

## Innovation

The research is focused on new processes and polyurethane products, inspired by the trends dictated by modern technology and society, such as renewable energy, nanotechnology, smart materials and materials with new features. In addition, research and development were found to be centrally organized the best guarantee to meet specific needs in terms of cost and flexibility. We are aware that our shock pads and underlays offer numerous application possibilities. Innovation for us is not a mere abstract concept: the action and, ultimately, the development is a priority for us.

## Insulating Plastic

The performance efficiency of the thermal insulation composed of plastics is such as to make their use highly advantageous not only in terms of energy savings and reductions in greenhouse gas emissions, but also in terms of reducing the environmental impact by restricting the use and of resources.

Under the aspect of environmental impact reduction and limitation of resources, an additional contribution is the use of materials from recovery operations.

A testimony comes from the production of insulating thermo-acoustic agglomeration of flexible PU foam recovery. To the high thermal insulation characteristics are flanked by those of acoustic insulation.

Agglomerations in PU flexible foam also offer ease of installation.

The 'activity is based on the development of technologies for the recovery and enhancement of scraps of industrial processing of flexible polyurethane foams, satisfying different needs and applications.

## Acoustic and thermal insulation Typical values indicative of agglomerated materials

- Index of level of noise insulation of floors normalized  $L'_{nw}$ :  
 $\Delta L_w$  23 dB improvement value due to the coating (ISO 140-6/717-2)  
(coating thickness 5mm, reinforced concrete slab 14 cm, screed splitter 7 cm and 107 kg/m<sup>2</sup>)
- Index of airborne sound insulation of partitions between rooms apparente  
 $R_w$ : 46 dB (ISO 140-3/717-1) (description stratigraphy: 15mm plaster, 80mm hollow brick, rough coat 10 mm, 40 mm chipboard, hollow empty 10 mm, 80mm hollow brick, plaster 15mm)
- Thermal conductivity  $\lambda$ :  
0.035 to 0.038 w / mk (UNI EN 12667:2002)



## High performance and environmental

A wide range of innovative products able to achieve excellent performance in the field of comfort while maintaining a high attention to the environment.

The product is based on the development of technologies for the recovery and enhancement of scraps of industrial processing of flexible polyurethane foams, satisfying different needs and applications.

## Quality, technique and versatility

The riagglomerati products possess special skills and physical properties that make them essential in various applications of different industries.

- the sound absorption, for panels and dashboards of automobiles and for the isolation of living spaces;
- elasticity, for gaskets;
- the ability to absorb energy, gymnastics mats and flooring for sports facilities and padding of sports shoes, hiking and ski boots;
- low thermal conductivity, thermal insulation panels to be applied in homes and communities.



## Applications

- Thanks to the excellent absorption capacity Thermo-acoustic and energy absorption Sprawl lies in its fields of application:
- The 'Construction: Thermo-acoustic insulation - trampling flooring and partitions;
- Sport: Indoor Outdoor flooring with under-absorption function of energy (shockpads);
- Automotive: acoustic insulation panels and dashboards;
- The Packaging: thanks to its flexibility and workability boxes and packaging can be created with excellent protective capabilities. The possibility of "lamination" of the material with other different characteristics allow the use of agglomeration for different and new applications in accordance with the philosophy of "recycling"





## Thermal and acoustic insulation: a single material for high performance

The agglomeration of flexible polyurethane foam has, since its inception, showed good characteristics as regards both the thermal insulation, such as finding use in the ski boot, both as regards the sound insulation, used for this purpose, in 'interior of automobiles or motor vehicles in general.

Thanks to its double value is of material for thermal insulation for sound insulation and by virtue of an extreme versatility of use, due to the availability of the material in different configurations (sheet or roll) and in various dimensions (height, width and thickness), the agglomeration of polyurethane foam is the ideal answer sheet for the building sector.

Application requirements such as:

- Impact sound insulation underlay or sottomassetto,
- Elastic element vibration between the flooring and the wall,
- Sound insulation wall,
- Thermal insulation,

They can find the right solution through the use of agglomeration.

