Acoustic Insulation Product Brochure

Production and Sales of Floating Floor Sound Insulation and Vibration Reduction Materials

UDC

National Standard of the People's Republic of China

P GB/T 50378-2019

Green Building Assessment Standard (GBAS)

Posted on 2019-03-13 **Effective: 01-08-2019**

Ministry of Housing and Urban-Rural Development, PRC
Co-publish
General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

Indoor Air Quality

1. According to the Technical Standard for Residential Performance Evaluation (GB/T50362-2005), residential buildings achieving Grade 3A comprehensive performance must meet specific acoustic insulation requirements: the weighted standard impact sound pressure of floor slabs should be 65dB, while the weighted airborne sound insulation of walls must satisfy 50dB for both individual units and shared spaces.

2. Article 5.3.1 of the Residential Design Code (GB50096-1999) (2003 Edition) specifies that the weighted standard impact sound level of floor slabs shall be 75dB(A).

3. Article 3.2.2 of the "Code for Sound Insulation Design of Civil Buildings" (GBJ 118-1988) specifies that the weighted standard impact sound pressure level for inter-floor slabs in individual units shall not exceed 65dB(A).

Level 2and Level 3 75dB(A).

4. Technical Code for Healthy Residential Construction (CECS179): The recommended weighted standard impact sound pressure level in 2006 is 65dB(A).

5. "Green Building Evaluation Standard of Guangdong Province" (DBJT 15-83-2011): Clause 4.5.3 of the control items states that effective sound insulation and noise reduction measures shall be taken for the building envelope.

UDC

National Standard of the People's Republic of Cl

P GB50118-2010

Code for sound insulation design of civil buildings

Code for design of soundinsulation of civil buildings

Posted on August 18,2010 Effective: 01-06-2011

Ministry of Housing and Urban-Rural Development, PRC
Co-publish
General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

Sound Insulation for Separate Floor Impacts

Component Nam	Impact sound insulation single value evaluation (dB)
Separate floor slabs for bedr-ooms and living rooms	The normalized weighted impact sound pressure level Ln,w (labo-ratory measurements) below 75
	The weighted standardized impact sound pressure level nT,w (field measurement) 75

Air and sound insulation standards for household components

Component nan	Airborne sound insulation single-value evaluation quantity +spectral correction quantity (dB)
Separation wall and floor	Weighted Sound Insulation +Pink Noise Spectrum Correction RW+C> 45
Separate homes and Non-residential Space floor	Weighted sound insulation value plus traffic noise spectrum correction RW+C exceeds 51

According to relevant data and field measurements, a conventional 120mm reinforced concrete slab with a 40mm fine aggregate concrete surface layer typically achieves 50dB(A) air-borne sound insulation. However, its impact sound pressure level reaches approximately 80dB(A), failing to meet both the public's demand for improved floorboard soundproofing and the regulatory requirements for sound insulation in green building floors.

Therefore, it is necessary to carry out sound insulation treatment on the conventional residential floor structure. Among them, the floating floor sound insulation system, which has both air sound insulation and impact sound insulation, is abetter solution.

Reinforced concrete **has good air** sound insulation performance and **poor impact** sound insulation performance The air sound insulation of 120mm thick reinforced concrete floor is about 48 ~50dB, and the impact sound pressure level is about 80~ 83dB.

Floor Impact Sound Pressure Level and Residents' Subjective Feelings

Weighted standar-dized impact sound pressure level	Hearing and Sensing (Indoor background noise 30-35dB (A))	Home satisfaction		
		Satisfied		Discontent
>85dB(A)	Sounds like footsteps, sweeping the floor, or asewing machine can trigger strong reactions, but dragging tables and chairs or having a child run around is unbearable.	/	1	90%
75~85dB(A)	Footsteps can be heard, but the impactis minimal; dragging tables and chairs is strongly felt by children running and jumping, while knocking is unbearable	1	50%	50%
65~75dB(A)	Footsteps are not felt during the day but can be heard at night, but they are weak and generally do not interfere with sleep	10%	80%	10%
65dB(A)	Except for the knocking, no other sounds are audible; the sound of afalling chair or achild running and jumping can be heard, but the sound is weak	65%	35%	0

The sound of children running and jumping upstairs The sound of walking and living activities

The harsh sound of moving chairs and tables The crash of heavy objects hitting the ground

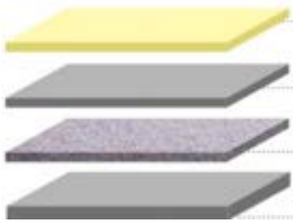
These sounds may not be noticed during the day, but at night, when people are asleep, they become unbearable noise and even cause neighborhood conflicts.

Product Presentation

BL700 Polyurethane rubber sound insulation mat

The BL700 Polyurethane Rubber Soundproofing and Shock Absorbing Pad is crafted from ablend of rubber and PU foam, delivering exceptional sound absorption and noise reduction capabilities. As the core componentof floating floor systems, Baolai Acoustics' polyurethane rubber soundproofing pads utilize patented manufacturing technology to produce specialized rubber soundproofing membranes. This innovative process endows the pads with unique closed-cell structures and critical acoustic properties, providing maximum impact sound insulation for floating floor systems. The BL700 pad features superior material elasticity and low natural frequency for effective vibration damping, along with awide hardness range and excellent impact resistance. It offers broad load-bearing capacity with customizable production options, high tensile strength and tear resistance for durability, and stable mechanical performance with uniform stress distribution. Additionally, it demonstrates outstanding corrosion resistance, oil resistance, organic solvent resistance, radiation resistance, and extended service life.

