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GOVAFLEX RUBBER PRODUCTS

Made of pure recycling rubber
Produced under constant internal and external control.
To be laid following the Govaflex laying instructions.

- NL** technische info rubber producten
(in het Engels)
- F** infos techniques produits caoutchouc
(en Anglais)
- D** technische Info Gummi Produkte
(Auf Englisch)
- UK** technical info rubber products



Solid rubber on roll

1. Application

Govaflex solid rubber on roll is a heavy-duty structural protection mat used to protect structures subjected to extreme loading. It is particularly well suited for protection of tunnels, parking garage decks, flat roofs and green roofs in accordance with DIN 18195 Part 10. Also used for sports centres, wall cladding in horse stables, wall cladding in trucks and trailers...

2. Material

Premium-grade recycled rubber granulates, bonded with polyurethane.

3. Appearance

colour: multicoloured
surface: grain-textured
underside: idem

4. Dimensions

TxWxL : 10 x 1250 x 6000 mm
weight : approx. 1050 kg/m³
dimensional tolerances :
length : ± 1.5 %
width : 1250 mm ± 1.5 %
thickness : 10 mm ± 0.6 mm

5. Test Data

| | | |
|-----------------------------------|--|--------------------------|
| tensile strength: | approx. 0.8 N/mm ² | (DIN 53571) |
| elongation at break: | approx. 125 % | (DIN 53571) |
| fire resistance: | B2 | (DIN 4102 Part1:1998-05) |
| tear resistance: | approx. 3.4 N/mm | (DIN 53507) |
| service temperature range: | - 30 °C to + 80 °C | |
| puncture resistance: | (maximum drop height without any perforation in the underlying waterproofing membrane) for 12 mm thickness = 1.90 m (SIA 280) | |
| environmental resistance: | rot-resistant and water-resistant | |
| deformation under traffic load: | 10 % at approx. 38 t/m ² 20 % at approx. 80 t/m ² (test method based on DIN EN ISO 3386-2) | |
| coefficient of thermal expansion: | approx. 10 x 10 ⁻⁵ / °C | |

All information without guarantee, subject to change.

This data sheet is not subject to an update service. Please refer to www.govaflex.com for the currently valid version.



H-Tile

1. Applications

Pathways, stud stations, tread mills, sport centre pathways, paddock...

Also used in sports and recreational facilities.

Interlocking pavement elements permit problem-free laying over asphalt and concrete surfaces.

2. Material

Rubber granulate: granulated recycled rubber with rubber fibres

Binding agent: polyurethane

3. Appearance

Colour: redbrown, minor colour variations and/or fading possible

Extra high-compression

Surface: smooth with open pores, edging beveled

Lower side: smooth with open pores, edging not beveled

4. Dimensions/Tolerances

TxWxL : 43 x 200 x 165 mm

Weight: approx. 1,03 kg/unit

Dimensional tolerances: Length, Width: +/- 0,8%,

Thickness: +/- 1,5 mm

Weight: + 0,05 kg/unit

5. Test

Long term thermal stability: -40 °C - +80 °C

Short term thermal stability: up to +110 °C

Fire classification: Efl, E (according to EN 13501-1:2003)

Compressive load capacity: over 4 N/mm² (according to DIN 53454)

Modulus of elasticity: 2,88 +/- 0,12 N/mm² (according to DIN 53454)

Dynamic modulus of elasticity: 1,2 - 6,5 N/mm² in the load area

1 - 5 N/mm² (according to DIN 58535)

Thermal conductivity: 0,177 - 0,199 W/mK bei 20 - 60 °C (according to DIN 52616)