## Technical Performance



As for insulating the reduction of energy demand in heating and cooling has, in dependence on the type, values of coefficient of thermal conductivity:  
of  $\lambda$  from 0.033 to 0.04 W / mK

In the reduction of the noise level in decking, using a thickness of 5 mm as a coating with a slab of reinforced concrete and screed splitter 14 cm by 7 cm and 107 kg/m<sup>3</sup>, the improvement  $\Delta L_{w\text{èdi}}$ : 23 dB

In the wall of partition between environments composed of a double layer of perforated brick by 8 cm, centrally 40 mm chipboard and plaster 1.5 cm on both external sides, you get a  $R_{w\text{èdi}}$ : 56 dB

## Building

### SPREAD THE SILENCE.

### NOISE FROM THE DEFENSE BETTER QUALITY OF LIFE.

Household noises, traffic noise, noise produced by general lifestyle. Today, noise pollution is one of the most important issues to deal with. In applications of reagglomeration of flexible foam, achieves excellent performance in the field of comfort, while maintaining a high concern for the environment with a wide range of specific products and innovative solutions for the acoustic isolation of the living environment.

Acoustic panels in composite polyurethane for floors, walls and partitions, can guarantee the best performance in every situation.

### MAXIMUM YIELD AND EASE OF INSTALLATION.

The riagglomerati are structured so as to ensure maximum ease of installation to simplify the work of the specialists, reducing the timing for the installation of the material.

Moreover, thanks to their molecular structure also offer an ideal thermal insulation, such as to enable a considerable energy saving on heating and cooling.



## Sport

Why the shock pads are essential?

First of all because together form a synthetic grass playing field ideal for many sports. Thanks to shockpad, the background of the field remains homogeneous and therefore more suitable to the game, facilitating technical and sporting activities. Moreover, the conditions remain optimal synthetic grass longer, thanks to the typical open cell structure. This perfectly permeable substrate makes the sports more suitable to the game, day after day, in all weather conditions, it is without a doubt the best background for the synthetic turf.

The substrate covered with synthetic grass allows athletes to get better performance with all weather conditions throughout the year. This applies to football as for golf, baseball, tennis and other outdoor and indoor sports. The shock pad is supplied in rolls. The installation is easy and fast: the applications have shown hundreds of parts in the world. In terms of experience, it is hard to beat.



## Our mission is to improve the performance

Equipping every sports surface with a durable substrate for shock absorption in order to improve the performance, comfort and safety of the players. This long-lasting and sustainable solution ensures easy installation and offers unlimited possibilities for all users.

The shock pads and underlays of high quality create optimal conditions for players of any sport, which, in turn, achieve optimal performance. A shock pad or underlay is therefore able to provide the best playing conditions and safety on any sports surface.

### Long life

All our shock pad underlays and equipment are composed of polyurethane. The specific nature of this polymer ensures durability static and dynamic extremely high which increases the life expectancy of any sports surface. Thanks to the shock pads and underlays, intensive use of the sports surface does not involve a loss of performance. On the contrary, we guarantee that our shock pads and underlays help to create a range of high quality durable products that meet all the highest standards, with a consequent reduction in costs over time.

### Ease of installation

All our shock pads and underlays are supplied in rolls (outdoor) or plates (indoor) tailored to the sports surface. The simple unrolling provides a quick and easy installation regardless of weather conditions. You do not need the use of heavy equipment or expensive, nor tape.

### Sustainable

*The products are manufactured in a 100% safe, non-toxic and provide a pose safely. The highest possible quality standards ensure the safety of the end users. The technology of production and products are environmentally friendly. And, at the end of its life, can be recycled with a high energy recovery.*

*Uno shock pad per ogni sport outdoor: calcio, rugby, hockey, golf - Una soluzione per ogni pavimentazione sportiva indoor: superficie in legno, superficie in resina poliuretanic, superficie in linoleum, superficie in gomma, superficie in PVC.*

## A shock pad for each sport INDOOR

Benefits for all

An underlay maximizes the performance level of an indoor sports flooring and ensures the maintenance of this high level for a long period, thus creating optimal conditions for all those who practice indoor sports. It is essential!

Regardless of the material of the indoor sports flooring (wood, linoleum, upholstered in polyurethane resin, rubber, PVC) always has a solution tailored to its customers. Ultimately, the investment in an underlay pays in the long term and it is crucial to create a high standard of indoor sports flooring.

### Key Benefits

It underlay can be used in combination with polyurethane resin surfaces, rubber, linoleum, wood or PVC Better performance and greater comfort and safety of the players. Greater expected duration of the indoor sports flooring.

A synthetic grass field with a shock pad offers the best technical-owned sports throughout the year:

1. Excellent shock absorption
2. Correct and predictable bounce of the ball
3. Less vibration of the floor
4. Good level of energy return
5. Acoustic insulation, reducing noise and echo.

