

Vibratec Akustikprodukter AB

Vibration Regupol[®]



Vibratec[®]
akustikprodukter

Technical Details Overview

Regupol® vibration is a rubber-polyurethane-composite for vibration isolation. It is available in 8 different qualities.

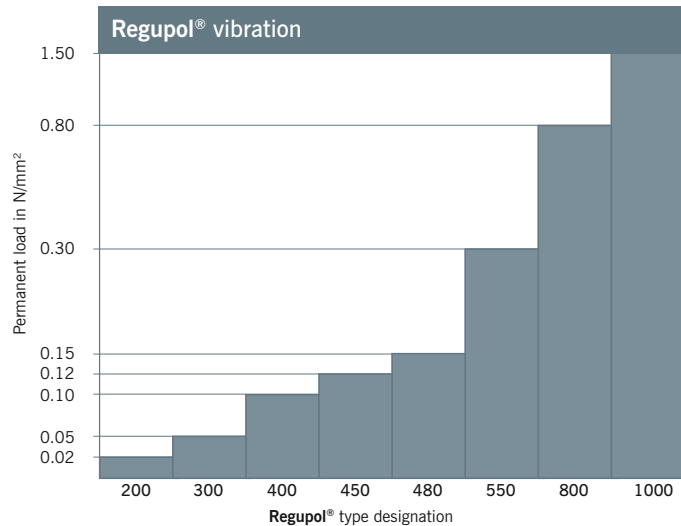
Standard forms of delivery, ex warehouse

Depending on material. Exact dimensions are mentioned in the technical data sheets of each material type.

Stripping/Plates

On request

Die-cutting, water-jet cutting, self-adhesive versions possible



| Regupol® vibration | 200 | 300 | 400 | 450 | 480 | 550 | 800 | 1000 |
|---|----------------------|----------------------|---------------------|-----------------|--------------------|--------------------|--------------------|--------------------|
| Permanent static load N/mm ² | 0.02 | 0.05 | 0.10 | 0.12 | 0.15 | 0.30 | 0.80 | 1.50 |
| Optimum load range N/mm ² | 0.004 to 0.014 | 0.010 to 0.050 | 0.050 to 0.10 | -- ⁶ | 0.05 to 0.15 | 0.15 to 0.30 | 0.20 to 0.80 | 0.80 to 1.50 |
| Tensile strength ¹ N/mm ² | 0.12 | 0.30 | 0.34 | 0.15 | 0.36 | 0.60 | 0.90 | 2.30 |
| Mechanical loss factor ² | 0.22 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.18 | 0.16 |
| Static modulus of elasticity ³ N/mm ² | 0.02 to 0.08 | 0.1 to 0.2 | 0.3 to 0.55 | 0.2 to 0.4 | 0.25 to 0.8 | 0.5 to 1.7 | 1.2 to 2.9 | 4.0 to 11.0 |
| Dynamic modulus of elasticity ⁴ N/mm ² | 0.05 to 0.38 | 0.2 to 1.4 | 0.9 to 2.4 | 0.45 to 2.7 | 1.2 to 3.3 | 2.5 to 7.0 | 3.6 to 18.2 | 15.0 to 45.0 |
| Compression hardness ⁵ kPa | 14 | 50 | 180 | 83 | 220 | 415 | 545 | 1650 |
| Fire behaviour | B2, E | | | | | | | |

1 Measurement based on DIN EN ISO 1798

2 Measurement based on DIN 53513; load-, amplitude- and frequency-dependent.

3 Measurement based on an EN 826.

4 Measurement based on DIN 53513; depending on frequency, load and thickness.

5 Measurement based on DIN EN ISO 3386-2; compressive stress at 25 % deformation, depending on thickness.

6 **Regupol® vibration 450** is used for vertical isolation.

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Regupol® Elastomer Mats

Material Composition

Regupol® elastomers are composed of SBR and NBR rubber elements. For their production, rubber granulates, rubber fibres and rubber crumbs are combined with one another, processed and elasticised with various polyurethanes using a special manufacturing method.

Eight different **Regupol®** elastomers are available for the daily requirements. They can be used in a very wide load range if required.

The **Regupol®** elastomers offer a solution that is technically sufficient as well as the most economical one available for most vibration-technology-related jobs.

Moreover, the BSW test lab offers the option of developing special, project- and application-specific types which can be given desired elastomer properties.

Regupol® elastomers can be distinguished from one another based on their individual load ranges and, accordingly, their dynamic rigidities.

Possible Uses

Regupol® elastomers are suitable for all different kinds of vibration isolation.

Due to higher dynamic rigidities and the admissible load ranges of some elastomer types, buildings and machine foundations can either be bedded elastically on strips or on delicate point supports. Due to the low support frequencies, this type of support is technically efficient, but more difficult to plan and execute. The majority of isolation jobs are performed on full-surface **Regupol®** elastomers with lower rigidity, because this is more feasible and less error-prone.

The technical details provide a full overview of the load range of the **Regupol®** elastomers and their non-linear material properties. They allow expert consultants to select and properly size the elastomer type that suits the situation at hand and meets its respective requirements.

Additional benefits of **Regupol®** elastomers are their excellent moisture resistance, their rot-proof properties, their ozone resistance and their permanent elasticity even after frost-thaw cycles.

The use of **Regupol®** is therefore admissible not only inside but also outside of buildings. The only exception here is **Regupol® vibration 200**. Because of its rigidity and its cellular structure this material has to be protected against water uptake.

Effectiveness of the **Regupol®** Elastomers

Regupol® elastomers can be specifically set for support frequencies between 20 Hz and 10 Hz in a broad load range from 0.050 N/mm² to 1.50 N/mm². Expert consultants in particular benefit from this large degree of flexibility.

The natural frequency progressions of the **Regupol®** elastomers are benign, offering expert consultants nearly constant natural frequencies across a wide load range. This makes for a large degree of security in planning and execution.

The creep (or creep behaviour) is low for all different **Regupol®** elastomers at approx. 5–7% of the total thickness. The admissible permanent load limits are kept, the only effect of overloading on the elastomers is increased rigidity (rise in dynamic rigidity and natural frequency), which shows in progressive deflection.

Regupol® elastomers are produced and shipped in rolls. They can be cut to size with a standard utility knife right at the construction site. The professional company at the construction site is thus ensured that the installation is going to be simple, quick and cost-efficient.