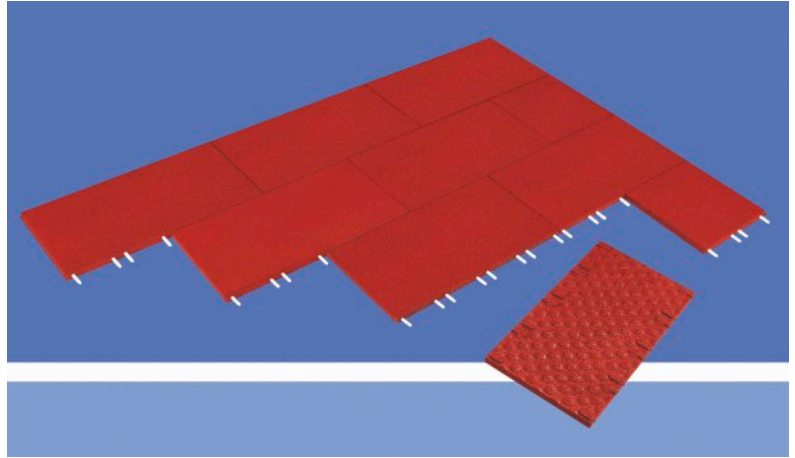
Water absorption capacity: max. 20%

Chemical resistance: resistant to weak acids and lyes, conditionally resistant to oils

Impact sound measure of improvement: 26 dB (according to DIN 52210, section 3)

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Rectangular tile 50 x 100 cm

1. Applications

Pathways, stud stations, washing areas, paddock

Govaflex rectangular tiles are manufactured by an environment-friendly process and can be recycled as process raw material at the end of their service life. Easy and inexpensive to install - with excellent dimensional stability thanks to integrated connector pins and interlocking masonry-style installation.

2. Material

Rubber granulate: granulated recycled rubber
 Binding agent: MDI polyurethane

3. Appearance

Colour : standard redbrown, (green, grey and black on demand)
 minor colour variations and/or fading possible
 Surface: smooth with open pores
 Underside: dimple- textured for drainage
 Other data : plastic connector pins included

4. Dimensions/Tolerances

TxWxL: 40 x 500 x 1000 mm
 Weight: 35,6 kg/m²
 Dimensional tolerances: length , width: +/- 0,8%, thickness: +/- 2 mm

5. Test Data

Permissible fall height: in accordance with DIN EN 1177:2008, EN 1177:2008
 HIC 1000 : 1,1 m for the 40 mm tile

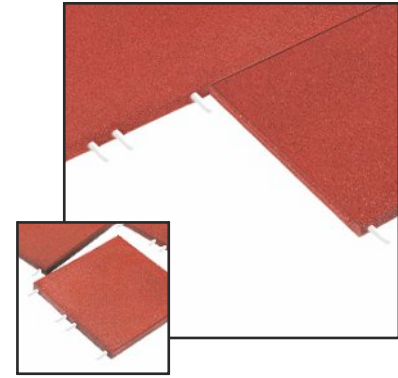
Production facility inspection

| | | |
|----------------------|----------------------------|------------------------------|
| Fire resistance: | Class | E DIN EN 13501-1, 2002 |
| Tensile strength: | min. 0,5 N/mm ² | DIN 53571 |
| Elongation at break: | appr ox. 40 % | DIN 53571 |
| Abrasion resistance: | rV 5.9 | DIN 18035 Part 6 & BS 7188-4 |

| | |
|-----------------------------|--|
| Chemical resistance : | conditionally resistant to acids and bases |
| Salt water resistance: | resistent in accordance with DIN EN ISO 175, DIN EN ISO 3386-2 |
| Cold fracture resistance : | 24h / -40°C, no fracture |
| Cold crack resistance: | 5h / -30°C, no cracks |
| Skid resistance: | wet : 50,75, dry: 50 in accordance with ASTM E 303 |
| Critical Radiant Heat Flux: | 0,08 Watts/cm ³ in accordance with ASTM E 648/03 |
| Dynamic friction: wet : | 0,62μ , dry 0,62μ in accordance with DIN 18032-2, 2001-04 |
| Ball rebound: | 40 mm tile: 97% DIN V 18032-2:2001-04 |

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Safety tile 50 x 50 cm, thickness 30, 40, 50, 70 & 80 mm

1. Applications

Playgrounds, playing fields, leisure areas, nursery schools, school playgrounds.