- The rolls / sheets offer a quick and easy installation.

- The underlay is completely environmentally friendly because it is a non-toxic (based on scraps obtained from our production of flexible foam) and is easily recycled after use.

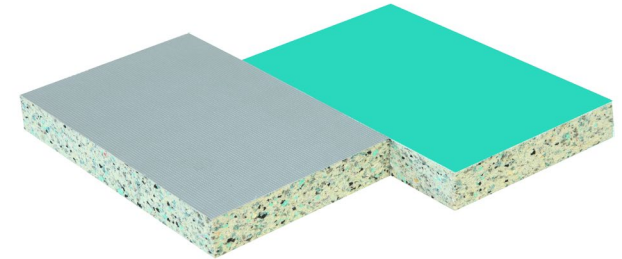
It also includes a wide range of products for the protection and shock absorption such as judo and gymnastics mats:

Tatami 230: for training, clubs and schools

Tatami 250: for international championships and competitions

### Composition

Inside: composite of polyurethane foam with high quality. Coating: PVC coated vinyl or PVC coated cotton. Available with and without non-slip



## Frequently Asked Questions

### **If I want to create a field with synthetic grass, which type of shock pads do I need?**

Our portfolio includes a wide range of shock pad with a variety of thicknesses, densities, etc.. In order to provide the best possible advice, our sales staff always puts the following three questions:

- For what sports will use the field?
- What level of technical and sporting properties (such as certification) you want to get?
- Which turf infill and you intend to use?

With a wide experience in the field of research and development of shock pad, we will always be able to provide a tailored solution for your field, the characteristics of which will be based on your responses to the three questions above.

### **The shocks are made from recycled material?**

The base material of a shock pad is what the market is commonly known as "expanded agglomerate". The raw material of this product is represented by "scraps" of industrial flexible polyurethane foams. These scraps of foam, which are produced during the processing of large blocks, are collected, sorted and sent to the production of the agglomeration foam. Using this material, we are certain that the industrial scraps are recycled in an environmentally friendly manner and that the CO2 emissions of our products are extremely small.

### **A shock pad absorbs water. This causes a hardening of the field during the winter?**

True, the material absorbs water. And it is known that the water hardens when it freezes at sub-zero temperatures on a real field with a shock pad tests have been performed on several fields, each of which had different types of shock pad, in order to examine the properties of technical-sports season winter. The main conclusion emerged is that the playing field hardens, regardless of the shock pad used. The hardening of the fields in winter is primarily associated with hardening of wet sand that freezes as well as having a significant reduction in rubber infill as a result of "clearing snow from" farm.

### **A shock pad absorbs water. Remains moist?**

The polyurethane material with which they are made glii shock pad acts as a barrier. This feature has several advantages. Since our shock pad does not immediately release the water, we have a better use of irrigation water.

### **A shock pad is not punctured. It is permeable to water?**

The shock pad is made from polyurethane foam with open-cell structure that provides a high vertical permeability to water.

### **During the laying recommended to leave a small space between a roll and the other. Why?**

At the time of delivery to site, a shock pad is dry. The first time that the shock pad absorbs water it expands slightly. In order to avoid any tension between a roll and the other, should leave a small space during the laying of the product.

### **The rolls of shock pad must be fixed to each other with tape?**

No. We recommend that you only use tape for laying on a field hockey to water, which is used as a shock pad snow.

### **When can be done installation of a shock pad?**

The pose of a shock pad can be performed in any climate. In the presence of wind or rain, our shock pads are always ready for installation.

### **The pose of a shock pad involves a big investment. How can I get a quick return on that investment?**

The investment in a shock pad is a long-term investment in your field and in your team. A synthetic grass field with a shock pad the less compact and requires less material to infill and maintenance activities with respect to a field that has none. In addition, a field with a shock pad keeps longer optimal technical and sporting properties.

A shock pad thus improving the playing conditions and safety of a synthetic grass field, keeping them at the highest level for a long period of time. In conclusion, the extra investment in a shock pad pays in the long term and it is crucial to create a synthetic grass field of a high standard to comply with the stricter standards.

## Packaging

Due to the high pre-consumer recycled content of our products have special attention to the environment.

