

CATALOGUE OF PRODUCTS

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We think ecologically and with regard to the highest requirements of our customers.

GreenCon Ltd was established in 2007 with a vision of a new process for the production of building materials. At the beginning, our effort was to take global recycling to the next level and at the same time create a product that will have versatile use in building construction. We are proud that through the environmentally friendly production and production of 100% recyclable products, we also contribute to the sustainability of resources.

We bring a new technology to the market for the production of building materials that saves the environment. The main production inputs are recyclable substances, originating from industrial processes, which meet the strictest hygienic standards. Production takes place in an environmentally friendly process, without the use and addition of harmful chemicals. The resulting product is GECON board, which with its properties and price surpasses the competition and provides the customer with long-term energy savings.

High-Tech production

We have developed our own production technology, which also produces unrivalled building materials with regard to the environment. GECON boards are manufactured in unique production machines, using currently the most modern available technologies. By the interaction of temperature, pressure and various additives, dosed in exact ratio, several types of recyclable materials can be processed. Light and at the same time durable material is produced by the system of endless line of machines which meets the ever-increasing demands of designers, builders and end customers.

Unique features

GECON boards convince customers all over the world about their uniqueness, quality, environmental parameters and interesting price. They offer excellent thermal and sound insulation properties, thanks to which they ensure significant energy savings, insulation against moisture, nonflammability and echo prevention. The ecological production process and their overall recyclability also contribute to the sustainability of resources.

Possibilities of use

They are practically unlimited, from the application of existing buildings, to improve their properties, to the complete construction of new buildings. Floors, walls, ceilings and attics. Wherever you start building modifications, GECON boards will find their application. Their use will satisfy requirements for acoustic and thermal insulation properties and health safety. Their location in the interiors will ensure a pleasant climate throughout the year, while representing only a minimal occupancy of living space.

Handling

Working with GECON boards is easy and fast. It is a lightweight material, the processing of which is versatile, since cutting, drilling and other forms of processing are similar to wood, chipboard or other close materials and do not pose any problems. As standard, they are delivered in the size of 1,200 × 2,700 mm, with the possibility of delivery in individual dimensions on request, according to the client's preferences.

World quality

The company's production and sales expansion on world markets is presented by activities in several countries such as the USA, Russia, Belarus, Austria, Lithuania, Hungary, Ukraine, Poland, the Czech Republic, Switzerland, Portugal, Denmark, Georgia, Israel, Brazil, the United Kingdom and Germany. At the same time, GreenCon is launching and introduction of the technology to other EU countries.

Management

Ing. Martin Lenčéš • CEO

More than 25 years of experience in leading positions in the field of marketing and finance not only in Slovakia, but also in Hungary, the Czech Republic and Austria.

"Today, perhaps more than ever, we should think about sustainable practices not only in production, but also in the future of construction as such. It is great that a new building can also be created using products from recycled materials. Even better for products that do not end up in landfills for decades, because they are also recyclable and that was exactly our goal."

Ing. Milan Knežo • CEO

More than 15 years of experience in the field of recycling, development of green technologies and green buildings in German-speaking countries and in Eastern and Central Europe.

"It should be our moral duty and our effort to use modern technology not only to raise our standard of living, but also to mitigate its impact on a stressed environment. With advancing and developing new practices, we should not forget to look back and the consequences of our actions. We are pleased that we have been able to launch a novelty on the market whose impact of which Is environment friendly and positive."

Cooperation

We bring this unique building materials and technology to the market also thanks to our partners. They have become part of more than a decade of preparation and production process, participated in product development, testing and certification.









STU FCHPT

We bring to the market a new technology for the production of building materials that saves the environment

interior - 33 dB	MAIN PROTECT	PODUCCTS (Interior / exterior Insulation /sound insulation (Interior / exterior 100 mm, 170 mm (Interior / Interior)	Surface treated be with Renolit 3D I. applied by heat treated be • Furniture • Facing • Interior applicat design / surface tree more than 240 va 8 – 22 mm
DN ACOUSTIC	GECON PROTECT		GECON
	DESCR	IPTION	
sulation board 10 mm most effective insulations orne soundproofing.	Board 10 mm, has increased fire resistance.	Composite product composed by layering two GECON Acoustic, Protect boards with XPS / EPS filling.	Surface trea with Renoli applied by he • Furniture • • Interior ap
	MAII	USE	
interior	interior / exterior	interior / exterior	interior /
	TY	PE	
und insulation	fireproof	insulation /sound insulation	design / surfac
	PARAN	NETERS	
- 33 dB	E30/EI30/EW30 (30 min.)	up to R = 4,42 m²K/W - 51 dB (sound insulation)	more than 24
	THIC	(NESS	
10 mm	10 mm	100 mm, 170 mm	8 - 22
	DIMEN	SNOIS	
200 × 1 200 mm			800 × 1.2

Solving the global problem

Despite the growing efforts of individual countries and organizations worldwide to deal with the problem of increasing waste, it is difficult to find an ideal and, above all, comprehensive solution. The best way to eliminate growing landfills is through recycling. Its purpose is to reuse materials that would otherwise become part of unused, unnecessary and ultimately harmful waste.