Govaflex safety tiles are used as fall-impact protection surfacing in conformance with EN 1177 under outdoor playground equipment for fall heights 1,0 m up to 2,40 m or as elastic surfacing on balconies, school recess areas, fitness studios.

Conditionally resistant to spiked golf shoes or edge trim. Easy and inexpensive to install with excellent dimensional stability due to integrated connector pins and interlocking masonry-style installation.

The safety tiles are manufactured by an environment-friendly process and can be recycled as process raw material at the end of their service life. They can be played on under almost any weather conditions.

2. Material

Rubber granulate: granulated recycled rubber
Binding agent: MDI polyurethane

3. Appearance

colour: redbrown, other colours on demand (minor colour variations and/or fading possible)
Surface: smooth with open pores
Underside : dimple - textured (for drainage)
Other data: plastic connector pins included

4. Dimensions/Tolerances

500 x 500 mm, with system plugs

thicknesses: 30, 40, 50, 70 & 80 mm, corresponding to max. impact protection according to EN 1177 (depending on the fall height, see table in document TF_VAL_FLEX.pdf concerning "impact-resistant playground surfacing")

Dimensional tolerances: length, width: +/- 0,8 % thickness: +/- 2 mm

5. Test Data

Permissible fall height: in accordance with DIN EN 1177:2008, EN 1177:2008

HIC 1000: in accordance with ASTM 1292-2004

Production facility inspection

Fire resistance: Class E DIN EN 13501-1, 2002

Tensile strength: min. 0,75 N/mm² DIN 53571

Elongation at break: appr ox. 40 % DIN 53571

Abrasion resistance: rV 5.9 DIN 18035 Part 6 & BS 7188-4

Chemical resistance: conditionally resistant to acids and bases

Salt water resistance: resistant in accordance with DIN EN ISO 175, DIN EN ISO 3386-2

Cold fracture resistance: 24 h / -40°C, no fracture

Cold crack resistance: 5h / -30°C, no cracks

Skid resistance: wet : 50,75, dry: 50 in accordance with ASTM E 303

Critical Radiant Heat Flux: 0,08 Watts/cm² in accordance with ASTM E 648/03

Dynamic friction: wet : 0,62μ , dry 0,62μ in accordance with DIN 18032-2, 2001-04

Water permeation test: 40 mm tile: 0,011 gpm/in³ 70 mm tile: 0,015 gpm/in



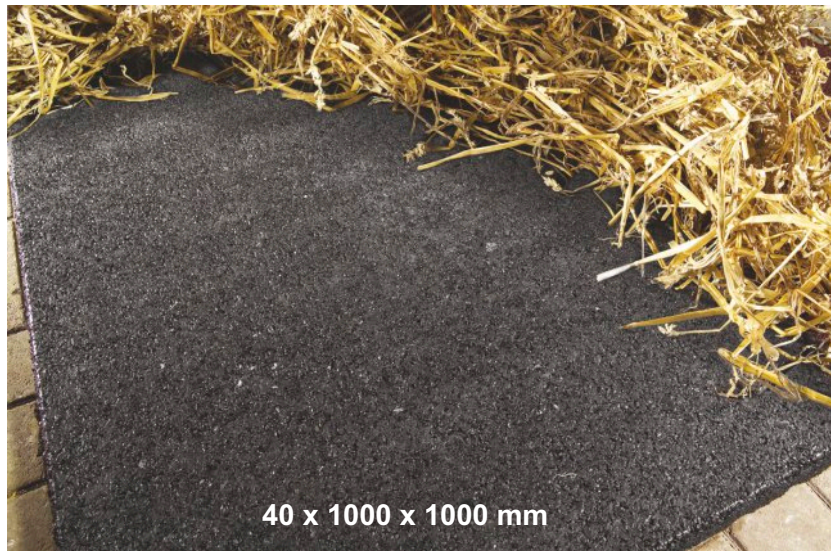
**Preferably always follow instructions *
of manufacturer/supplier of the playground equipment
or consult EN 1177**

(*) obligatory to be supplied together with equipment



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Stable tile

1. Applications

Horse stables and boxes with 2 to 3% slope, washing areas, stud stations, walkways in stables.

