CONSTRUCTION

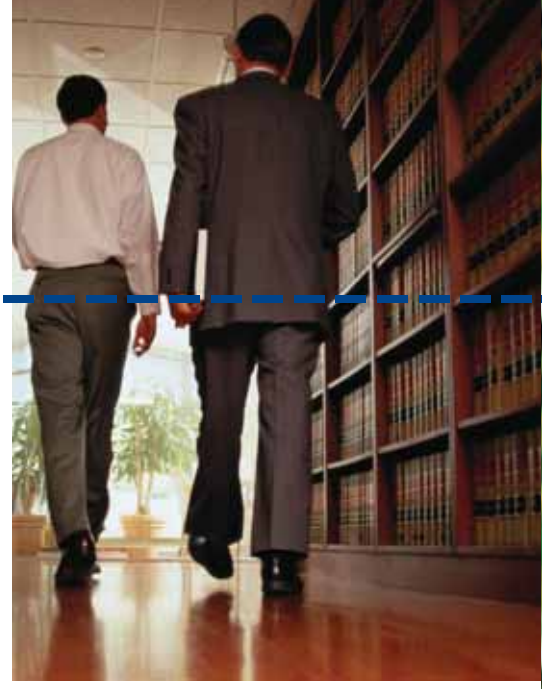
Regupol®

# Regupol E 48

## The three tonne insulation sheeting for screed floors

Optimum noise insulation

CONSTRUCTION



# Regupol E 48

## The properties

Product photograph Regupol E 48

### Bedding modulus Regupol E 48

| Pressure ($N/mm^2$) | Settlement (mm) | Bedding modulus ($N/mm^3$) |
|---|---|---|
| 0.0015 | 0 | |
| 0.0059 | 0.476 | 0.012 |
| 0.0118 | 0.863 | 0.014 |
| 0.0206 | 1.284 | 0.016 |
| 0.0294 | 1.605 | 0.018 |
| 0.0118 | 1.066 | 0.011 |

Test procedure and analysis accdg. to DIN 18134.
Sample dimensions and test equipment accdg. to DIN EN 826
Testing carried out by the Technical University of Dresden (TU Dresden)

### Regupol® insulation material for screed floors

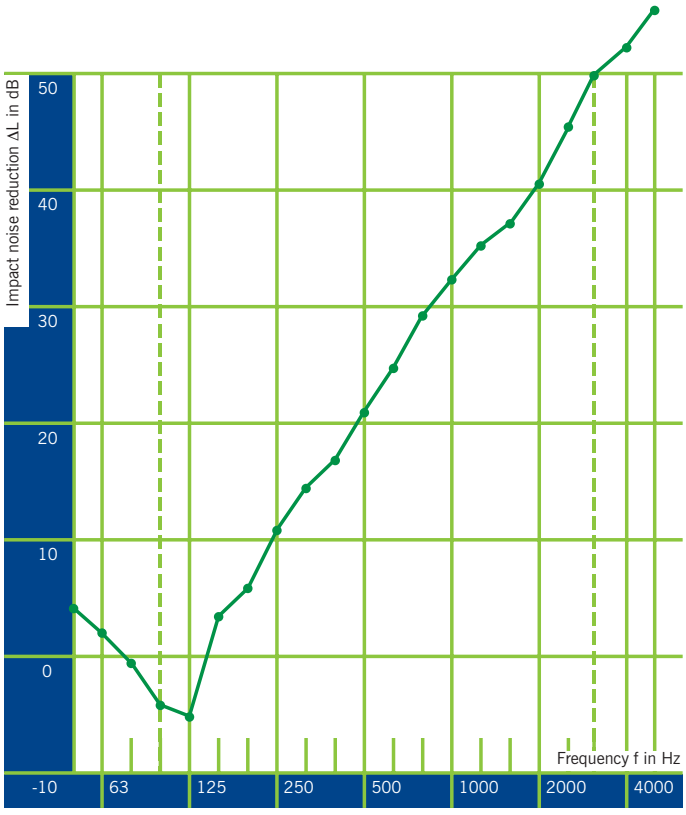
Does not perish and is resistant to ageing and deformation.

| | |
|---|---|
| Material | PU bound rubber fibres |
| Delivered in | rolls |
| Dimensions | 10.000 x 1.250 x 8 mm |
| Temperature resistance | from -20 °C to +80 °C |
| Colour | anthracite |

### Physical data

| | |
|---|---|
| weighted impact sound reduction value according to ISO 140-8 / ISO 717-2 | $\Delta L_w = 20$ dB |
| Calculation value for DIN 4109/89 | $\Delta L_{w,R} = 18$ dB |
| Average value of dynamic stiffness according to DIN EN 29052-1 | $s' \geq 47$ MN/m³ |
| Thermal conductivity | 0.14 W/mK |
| Flammability according to DIN 4102 | B 2 |
| Maximum load bearing | up to 3.000 kg/m² |