We have developed a unique recycling technology that has the potential to eliminate the global negative trend of waste accumulation.

Longer service life of materials

The ideal situation would be if the waste was not generated at all. A large amount of waste is generated during the production processes themselves and the final modifications of new products, such as cuttings or aesthetically faulty products.

With the introduction of our technology, this material will not become part of waste management statistics, but will find its new meaningful use.

It will be transformed into a building material – **GECON** boards. Not only are they environmentally friendly and recyclable, but they also have unique properties.

High-Tech production

GECON boards are created in production machines using currently the most modern available technologies. Several types of recyclable materials (LDPE, PP, tetrapack, wood chips, paper industry by-products...) are processed in them by the interaction of temperature, pressure and various additives dosed in the exact ratio. This technology, developed and protected by us, significantly reduces the emission footprint in the production of boards and recycles input materials up to 99%, which cannot normally be recycled.

With us, these materials get a second chance and, after processing, they meet strict EU standards. Our boards are manufactured without the content of substances harmful to health or nature.





GECON Acoustic sound insulation board is one of the most effective insulations on the market

All tests of airborne soundproofing have confirmed its leading position among the competitors of products used so far.

ACOUSTIC

GECON

It has unique sound insulation and mechanical properties, as well as a significantly lower purchase price. It is produced by a technology developed and protected by us, which significantly reduces the emission footprint in the production of boards and recycles various types of input materials to 99%, which cannot normally be recycled. With us, these materials get a second chance and after processing they meet strict EU standards. Our boards are manufactured without the content of substances harmful to health or nature (even without formaldehyde).



Features of GECON Acoustic:

- stepping noise improvement,
- EU-wide airborne soundproofing, step soundproofing and thermal engineering certificates,
- trouble-free application even in wet processes, ability to regulate air humidity,
- resistance to fungi and pests (our adhesives have a pH that repels pests), HT (Heat Treatment),
- energy saving,
- ideal for application to floors, walls and ceilings,
- easy handling,
- supplied as a large area board (1,200 × 2,700 mm), so there is no need for linking small parts and sealing gaps (on request we can supply smaller formats).

GECON Acoustic	TECHNICAL PARAMETERS
Airborno cound inculation Bw in dP	33 dB (10 mm)
(according to board thickness)	37 db (20 mm)
	39 dB (30 mm)
Thermal conductivity	0,19 (W/mK)
Step noise reduction index	26 to 35 dB
Index of normalized step noise level	Ln,r,w 43 to 52 dB
Weight	8,00 (kg/m ²)
Thickness	10 mm • 20 mm • 30 mm
Length	from 800 to 2,700 mm
Width	from 600 to 1,200 mm

Usage of GECON Acoustic

Thanks to the excellent parameters of airborne soundproofing, their use is very wide. The boards can be used in all areas where acoustic properties are required. Whether you need to reduce noise levels in the attic, house, apartment, office, music studio or cinema, **GECON** *Acoustic* boards will convince you of their qualities. Using them will also ensure a pleasant living climate throughout the year.



GECON Acoustic certificates





More information about certificates can be found on our website: www.greencon.sk



GECON Acoustic



Application of GECON Acoustic

The first step in creating a new living space in the attic is to ensure thermal insulation of the roof. Adequate insulation thickness and its suitable location save energy costs, reduce the level of pollutants and increase thermal comfort. On the contrary, unprofessional and inconsistent installation of insulation, or deficiencies in the material used, can easily lead to irreparable damage. As thermal insulation of the attic, the most commonly used are mats and strips made of mineral fibres, equipped with aluminium foil, which serves as a preparation for the vapor barrier. When using **GECON** *Acoustic*, it is not necessary to equip with aluminium foil, as the board already fulfils the function of a vapor barrier.

The cladding of the attic with the use of **GECON** *Acoustic,* consists in the professional installation of thermal insulation and fastening of GECON boards directly to the rafters and pliers with selftapping screws or to a levelled construction from CD profiles.

To achieve the desired results, it is necessary to check the following:

- integrity of the roofing, including the safety film,
- load-bearing capacity of the roof structure (additional load is approx 15 kg/m²),
- the technical condition of the roof structure, taking into account in particular any rot, moisture and age of wooden elements,
- correct placement of thermal insulation (especially whether all gaps between rafters and tongs are filled),
- ensuring sufficient and functional ventilation of the roof cladding.





GECON Acoustic



CONCRETE CEILINGS – DIRECT CONTACT WITH THE CONCRETE

Principles of assembly and processing

- 1. Fasten the **GECON** *Acoustic* boards to the concrete with screws (every 15 cm).
- 2. Leave an expansion joint of approx. 3 mm between the individual boards.
- 3. Fill the expansion joint with acoustic foam.
- 4. Finish the surface.