The stable tiles are manufactured under extra high compression and their structure and the bevelled relief ensure draining of water and urine.

The top coating makes the tiles easy to clean.

2. Material

Rubber granulate: granulated recycled rubber

Binding agent: polyurethane

3. Properties

- very strong
- anti-slip
- permeable
- shock absorbing
- insulating

4. Appearance

Colour: black

Surface: smooth with open pores

Underside: square bulges for drainage

5. Dimensions

TxWxL: 40 x 1000 x 1000 mm

Weight: 36 kg

6. Installation instructions

For optimal drainage of the tiles, the soil needs to slope with at least 2 – 3%.

Place the tiles on a solid and smooth floor, not too close to each other, because of possible expansion of the rubber.

Start laying the tiles in the corner nearest to the door.

Cutting to size can be done with a sharp knife or hacksaw.

7. Cleaning

Degreasing by spraying water and a bit of detergent. Afterwards the floor can be scrubbed.

The solid manure should be removed every day and the tiles are to be rinsed off with water regularly.

Twice a year all the tiles in the complete stable should be removed and rinsed off carefully twice a year.



Installation Instructions



H-tiles

1 Substructure

1. The substructure must be frost-stable and level. The H-tiles can be installed directly over firmly compacted, stable-bearing substructures. The best substructures are level beds of stone chippings (aggregate size: 0 - 7 mm, water-permeable) or lean concrete.
2. If the substructure is an existing paved surface (e.g. concrete or asphalt), level off any uneven spots (e.g. using stone chippings with aggregate size 0 - 3 mm). If heavy traffic is expected on the installed surface, glue the elastic H-tiles together and/or to the substructure.
3. Take care to provide sufficient slope or water permeability of the substructure to ensure water drainage. If the substructure is not water-permeable, a slope of 1 % and sufficient take-off drains are required.
4. Take care that the substructure is at the correct level (i.e. desired pavement surface level minus thickness of the installed tiles).

2 Installation of the H-tiles

1. Start installation with a starter tile in a corner of the edging around the area to be surfaced. Install the first row of tiles up to the edge limitation on the other side.
2. Start the second row with a half tile and continue with full tiles as shown in the illustration above. Fit the tiles closely together, preventing stone chippings from entering the joints between them.
3. Glue all starter tiles and half tiles to the adjacent tiles and/or the edging.
4. When installing around existing playing equipment or within nonuniform-shaped perimeters, cut tiles appropriately and glue to adjacent tiles and/or the substructure.

The tiles are easy to cut using a low-speed sabre saw (blade for wood/medium-sized teeth) or a carpet knife in conjunction with a steel straightedge.

5. Installation over curved surfaces, depressions or contours with radii of curvature between 4 m and 8 m requires use of half tiles in appropriate quantities.

! To avoid colour variations due to differences in sunlight exposure, leave the UV protection film on the products as supplied until just prior to installation

3 Glueing Instructions

If required, the tiles can be glued.

Required quantity of glue: 1 cartridge (290 ml) for every 3 - 4 m of joint length glued.

1. Preparation: The surfaces must be clean, dry and free of grease. Check adhesion to and compatibility with plastic and painted surfaces before installation.
2. Glueing: Apply adhesive cement from application pistol onto the substrate. The required layer thickness is dependent on the materials being joined. Within 10 minutes, put the upper material in place and apply contact pressure. Due to the pasty consistency of the cement, we recommend maintaining contact pressure until curing is complete. The required curing time is dependent on the layer thickness and the humidity of the ambient air.