# Impact noise reduction according to ISO 140-8




Measurement of impact sound reduction, provided by a floor covering on a solid standard floor under test conditions.

| Frequency Hz | $L_{n,\ base\ floor}$ 1/3 octave dB | ΔL 1/3 octave dB |
|---|---|---|
| 50 | 62.9 | 4.1 |
| 63 | 61.2 | 2.0 |
| 80 | 56.5 | -0.6 |
| 100 | 58.3 | -4.2 |
| 125 | 60.9 | -5.2 |
| 160 | 60.3 | 3.4 |
| 200 | 61.8 | 5.8 |
| 250 | 62.2 | 10.8 |
| 315 | 64.1 | 14.4 |
| 400 | 63.3 | 16.8 |
| 500 | 64.5 | 20.9 |
| 630 | 64.1 | 24.7 |
| 800 | 64.7 | 29.2 |
| 1000 | 65.7 | 32.3 |
| 1250 | 66.0 | 35.2 |
| 1600 | 66.5 | 37.1 |
| 2000 | 66.5 | 40.5 |
| 2500 | 66.1 | 45.4 |
| 3150 | 65.8 | 49.8 |
| 4000 | 64.6 | 52.2 |
| 5000 | 61.7 | 55.4 |

Frequency range for the weighting due to ISO 717-2

ita

**Qualification test I for DIN 4109 on 04.07.2001**

Publication of the results is authorized by the Ingenieurgesellschaft for Technische Akustik mbH (Society of Engineers for Technical Acoustics) Max-Planck-Ring 49, D-65205 Wiesbaden Fon +49 6122 9561-0 Fax +49 6122 9561-61

On request we would be pleased to send you the full test report No. 0033.01-P 186

Description of the specimen
- 27 mm tiles, 300 mm x 300 mm, adhered to
- 55-60 mm concrete screed
- 0.25 mm PE foil
- 8 mm insulation sheeting for screed flooring, manufactured by BSW GmbH, type Regupol E 48 (dimpled on one side) Mean value of dynamic stiffness according to DIN EN 29052-1, s' ≥ 47 MN/m³
- 5 mm screed floor edge strips (expanded PE foil)
- 150 mm base floor

| | | | |
|---|---|---|---|
| Mass per unit area | approx. | 180 | kg/m² |
| Curing time | | 360 | h |
| Air temperature in the test room | | 21 | °C |
| Air humidity in the test room | | 70 | % |
| Receiving Room volume VE | | 51.1 | m³ |

## Measurement to ISO 717-2

$\Delta L_w$ = 20 dB $C_{I,\Delta}$ = -6 dB $C_{I,r}$ = -5 dB

These results are based on tests with an artificial source under laboratory conditions in third octave bands.

Calculation value for DIN 4109/89: $\Delta L_{w,R}$ = 18 dB

# Installation guidelines

Prior to installing the material, please ensure the concrete floor is dry, clean and free from dirt. Also, remove as much concrete dust as possible. Very minor undulations (1-2 mm) in the concrete surface should not be detrimental to the properties of the material.

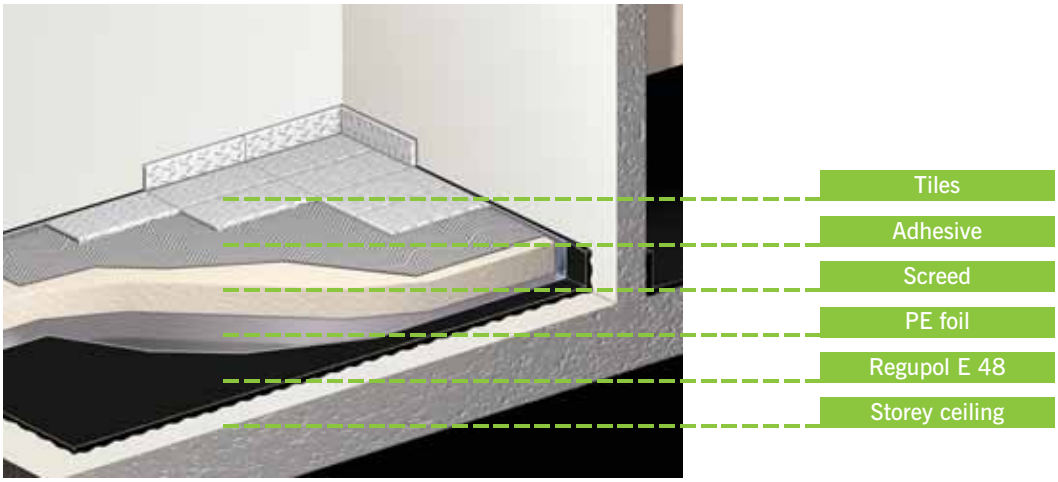
**Laying Instructions**

1. The first stage is to lay the edge insulation strips. Strips can be supplied cut to the relevant width. (The width should be equal to that of the floor build up).