CONCRETE CEILINGS – LATHING, OR PROFILE

Principles of assembly and processing

- 1. The lathing must be done with a span of 40 cm.
- 2. Fill the space between the battens with sound-absorbing material to increase airborne soundproofing of the ceiling (e.g. mineral wool, stered, etc.).
- 3. Fasten the **GECON** *Acoustic* with self-tapping screws (every 15 cm) to laths. (CAUTION! Only till lathing! Not up to the wall to avoid resonances).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 5. Finish the surface treatment.

WOODEN CEILINGS - LATHING, OR PROFILE

Principles of assembly and processing

- 1. The lathing must be done with a span of 40 cm.
- 2. Fill the space between the battens with sound-absorbing material to increase airborne soundproofing of the ceiling (e.g. mineral wool, stered, etc.).
- 3. Fasten the **GECON** *Acoustic* with self-tapping screws (every 15 cm) to laths. (CAUTION! Only till lathing! Not up to the wall to avoid resonances).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 5. Finish the surface treatment.

The final surface treatment can be realized in the following forms:

- wallpaper,
- cladding material (wood, profile, cassettes...),
- paintbrush (if necessary, it is possible to apply a construction tape over the joints),
- stretching the fiberglass mesh and plaster.

NOTE: An aluminium profile can be used instead of battens.

The above procedure can be implemented **on all types** of wooden ceilings:

- open beamed ceiling,
- glued solid ceiling,
- closed beam ceiling (reconstruction).

For all types of wooden ceilings it is possible to use lathing or aluminum profile. It is also possible to use contact construction (similar to concrete ceilings). In this case, the procedure is the same as for concrete ceilings.



NOTE num. 1:

Instead of air pocket, fill the filling between the struts in the frame construction with a soundabsorbing material to increase the airborne sound insulation of the partition (e.g. mineral wool, stered, etc.).

NOTE num. 2:

It is possible to use only one layer instead of two layers of **GECON** *Acoustic* boards, but the values of airborne soundproofing will be lower (the manufacturer recommends two layers **GECON** *Acoustic* stacked for a perfect result).

MASSIVE WALL – DIRECT CONTACT WITH THE WALL

Principles of assembly and processing

- 1. Place the **GECON** *Acoustic* vertically with the long edge.
- 2. Instead of air pocket, It is recommended to fill the filling between the struts in the frame construction with a sound-absorbing material to increase the airborne sound insulation of the partition (e.g. mineral wool, stered, etc.).
- 3. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 4. Finish the surface treatment.

MASSIVE WALL – LATHING, OR PROFILE

Principles of assembly and processing

- 1. The lathing must be done with a span of 40 cm.
- 2. Instead of air pocket, It is recommended to fill the filling between the struts in the frame construction with a sound-absorbing material to increase the airborne sound insulation of the partition (e.g. mineral wool, stered, etc.).
- 3. Fasten the **GECON** *Acoustic* with self-tapping screws (every 15 cm) to laths. (CAUTION! Only till lathing! Not up to the wall to avoid resonances).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards.
- 5. Place the second layer of **GECON** *Acoustic* over the first layer of **GECON** *Acoustic* in an overlapping manner (to cover the joints) and fasten it with self-tapping screws (every 15 cm) to the first layer.
- 6. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 7. Finish the surface treatment.

The final surface treatment can be realized in the following forms:

- wallpaper,
- cladding material (wood, profile, cassettes...),
- paintbrush (if necessary, it is possible to apply a construction tape over the joints),
- stretching the fiberglass mesh and plaster.





GECON Acoustic





FRAME WALL - one layer of GECON Acoustic

Principles of assembly and processing

- 1. Fasten the wooden or steel frame with vertical beams every 40 cm.
- 2. Place the **GECON** *Acoustic* vertically with the long edge.
- 3. Fasten them to the vertical beams with self-tapping screws (every 15 cm).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 5. Finish the surface treatment.

FRAME WALL – two layers of GECON Acoustic

Principles of assembly and processing

- 1. Fasten the wooden or steel frame with vertical beams every 40 cm.
- 2. Place the **GECON** *Acoustic* vertically with the long edge.
- 3. Fasten them to the vertical beams with self-tapping screws (every 15 cm).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards.
- 5. Place the second layer of **GECON** *Acoustic* over the first layer of **GECON** *Acoustic* in an overlapping manner (to cover the joints) and fasten it with self-tapping screws (every 15 cm) to the first layer.
- 6. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 7. Finish the surface treatment.

In both ways it is possible to carry out the assembly on the frame wall, either on one side, or bilaterally. It is recommended to fill the filling between the struts in the frame construction with a sound-absorbing material to increase the airborne sound insulation of the partition (e.g. mineral wool, stered, etc.).

The final surface treatment can be realized in the following forms:

- wallpaper,
- cladding material (wood, profile, cassettes...),
- paintbrush (if necessary, it is possible to apply a construction tape over the joints),
- stretching the fiberglass mesh and plaster.