Installation Instructions rectangular tile & safety tiles

1. Storage of GOVAFLEX® Products and Adhesive glue

GOVAFLEX® products should normally be stored in dry areas at constant temperature above 10 °C. If stored below 10 °C, store the tiles at the installation site temperature (> 10 °C) for at least 72 hours before installation. Important note: Glue must be stored at all times in dry locations above 0 °C.

! To avoid colour variations due to differences in sunlight exposure, leave the UV protection film on the products as supplied until just prior to installation.

2. Preparation of Subsurface

A. Subsurface Design / Acceptance Criteria

GOVAFLEX® tiles have excellent drainage properties. The subsurface below them must therefore provide sufficient drainage as well. If the subsurface is water impermeable, a drainage system must be incorporated. Paved surfaces (such as concrete or asphalt) must be level with a slope of at least 2 % and have adequate take-off drains. Any depressions greater than 3 mm in depth which can collect water must be levelled off by suitable materials. Like other elastomeric materials, GOVAFLEX® products absorb heat when exposed to direct sunlight. Their surface temperatures can be up to 30 °C higher than asphalt surfaces exposed to the same conditions. GOVAFLEX® products should be installed and stored in shady areas if possible to avoid overheating.

B. Preparation of the Subsurface

Proper construction and acceptance inspection of the subsurface before installation is extremely important. The following instructions must be followed exactly by the contractor carrying out the subsurface preparation and by the GOVAFLEX® tile installer in subsequent acceptance inspection. Remove the existing soil to a depth of 20 cm plus the thickness of the tiles that will be installed. Place a geotextile layer on the soil surface for separation from the crushed rock layer to be installed above.

For the subsurface use a layer of clay-free crushed rock with aggregate size 0 -10 mm (water-permeable). If required install an adequately dimensioned drainage system (made e.g. of perforated PVC pipe), to prevent buoyant uplifting or displacement of the installed GOVAFLEX® tiles. Should questions arise regarding soil conditions and characteristics or expected soil behaviour, consult a soil mechanics engineer. Pour the crushed rock in layers approx. 75 mm thick. Compact each layer with a vibration compactor to 98 % standard Proctor density. Check the levelness of each layer and correct as necessary in application of the next layer. Following application of the final layer, again check levelness, correct uneven spots with suitable material - e.g. fine stone chippings - and compact as described above. Paved subsurfaces such as concrete or asphalt must be level to avoid water collection, must have a slope of at least 2 % and must lead into a take-off drain system. The surfaces must be free of cracks, clean and free of oil or other foreign materials.

Regardless of the type of subsurface used, it must not deviate from level by more than 5 mm under a 3 m lathe.

3. Perpendicularity Check, Minimization of Dimensional Variations

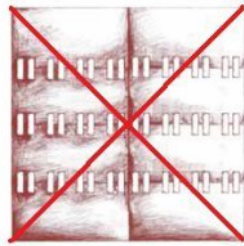
Start installation by laying a chalk line parallel to and a full tile width away from one side of the surface to be covered. Lay a second chalk line exactly perpendicular (at an angle of 90 °) to the first. Check that the lines are perpendicular by the 3/4/5 rule: Starting at the intersection point of the lines, measure off exactly 3 m down the first line and mark this point, then measure off exactly 4 m down the second line and mark this point. Measure the distance between the two points marked. If the lines are perpendicular, the distance between the points will be exactly 5 m.

The dimensional tolerance of GOVAFLEX® tiles as manufactured is approx. +/- 0.8 % in length and width and thickness. Dimensional variations can be caused by storage in stacks (elastic compression of the tiles due to the stack weight) and changes in thermal expansion and ambient temperature.