2. The Regupol E48 should then be rolled out. Note: Due to winding tensions it is possible that the material will shrink back slightly. We therefore recommend that the material is cut a little longer than required and left in the appropriate room for a few hours. The material can then be trimmed to the exact length.

3. The material should be laid flush and butt-joined. All butt joints should be taped over using a high tack adhesive tape, to ensure movement does not occur under the casting of the screed.

4. Polyethylene sheets should then be laid over the Regupol E48 material and the perimeter insulation strips. The polyethylene should be fixed appropriately so that movement does not occur when the screed is being cast.




BSW

CONSTRUCTION

# The three tonne insulation sheeting for screed floors

## Optimum noise insulation under heavy loads

Under loads of 30 KN/m$^2$, E 48 will compress by only 1.6 mm and with the load removed, will recover almost to its original thickness due to its elastic properties. Installing Regupol E 48 will help to guarantee the screed floor remains stable, when subject to static and dynamic loads.

## The benefits

- Very good insulation characteristics
- No loss of thickness even under high static or dynamic loads
- Maximum load bearing capacity 3 tonnes/m$^2$ (30kN/m$^2$)
- Minimises construction height
- Resistant to ageing and deformation
- Permanently elastic, does not degrade over time
- Excellent recovery properties
- No tearing of expansion joints
- Almost unlimited service life
- Quick and easy to install
- Permanent monitoring and control during production

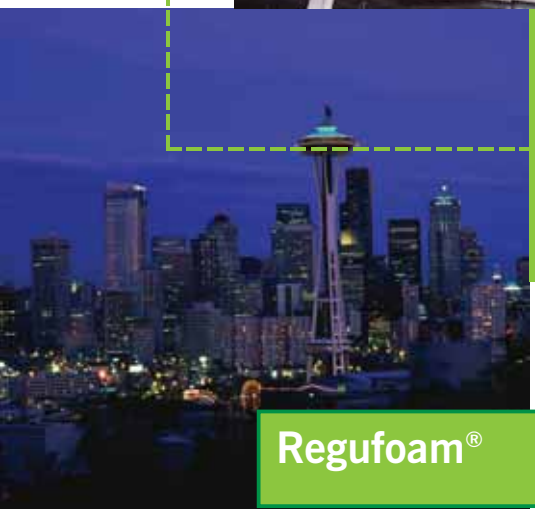
## Typical applications

- New build residential dwellings
- Office complexes
- Light industrial developments
- Commercial developments
- Service yards
- Hospitals
- Canteens
- Supermarkets
- Libraries
- Universities
- Schools
- Hotel lobby areas

BSW

## Regupol®

BSW has a very wide and diverse range of products that are used principally for the construction and sports industry. The trade name Regupol® is well known throughout the world and signifies the compounds to which such a product is manufactured. Regupol® is manufactured using rubber, polyurethane and cork granules and has many different formulations, specific to each application. Regupol® products are versatile, durable and completely recyclable. Regupol® products can be manufactured and cut to specific customer requirements.



## Regufoam®

**New products in the BSW product range: Regufoam®**

Regufoam® provides excellent structural isolation from structure borne noise and vibrations. The material is manufactured using polyurethane foam and is manufactured in six different colours, each of which has a different density. This product range also identifies the need for different load bearing capabilities and as such has a working stress range of between 0.01 N/mm² to 0.4 N/mm². Dynamically, the products can be used for stress ranges of between 0.015N/mm² to 0.5N/mm² Regufoam® is manufactured in two standard thicknesses, 12 and 25 mm or any combination of these. The great advantages of Regufoam® are:

– Low bearing natural frequencies can be achieved under both light and heavy loads, which provides excellent isolation efficiencies/damping ratios
– Different stiffness values, hence compression can be controlled under load
– Excellent recovering properties
– Wide spectrum of applications
– The material can be used for all applications where very high levels of isolation are required to reduce structure borne noise and vibration

Regufoam® can be used for:
– Civil engineering
– Permanent way applications
– Mechanical and maintenance engineering
– Shipbuilding

Advice and sales is provided world-wide by:

| | |
|---|---|
| Germany | BSW GmbH |
| Australia | Regupol Australia Pty. Ltd |
| USA | Regupol America LLC |

**www.berleburger.de**

Product samples and project references can be ordered on-line. The website will also provide you with the contact details of your local BSW adviser.