GECON Acoustic



FLOORS

CONCRETE FLOORS – DIRECT CONTACT one layer of **GECON** Acoustic

Principles of assembly and processing

- 1. Place **GECON** *Acoustic* boards loosely on concrete next to each other, or fasten them with dispersion glue.
- 2. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 3. Second layer of **GECON** *Acoustic can be used* to achieve higher airborne and step soundproofing. The boards can be laid by overlapping or in a cross pattern.
- 4. Finally, it is recomended to lay a tread layer which can be solid parquets, two-layer parquets (with tongue groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet.

CONCRETE FLOORS – DIRECT CONTACT two layers of **GECON** Acoustic

Principles of assembly and processing

- 1. Place **GECON** *Acoustic* boards loosely on concrete next to each other, or fasten them with dispersion glue.
- 2. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 3. On the first layer, lay a second layer of **GECON** *Acoustic*, to achieve higher airborne and step soundproofing.
- 4. The boards can be laid by overlapping or in a cross pattern.
- 5. Finally, it is recomended to lay a tread layer which can be solid parquets, two-layer parquets (with tongue groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet.

CONCRETE FLOORS – withe leveling underlay and spreading layer **GECON** Acoustic

Principles of assembly and processing

- 1. Place **GECON** *Acoustic* boards loosely on leveling underlay, with which concrete is leveled.
- 2. Boards can be placed loosely next to each other or glued with dispersion glue depending on the type of levelling underlay, whether it is possible to glue to it.
- 3. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 4. On the first layer, lay a second layer of **GECON** *Acoustic*, to achieve higher airborne and step soundproofing.
- 5. The boards can be laid by overlapping or in a cross pattern.
- 6. Finally, it is recomended to lay a tread layer which can be solid parquets, two-layer parquets (with tongue groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet.



GECON Acoustic



spreading layer – 2 × 20 mm GECON Acoustic, d = 40 mm

mineral wool insulation layer Knauf PTN 100 kg/m³, d = 50 mm

> reinforced concrete base plate, d = 150 mm

MODEL Num. 3 CONCRETE – RUBBER CRUMB

spreading layer – 2 × 20 mm GECON Acoustic, d = 40 mm

insulating layer rubber crumb 50 % + PP 50 % 175 kg/m³, d = 45 mm

reinforced concrete base plate, d = 150 mm

Model examples of already certified system to reduce transmission of step noise floor on a heavy reference ceiling with GECON *Acoustic* dispersing board (Europe-wide certificate).

COMPOSITION: CONCRETE – STERED – GECON Acoustic

Principles of assembly and processing

Place **Gecon** *Acoustic* on the STERED ID200 (which has levelled the concrete), placed loosely nextto each other, or in dispersion glue (depending on the type of levelling underlay, whether it is possible to glue to it). Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam. To do this, apply a second coat of **Gecon** *Acoustic* (to achieve

a higher airborne and step soundproofing). The boards can be laid by overlapping or in a cross pattern. According to the customer's needs and taste, it is recommended to lay a tread layer on this composition, which can be, for example, solid parquets, double-layer parquets (with tongue and groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet...

Index of normalized step noise level according to STN EN ISO 717-2	Ln,r,w = 48 dB
Step noise reduction index according to STN EN ISO 717-2	<i>∆Lw</i> = 29 dB

COMPOSITION: CONCRETE - MINERAL WOOL KNAUF - GECON Acoustic

Principles of assembly and processing

Place **Gecon** *Acoustic* on Knauf PTN (which has levelled concrete). Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam. To do this, apply a second coat of **Gecon** *Acoustic* (to achieve a higher airborne and step soundproofing). The boards can be laid by overlapping or in a cross pattern. According to the customer's

needs and taste, it is recommended to lay a tread layer on this composition, which can be, for example, solid parquets, two-layer parquets (with tongue groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet...

Index of normalized step noise level according to STN EN ISO 717-2	Ln,r,w = 43 dB
Step noise reduction index according to STN EN ISO 717-2	∆ <i>Lw</i> = 35 dB

COMPOSITION: CONCRETE - RUBBER CRUMB - GECON Acoustic

Principles of assembly and processing

Lay **Gecon** *Acoustic* next to each other on a levelling layer (rubber crumb + PP) which is to be aligned concrete. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam. Apply a second coat of **Gecon** *Acoustic* (to achieve higher airborne and step soundproofing). The boards can be laid by overlapping or in a cross pattern. According to the customer's needs and taste, it is recommended to place a tread layer on this composition, which can be, for example, solid parquets, two-layer parquets (with a tongue groove), PVC, carpet, linoleum, tiles, laminate, cork, click-parquet...

Index of normalized step noise level according to STN EN ISO 717-2	<i>Ln,r,w</i> = 52 dB
Step noise reduction index according to STN EN ISO 717-2	∆ <i>Lw</i> = 26 dB



GECON Protect

GECON *Protect* is a fireproof, non-flammable board with increased fire resistance.

