10

1

0,1

specific load [N/mm²]

0,01

0,001

**S S**

**75 150**

**S 350**

**S 750**

**S**

**1500**

Diepolast dyn series Working range

Diepolast dyn type

#### DIEPOLAST SD

**SD SD**

**SD**

**SD SD SD SD**

**SD**

**SD SD SD SD SD**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Properties | **10** | **16** | **26** | **40** | **65** | **110** | **170** | **260** | **400** | **650** | **950** | **1300** | **1900** | Test method |
| Colour | red | pink | orange | yellow | bright green | green | dark green | petrol | blue | dark blue | dark violet | violet | borde- aux red |  |
| Static loads [N/mm2] (1) | 0.010 | 0.016 | 0.026 | 0.040 | 0.065 | 0.110 | 0.170 | 0.260 | 0.400 | 0.650 | 0.950 | 1.300 | 1.900 |  |
| Dynamic loads [N/mm2] (1) | 0.016 | 0.026 | 0.040 | 0.065 | 0.110 | 0.170 | 0.260 | 0.400 | 0.650 | 0.950 | 1.450 | 2.000 | 2.800 |  |
| Load peaks [N/mm2] (1) | 0.5 | 0.7 | 1.0 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.5 | 6.0 | 6.5 | 7.0 |  |
| Mechanical loss factor (2) | 0.25 | 0.24 | 0.22 | 0.15 | 0.18 | 0.12 | 0.13 | 0.11 | 0.10 | 0.10 | 0.10 | 0.09 | 0.09 | DIN 53513 (3) |
| Static E-modulus [N/mm2] (2) | 0.048 | 0.111 | 0.129 | 0.316 | 0.453 | 0.861 | 0.931 | 1.64 | 2.72 | 4.57 | 8.16 | 12.0 | 20.4 | DIN 53513 (3) |
| Dynamic E-modulus [N/mm2] (2) | 0.144 | 0.328 | 0.443 | 0.743 | 1.06 | 1.86 | 2.27 | 3.63 | 5.27 | 10.4 | 21.5 | 35.2 | 78.2 | DIN 53513 (3) |
| Resistance to strain at 10% deforma- tion [N/mm2] | 0.011 | 0.018 | 0.026 | 0.046 | 0.073 | 0.130 | 0.170 | 0.270 | 0.370 | 0.590 | 0.930 | 1.340 | 1.840 |  |
| Residual compression set [%] | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 6 | < 7 | < 9 | < 9 | < 8 | DIN ISO 1856 |
| Tensile strength [N/mm2] | > 0.35 | > 0.40 | > 0.45 | > 0.55 | > 0.70 | > 0.95 | > 1.25 | > 1.65 | > 2.25 | > 3.00 | > 3.80 | > 4.40 | > 5.00 | DIN 53455-6-4 |
| Elongation at break [%] | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | > 400 | DIN 53455-6-4 |
| Rebound elasticity [%] | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | DIN  EN ISO 8307 |
| Specific volume resistance [Ω⋅cm] | > 1012 | > 1012 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | DIN IEC 93 |
| Thermal conductivity [W/m⋅K] | 0.05 | 0.05 | 0.06 | 0.07 | 0.07 | 0.08 | 0,08 | 0.08 | 0.10 | 0.10 | 0.11 | 0.11 | 0.11 | DIN 52612-1 |
| Operating temperature [°C] | - 30 to + 70 | | | | | | | | | | | | |  |
| Temperature peak [°C] | + 120 | | | | | | | | | | | | |  |
| Inflammability | Class E / EN 13501-1 | | | | | | | | | | | | | EN ISO 11925-1 |
|  |  | | | | | | | | | | | | |  |

(1) Values apply to form factor q = 3

**Product overview**

* motor bearer
* foundation decoupling
* sound insulation in floors and ceilings
* vibration decoupling of components
* machine frame foundation
* elastical intermediate bearer
* wall decoupling
* spring elements
* plates and cuttings for individuell processing
* underwater installations
* shaft decoupling

(2) Measured at maximum limit of static application range

(3) Test according to respective standards

All information and data is based on our current knowledge. The data are subject to typical manufacturing tolerances and are not guaranteed. We reserve the right to amend the data.

#### DIEPOLAST DYN S

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(1) Values apply to form factor q = 3

(2) Measured at maximum limit of static application range

(3) Test according to respective standards

All information and data is based on our current knowledge. The data are subject to typical manufacturing tolerances and are not guaran-

P+S Polyurethan-Elastomere GmbH & Co. KG

Kielweg 17 · D-49356 Diepholz

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **75 150 350 750 1500**  Properties Test method | | | | | | |
| Colour | yellow | green | blue | red | orange |  |
| Static loads [N/mm2] (1) | 0.075 | 0.150 | 0.350 | 0.750 | 1.500 |  |
| Dynamic loads [N/mm2] (1) | 0.120 | 0.250 | 0.500 | 1.200 | 2.000 |  |
| Load peaks [N/mm2] (1) | 2.0 | 3.0 | 4.0 | 6.0 | 8.0 |  |
| Mechanical loss factor (2) | 0.06 | 0.03 | 0.03 | 0.04 | 0.05 | DIN 53513 (3) |
| Static E-modulus [N/mm2] (2) | 0.63 | 1.25 | 2.53 | 5.21 | 9.21 | DIN 53513 (3) |
| Dynamic E-modulus [N/mm2] (2) | 0.92 | 1.65 | 3.25 | 8.88 | 16.66 | DIN 53513 (3) |
| Static shear modulus [N/mm²] (2) | 0.16 | 0.22 | 0.35 | 0.80 | 1.15 | DIN 53513 (3) |
| Dynamic shear modulus [N/ mm²] (2) | 0.27 | 0.35 | 0.52 | 1.22 | 1.69 | DIN 53513 (3) |
| Resistance to strain at 10% deforma- tion [N/mm2] | 0.083 | 0.16 | 0.32 | 0.59 | 0.94 |  |
| Residual compression set [%] | < 5 | < 5 | < 5 | < 6 | < 8 | DIN ISO 1856 |
| Tensile strength [N/mm2] | > 1.5 | > 2.0 | > 3.5 | > 5.0 | > 7.0 | DIN 53455-6-4 |
| Elongation at break [%] | > 500 | > 500 | > 500 | > 500 | > 500 | DIN 53455-6-4 |
| Tear resistance [N/mm] | > 1.6 | > 2.1 | > 2.5 | > 4.3 | > 5.6 | DIN ISO 34-1/A |
| Rebound elasticity [%] | 70 | 70 | 70 | 70 | 70 | DIN EN ISO 8307 |
| Specific volume resistance [Ω⋅cm] | > 1011 | > 1011 | > 1011 | > 1011 | > 1011 | DIN IEC 93 |
| Thermal conductivity [W/m⋅K] | 0.06 | 0.075 | 0.09 | 0.10 | 0.11 | DIN 52612-1 |
| Operating temperature [°C] | - 30 up to + 70 | | | | |  |
| Temperature peak [°C] | + 120 | | | | |  |
| Inflammability | Class E / EN 13501-1 | | | | | EN ISO 11925-1 |
|  |  | | | | |  |

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