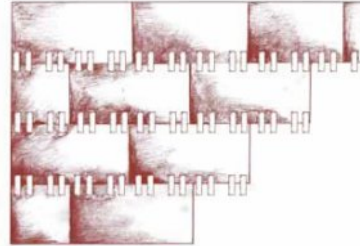
The following procedures are recommended to minimize dimensional variations:

- **Be certain that all tiles to be laid have the same temperature over the entire term of installation.**
- **Spread the tiles out on the ground for 24 hours before final installation to permit them to regain their original dimensions.**
- **Install all tiles in a single session to ensure installation under similar conditions.**

For ideal installation conditions, the ambient temperature at the site should have been over 4 °C for at least 24 hours prior to installation. If the ambient temperature at the site is below 4 °C, store the tiles to be installed in a dry area at a temperature of at least 10 °C for at least 72 hours prior to installation. Do not install GOVAFLEX® tiles if ambient temperatures below 4 °C are expected at the installation site for an extended period of time.



INCORRECT Installation



CORRECT Installation



Figure 1



Figure 2



Figure 3

4. Installation of GOVAFLEX® tiles

Install the first row of GOVAFLEX® tiles by placing them precisely along the chalk line. Start the second row (and every second row thereafter) with a half tile. Connect the tiles of the second row to the first by the integrated connector pins. Cut the last tile in each row to the required size using a heavy-duty carpet knife or a sabre saw.

If the surface to be covered is nonrectangular, cut tiles as required and install as shown in Figure 1.

When installing GOVAFLEX® tiles on granular subsurfaces, use a sheet metal, plastic or cardboard underlay as an installation aid to keep particles out of the joints between the tiles (Figure 2).

Use the second chalk line to check the perpendicularity of installation. Any tiles which will border on the edge limitation enclosing the surface must be cut to size very accurately to ensure a close fit (Figure 3).

Glue only tiles of the first and the last row and all tiles on the outer perimeter to each other and to the edge limitation enclosing the surface to secure them against uplifting or unauthorized removal. Read the use instructions for the glue carefully prior to installation. Use only glue which is supplied or recommended by GOVAFLEX. Suitable disposable gloves should be worn during glue application to avoid skin irritation.

5. Maintenance of the Installed GOVAFLEX® Surface

Regular cleaning of your installed GOVAFLEX® surface will promote a long useful life as well as attractive appearance. GOVAFLEX® surfaces can be kept clean by sweeping with a soft-bristled broom or vacuuming with an industrial vacuum cleaner. High-pressure water spraying can also be used to clean GOVAFLEX surfaces and provides more efficient dirt removal from the surface pores of the tiles. GOVAFLEX® tiles are not adversely affected by cleaning with most common household or industrial cleaners when diluted in accordance with manufacturer's recommendations. Light surface stains can be removed with such cleaners using a scrubber or a cleaning rag. Depending on the frequency of use, GOVAFLEX® surfaces will occasionally need deep cleaning to remove dirt, stains, mold and mildew, etc. This requires a steam cleaner or power washing with or without use of cleaning agents.

Please note:

Our GOVAFLEX warranty is not applicable if the product has not been maintained in accordance to our maintenance instructions above.

6. Glueing Instructions

If required, the tiles can be glued.

Required quantity of glue: 1 cartridge (290 ml) for every 3 - 4 m of joint length glued.

A. Preparation:

The surfaces must be clean, dry and free of grease. Check adhesion to and compatibility with plastic and painted surfaces before installation.

B. Glueing:

Apply glue with application pistol onto the substrate. The required layer thickness is dependent on the materials being joined.

Within 10 minutes, put the upper material in place and apply contact pressure. Due to the pasty consistency of the glue, we recommend maintaining contact pressure until curing is complete. The required curing time is dependent on the layer thickness and the humidity of the ambient air.

All information without guarantee, subject to change. The installation instruction is not subject to any change service.

Each current and valid from can be recalled at www.govaflex.com