By using protective boards **GECON** *Protect,* you will increase the fire resistance of the entire structure. **GECON** *Protect* boards are an alternative to cement-chipboards with a comparable price. They are produced by a proprietary technology, which significantly reduces the emissions footprint in the production of boards and recycles various types of input materials up to 99%, which cannot normally be recycled. With us these materials get a second chance and, after processing, meet strict EU standards. Our boards are produced without any content of substances harmful to health or nature (even without formaldehyde).



Features of GECON Protect:

- trouble-free application even in wet processes,
- resistance to fungi and pests (our adhesives have a pH that repels pests), HT (Heat Treatment),
- moisture resistance,
- energy saving,

- ideal for application to floors, walls and ceilings,
- easy handling,
- supplied as a large area board (1,200 × 2,700 mm), so there is no need for linking small parts and sealing gaps (on request we can supply smaller formats).

GECON Protect	TECHNICAL PARAMETERS
Fire reaction class	B, s1, d0
Fire resistance class (E/E/EW)	30/30/30
Thermal conductivity	0,1 (W/mK)
Weight	8,00 (kg/m ²)
Thickness	10 mm • 20 mm • 30 mm
Length	from 800 to 2,700 mm
Width	from 600 to 1,200 mm



GECON Protect certificates





GECON Protect



Application of GECON Protect

The first step in creating a new living space in the attic is to ensure thermal insulation of the roof. Adequate insulation thickness and its suitable location save energy costs, reduce the level of pollutants and increase thermal comfort. On the contrary, unprofessional and inconsistent installation of insulation, or deficiencies in the material used, can easily lead to irreparable damage. As thermal insulation of the attic, the most commonly used are mats and strips made of mineral fibres, equipped with aluminium foil which serves as a preparation for the vapor barrier. When using **GECON** *Protect,* it is not necessary to equip with aluminium foil, as the board already fulfils the function of a vapor barrier.

Attic cladding with the use of **GECON** *Protect* consists in professional installation of thermal insulation and fixing of GECON boards directly to rafters and pliers with self-tapping screws or to levelled construction from CD profiles.

To achieve the desired results it is necessary to check the following before application itself:

- integrity of the roofing, including the safety film,
- load-bearing capacity of the roof structure (additional load is approx. 15 kg/m²),
- technical condition of the roof structure with regards to possible rot, moisture and age of wooden elements,
- correct placement of thermal insulation (especially whether all gaps between rafters and tongs),
- ensuring sufficient and functional ventilation of the roof cladding.





GECON Protect



WOODEN CEILINGS – LATHING, OR PROFILE

Principles of assembly and processing

- 1. The lathing must be done with a span of 40 cm.
- 2. Fill the space between the battens with sound-absorbing material to increase airborne soundproofing of the ceiling (e.g. mineral wool, stered, etc.).
- 3. Fasten the **GECON** *Protect* with self-tapping screws (every 15 cm) to laths. (CAUTION! Only till lathing! Not up to the wall to avoid resonances).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with fire-protection foam.
- 5. Finish the surface treatment.

WOODEN CEILINGS

The final surface treatment can be realized in the following forms:

- wallpaper,
- cladding material (wood, profile, cassettes...),
- paintbrush (if necessary, it is possible to apply a construction tape over the joints),
- stretch the fiberglass grille and plaster.

NOTE: An aluminium profile can be used instead of battens.

The above procedure can be implemented **on all types** of wooden ceilings:

- open beamed ceiling,
- glued solid ceiling,
- closed beam ceiling (reconstruction).

For all types of wooden ceilings it is possible to use lathing or aluminium profile. It is also possible to use contact construction (similar to concrete ceilings). In this case, the procedure is the same as for concrete ceilings.





GECON Protect





FRAME WALL – one layer of **GECON** Protect

Principles of assembly and processing

- 1. Fasten the wooden or steel frame with vertical beams every 40 cm.
- 2. Place the **GECON** *Protect* vertically with the long edge.
- 3. Fasten them to the vertical beams with self-tapping screws (every 15 cm).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with acoustic foam.
- 5. Finish the surface treatment.

FRAME WALL – two layers of **GECON** Protect

Principles of assembly and processing

- 1. Fasten the wooden or steel frame with vertical beams every 40 cm.
- 2. Place the **GECON** *Protect* vertically with the long edge.
- 3. Fasten them to the vertical beams with self-tapping screws (every 15 cm).
- 4. Leave an expansion joint of approx. 3 mm between the individual boards.
- 5. Place the second layer of **GECON** *Protect* over the first layer of **GECON** *Protect* in an overlapping pattern (to cover the joints) and fasten it with self-tapping screws (every 15 cm) to the first layer.
- 6. Leave an expansion joint of approx. 3 mm between the individual boards and fill it with fire-protection foam.
- 7. Finish the surface treatment.

In both ways it is possible to carry out the assembly on the frame wall, either on one side, or bilaterally. It is recommended to fill the filling between the struts in the frame construction with a sound-absorbing material to increase the airborne sound insulation of the partition (e.g. mineral wool, stered, etc.).