In reference to what is stated in the UNI EN ISO 14021: 2002 products are made of recycled material in the percentages indicated below:  
For densities up to 140 kg/m<sup>3</sup>

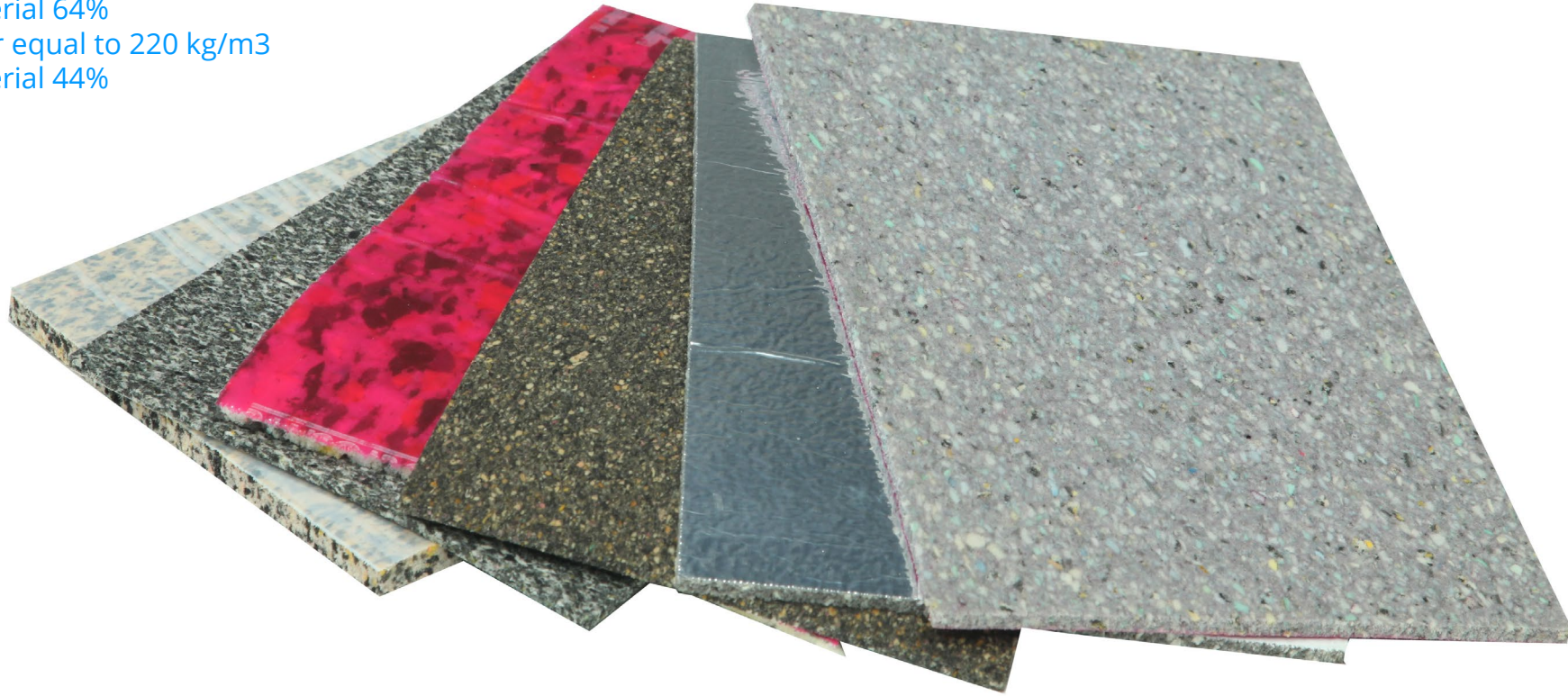
Percentage of recycled material 89%

For density greater than or equal to 150 kg/m<sup>3</sup> to 200 kg/m<sup>3</sup>

Percentage of recycled material 64%

For densities greater than or equal to 220 kg/m<sup>3</sup>

Percentage of recycled material 44%



## Agriculture

The mattresses for berths for cows, used mainly in loose housing, provide strength and softness at the same time, improving the conditions of rest and productivity of animals.

Our products are an ideal solution for the agricultural field.

Consisting of agglomerated polyurethane foam, mattresses for cows are available in different densities and thicknesses to meet the diverse demands of the market.

Among the many benefits that can be counted are:

- **Improving the cleanliness and hygiene of the animal;**
- **Improving the productivity of the animals;**
- **Ease of management;**
- **Greater comfort;**
- **Use of eco friendly products.**