The final surface treatment can be realized in the following forms:

- wallpaper,
- cladding material (wood, profile, cassettes...),
- paintbrush (if necessary, it is possible to apply a construction tape over the joints),
- stretching the fiberglass mesh and plaster.



GECON SIP

High effective architectural elements used in walls, roofs, floor areas in private houses and light – weight constructions originate in combination of hard foam insulation core (EPS, XPS) and bilateral **GECON** board cover coat (Acoustic, Protect)



GECON SIP qualities:

- if installed and maintained properly their durability is minimal 60 years,
- have enhanced insulation against fungi, moss, funguses and insects and thus contribute to longstanding quality of civil engineering project
- by standard, they are delivered and supplied in 100 mm and 170 mm thickness (with high

demand we are able to adjust thickness in agreement with clients ' requests),

 resistance against screw remove is as much as 62 N/mm², thanks to this the boards support not only common apartment components but also kitchen units without any difficulties.

Advantages of GECON SIP application compared to other building solutions:

- quick and safe assembly,
- flexibility of design and use,
- low energy costs, thanks to integrated insulation, excellent thermal efficiency and air impenetrability
- reduction of cold junctions/bridges,
- low cost installation (no need for vapour barrier),
- reduced amount of waste while being installed,
- interior air quality increase,
- utility area expansion (GECON SIP boards are thinner than classic masonry walls),
- made based on unique GreenCon Technology with low manufacturing emissions,

- no urea formaldehyde and for health and nature harmful emissions and substances,
- usage of GECON SIP panels increases the specified recycling quota in public buildings and positively influences assessment of buildings for Green Building certification and mainly Blue Building (Deutsche Geselschaft für Nachhaltiges Bauen),
- fire protection (in case the outer coat is formed from GECON *Protect*),
- quality check from the manufacturer.



More information about **GECON** *SIP* can be found on our website: www.greencon.sk





GECON SIP



Possibilities of performance

GECON *SIP* can be delivered in three possible types where the difference depends on the type of the GECON board which is used as the outer coat or cover. Based on your option it is possible to choose boards with qualities most in demand. Particular combinations secure higher sound insulation qualities, fire protection or higher hardness and surface endurance. Detailed information on the features of GECON boardscan be found on the pages:
7 (Acoustic), 21 (Protect) and 33 (Design).

Instructions for working with GECON SIP

- Cautious manoeuvring is needed and care not to cause any damage of borders and edges.
- Before placing the boards remove any residuals from their bottom borders and areas.
- Secure adequate backing during the process of assembling.
- Also secure the horizontal floor where the boards will be placed.
- SIP coat must be placed at least 11 mm from the border of the floor so that the weight is equally put on the base.
- Do not Install the SIP panel directly on the concrete (use an aligned place with DPC or DPM as a barrier).
- Apply binder or foamy material alongside the entering edge of wood placed into the SIP panel.
- The foam jointing of the SIP panel joint must be checked for continuous, complete and deep tightening.
- Proper installation of foam jointing can be observed via foam leakage into cracks which must be cleaned off the outer surface of the panel.
- Inside redundant air sealing in is usually done with help of seals placed over the bearing points of sprayed foam and tapes placed on exposed joints. Carefully choose the tapes and underpainting suitable for the type of panel for long term adhesive power to panels.
- For joints wood–GECON, GECON–GECON, GECON–EPS and EPS–EPS use binder or expansive foam.
- For channel jointing use only constant I bearers from wood and isolated I bearers.
- For storage of SIP secure adequate support, store them covered and in horizontal position.

Specifications of installing must be consulted with the designer/architect!





GECON Design

This product is a combination of any GECON board (*Acoustic*, *Protect*) with a specific design finish.

From the entire range, you can choose the board that, with its unique properties, best suits your preferences and meets specific requirements in the implementation of your projects. Then you can choose an aesthetic finish from a wide portfolio of possible alternatives.



Features of GECON Design:

- aesthetic and practical solution for hitherto unused spaces
- board-specific properties see properties
 p. 7 (Acoustic) and p. 21 (Protect).



more information about **GECON** *Design* can be found on our website: www.greencon.sk

SURFACE TREATMENT

GECON Design finish

In the basic price we offer a choice of up to 241 decors.

- simple colours
- one colour structured decors ¹
- one colour smooth decors²
- matt decors ³
- suede-matt decors
- satin decors

- high gloss decors ⁴
- special effects ⁵
- woodgrains (pine, maple, ash, alder, elm, oak, beech, conifers, exotic woods, fruit trees)⁶
- metallic decors ⁷
- decor with stone motif ⁸



GECON Acoustic **finish**

Thanks to the excellent parameters of airborne soundproofing, their use is very wide. They can be used in all areas where acoustic properties are required. Whether you need to reduce noise levels in an attic, house, apartment, office, music studio or cinema. Using them will also ensure a pleasant living climate throughout the year.

GECON Protect **finish**

GECON *Protect* is a fireproof, non-flammable board with increased fire resistance, thanks to which it reaches the E30 • EI30 • EW30 class. By using protective boards from **GECON** *Protect*, you will increase the fire resistance of the entire structure. **GECON** *Protect* boards are an alternative to cement-chipboards with a comparable price.

GECON SIP surface treatment

Another alternative is the application of **GECON** *SIP* panel surfaces, with which you can further simplify and speed up the construction of residential, office, industrial and other building units.

GECON BUILDING SYSTEM

We bring a complete system of construction to the market of family and commercial buildings, which are characterized by:



The use of **GECON** panels increases the prescribed recycling quota in public buildings, which has a positive effect on the assessment of buildings for **Green Building** certification and especially **Blue Building** (Deutsche Geselschaft für Nachhaltiges Bauen).

GECON Building System consists of three main components:



GECON Wall and GECON Wall System insulation sandwich panels,



aditional interior GECON elements (doors, partitions, floors, ceilings),



light steel construction of the building.



GECON Wall insulation sandwich panels

You will find them in our offer in two versions: **GECON** *Wall* a **GECON** *Wall System*. **GECON** *Wall* is a sandwich-like suitable as thermal and sound insulation for dry constructions (production of wooden houses, garages, halls, warehouses, commercial buildings (in combination with steel construction)). Panel is offered in the following thickness:

110 mm, 130 mm a 160 mm.

Main advantages of their usage:

- simple and fast assembly system,
- excellent soundproof properties,
- excellent heat insulation properties,
- increased fire protection,
- ecological technology for panel production.



	GECON Wall 110	GECON Wall 130	GECON Wall Plus 160
Composition	10 mm board GECON (Acoustic • Protect)	10 mm board GECON (Acoustic • Protect)	10 mm board GECON (Acoustic • Protect)
	100 mm EPS F 70	120 mm EPS F 70	150 mm EPS F 70
Heat conductivity	R = 2,71 <i>m</i> ² <i>K</i> / <i>W</i>	R = 3,21 <i>m</i> ² <i>K</i> / <i>W</i>	R = 4,31 <i>m</i> ² <i>K</i> / <i>W</i>
Sound insulation		- 43 dB	
Dimensions	1,200 × 1,800) mm • 1,200 × 2,000 mm • 1,200	0 × 2,500 mm

GECON BUILDING SYSTEM

GECON Wall System

GECON *Wall System* is a sandwich-like, multilayer panel which is applied mainly with dry buildings with the system of wood construction or light steel construction (more on page 41). It is used as the construction filling with which together it creates an integral and compact system of walls. System is offered in the following thickness: **216 mm, 236 mm, 266 mm**.

Main advantages of their usage:

- simple and fast assembly system,
- excellent soundproof properties,
- excellent heat insulation properties,
- increased fire protection,
- ecological technology for panel production.



	GECON Wall 110	GECON Wall 130	GECON Wall Plus 160
	10 mm board GECON Protect	10 mm board GECON Protect	10 mm board GECON Protect
	mineral wool between steel profiles 89 mm	mineral wool between steel profiles 89 mm	mineral wool between steel profiles 89 mm
Composition	GECON WALL 110 mm	GECON WALL 130 mm	GECON WALL 160 mm
	adhesive with net reinforcement 4 mm	adhesive with net reinforcement 4 mm	adhesive with net reinforcement 4 mm
	colour coating 3 mm	colour coating 3 mm	colour coating 3 mm
Heat conductivity	R = 5,68 <i>m</i> ² <i>K</i> / <i>W</i>	R = 6,18 <i>m</i> ² <i>K</i> / <i>W</i>	R = 7,28 <i>m</i> ² <i>K</i> / <i>W</i>
Sound insulation		- 62 <i>dB</i>	
Dimensions	1,200 × 1,800	0 mm • 1,200 × 2,000 mm • 1,200	0 × 2,500 mm

ADDITIONAL ELEMENTS

GECON Acoustic Door

GECON *Acoustic Door 50 mm* are acoustic doors made of ecological materials. They combine together soundproof and safety due

to increased fire resistance. The door wing is **48 mm** thick and **2,100 mm** high for needs of shortening to **2,010 mm**.



GECON Acoustic Floor

Floor-board system **GECON** *Acoustic Floor* is a system of dry floor building with improved acoustic properties which can be applied everywhere where only minimum increase of height of building floor is possible. It consists of acoustic board **GECON** *Acoustic (10 mm)*, firmly glued between two glued boards which secures mechanical property improvement. Single boards bind by technique of tongue and groove. From the bottom part, to increase stepping comfort, there is used acoustic fabric insulation EKOSEN Stered ATP.



- stepping noise improvement *ΔLw* = **15 dB**
- basic weight approx. 15 kg/m²
- Ioad capability 250 kg/m²

GECON BUILDING SYSTEM

GECON Protect Floor

Floor board system **GECON** *Protect Floor 100 mm* is a system of dry floor building with expressively improved acoustic properties complemented with heavy gum acoustic and acoustic fabric insulation EKOSEN Stered Acoustic 3400 in thickness 75 mm. This design in a high degree improves mainly acoustic and heat insulation properties of the board and reaches the following parameters:

- soundproof Rw = 52 dB (concrete – steel board 150 mm),
- stepping soundproof improvement Lw = 34 dB,
- basic weight approx. 22 kg/m².



LIGHT STEEL CONSTRUCTION

Company **Unic Rotarex** is engaged in developing technologies for residential and industrial building which is very specific for each European country. Building elements **ROTAREX** are recommended to be used with **GECON** *Wall* and **GECON** *Wall System* which is an added value of this building solution.

Unic Rotarex produces its own construction steel profiles cold rolled from galvanic modified iron plate by Voestalpine Austria which represents the best in Europe in the field. Building procedures which are imperative when bearing steel construction **ROTAREX** is used are standardized and well known for each established building firm.

Main fields of usage

House steel construction

Using steel bearing construction **ROTAREX** combined with the system **GECON** represents the ideal solution for heat insulation improvement properties, sound insulation, fire protection and seismic resistance.



GECON BUILDING SYSTEM

Multi-storeyed buildings

ROTAREX can be applied with high building up to 5 floors. Significant cost reduction and acceleration of building can be achieved when optimal architectural design is developed and used.



Industrial buildings

ROTAREX system significantly reduces demands for building procedures and accelerates building operations. Material consumption on average represents approx. **25 kg/m**². In case of demand for more information, please contact us.

Conditions for storage and assembly

GECON materials can be applied both indoors and outdoors, but must not be exposed to the direct influence of weather conditions (rain, snow...). It is necessary to protect them in the outdoor areas with a surface treatment (plaster, tiling...). The boards must be stored indoors with a constant temperature (minimum temperate storage) and optimally with an air humidity in the range of 40-60%. The boards must be stored horizontally.

Acclimatization

Before the actual application, it is recommended to acclimatize the GECON boards at the place of laying or assembly for at least 24 hours. This will prevent unwanted expansion changes.

Sunlight

It is recommended that GECON boards shall not be exposed to direct sunlight during storage and application. **Background**

Backgrouna

The substrate for the application of GECON boards must always be load-bearing, dry and solid and, as far as possible, free from unevenness and dirt.

Substrate moisture control

Before storing GECON boards, it is recommended to measure the moisture content of the substrate by the carbide (CM) method. Substrate moisture should not exceed the following values:

BACKGROUND	MAXIMUM HUMIDITY
cement screed	2,0 %
cement screed with underfloor heating	1,8 %
anhydride	0,5 %
anhydride with underfloor heating	0,3 %

Wooden bases

Before placing GECON boards on wooden floors, their construction condition must be checked (e.g. screwed loose boards...). The substrate must be solid and must not spring. Pay attention to the flatness.

Outdoor application

GECON boards are resistant to moisture but must not be exposed to the direct influence of weather conditions (rain, snow...). It is necessary to protect them in the outdoor areas with a surface treatment (plaster, tiling...)

Documentation

Storage conditions and application conditions of GECON's own laying of materials at the place must be properly tested and documented before the start of their application in the event that any customer rights under the warranty are exercised. In the event of non-compliance with these general instructions or missing documentation within the meaning of this provision, it is not possible to assess the legitimacy of the complaint and GreenCon, Ltd cannot assume any warranties.

Expansion gaps

Expansion gaps are recommended to be 3 mm between the individual GECON boards

Floating or gluing

Depending on the required floor covering, GECON boards can be laid either by floating or by full-surface gluing to the substrate. For floating floors with a click system, GECON boards are to be laid in a floating way. For glued coverings, it is recommended to glue GECON boards to the substrate over the entire surface, or to lay them in two layers and glue them to each other.

Laying in two layers

When laying GECON boards in two layers, we place the boards in a cross pattern.

Board trimming (formatting)

Shorten the boards on a horizontal, stable surface. You can format with any tool suitable for wood (straight saw, circular saw, etc. with a sharpened blade or cutting edge). Wear protective equipment.

Rooms with high humidity

In rooms with high air humidity above 60%, it is recommended to paint GECON boards with penetration paint. In bathrooms, it is recommended to create a layer of waterproofing film and seal the system perfectly.

Insulation layers under GECON boards

If GECON boards are placed on an insulating layer, e.g. soft wood-fibre boards, it is recommended to pay attention to the compressive strength of the insulation material, when at least the following values should be observed:

THICKNESS OF INSULATION LAYER	COMPRESSIVE STRENGTH
≤ 20 mm	100 kPa
> 20 mm do 60 mm	200 kPa

Relation to the General Terms and Conditions

At the moment of publicizing the general business regulations and practices for working with GECON materials on internet web-page www.greencon.sk these become the conditions for manipulation with goods in terms of The General Business Trading conditions for goods supplies of *GreenCon Ltd.*

NOTES

NOTES

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