Install simple diagram (for reference only)



performance parameter

Model: BL700 **Density** 600kg/m³
Length 10m/12.5m/20m **Thickness** 3-15 mm
Width: 1m **Temperature resistance** -25 ~80
Fire rating: B2 **Hardness:** 35 ~40 A
Tensile strength about ×0.5~ 0.8N/mm²
Voice improvement 15 dB-30dB
Material composition: rubber, polyurethane, foamed elastic cotton
Applicable places esidential, hotel, resettlement housing, etc

Construction Workflow

1.To clean the base surface, ensure it is flat, free of sharp objects or protrusions. If the floor is severely uneven, level it with cement mortar before installing the soundproof mat.

2. Install soundproofing pads. The joints should be connected either by overlapping or butt jointing. Overlapping joints must be at least 50mm wide, while butt joints require special adhesive to seal the seams. Seal the joints with tape to prevent cement from entering and forming sound bridges.

3.Along the perimeter walls, fold the edges of the soundproofing mat upward, leaving aheight 2-3 times the thickness of the floating layer, and secure it to the wall with adhesive dots. The folded edges must be sealed tightly with tape to prevent rigid connections.

4.According to different ground requirements, the floor tiles, floors and other decorative layers are laid.

BL700 fireproof polyurethane rubber sound insulation mat

The BL700 fire-resistant polyurethane rubber soundproofing and vibration damping pad is manufactured by blending rubber with foam cotton and PU materials, then reinforced with fire-resistant components. It delivers exceptional sound absorption and noise reduction capabilities. As the core material in floating floor systems, Bao Lai Acoustics' polyurethane rubber soundproofing pads utilize patented production technology to create rubber soundproofing membranes. This innovative process endows the pads with unique closed-cell structures and critical acoustic properties, maximizing impact sound insulation for floating floor systems. The BL700 soundproofing and vibration damping pad features: excellent material elasticity with low natural frequency for significant vibration damping; wide hardness range for superior impact resistance; broad load-bearing capacity with customizable production options; high tensile strength and tear resistance for durability; stable mechanical performance with uniform stress distribution; and long service life thanks to corrosion resistance, oil resistance, organic solvent resistance, and radiation resistance.

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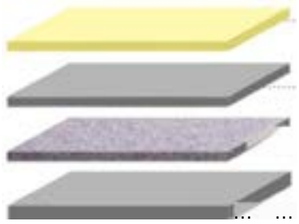

performance parameter

Model: BL700 fireproof type **Density:** 700 kg/m³
Length 10m/12.5m/20m **Thickness** 3-15 mm
Width: 1m **Temperature resistance** -25 ~80
Fire rating: B1 **Hardness** 35~45 A
Tensile strength about ×0.5~0.8N/mm²
Voice improvement 15 dB-30dB
Material composition: rubber, polyurethane, foamed elastic cotton, fireproof material
Applicable places esidential, hotel, resettlement housing, etc

Construction Workflow

1.To clean the base surface, ensure it is flat, free of sharp objects or protrusions. If the floor is severely uneven, level it with cement morta rbefore installing the soundproof mat.

2. Install soundproofing pads. The joints should be connected either by overlapping or butt jointing. The overlap width must be at least 50mm while butt joints require special adhesive to ensure asecure seal. Apply adhesive tape to fully cover and seal the joints to prevent cement penetration and sound transmission.

3.Along the perimeter walls, fold the edges of the soundproofing mat upward, leaving aheight 2-3 times the thickness of the floating layer, and secure it to the wall with adhesive dots. The folded edges must be sealed tightly with tape to prevent rigid connections.

4.According to different ground requirements, the floor tiles, floors and other decorative layers are laid.

Product Presentation

Solve the problem of sound insulation of building floor slab www.gzblsx.com

BL810 Polyurethane rubber sound insulation mat

The BL810 Polyurethane Rubber Soundproofing and Shock Absorbing Pad, crafted from pure rubber and polyurethane, delivers exceptional sound absorption and noise reduction capabilities. As the core component of floating floor systems, this pad is manufactured using patented technology by Bao Lai Acoustics. The patented process endows the polyurethane rubber soundproofing material with a closed-cell structure and critical acoustic properties, providing maximum impact sound insulation for floating floor systems. The BL810 pad features excellent material elasticity and low natural frequency for remarkable vibration damping. It offers wide hardness ranges and superior impact resistance, with customizable load-bearing capacity to meet specific application requirements. The material boasts high tensile strength and tear resistance, ensuring long-term durability. Its mechanical properties ensure uniform stress distribution and stable performance, while demonstrating outstanding corrosion resistance, oil resistance, organic solvent resistance, radiation resistance, and extended service life.

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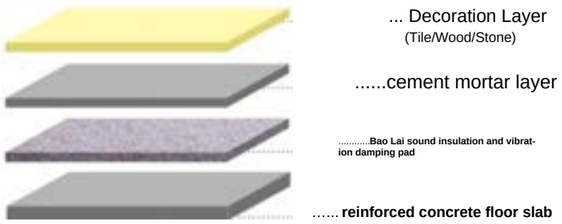

performance parameter

Model: BL810 **Density** 750kg/m³ **Length** 10m/12.5m/20m **Thickness** 3-15 mm **Width:** 1 m
Heat resistance: -25 ~ 80 **Fire resistance rating** B2
Hardness: 40 ~ 50 A **Tensile strength** about × 0.5~ 0.8N/mm²
Voice improvement: 15 dB-35dB
Material composition pure rubber, polyurethane
Applicable places esidential, hotel, resettlement housing, etc

Construction Workflow

1.To clean the base surface, ensure it is flat, free of sharp objects or protrusions. If the floor is severely uneven, level it with cement mortar before installing the soundproof mat.

2. Install soundproofing pads. The joints should be connected either by overlapping or butt jointing. Overlapping joints must be at least 50mm wide, while butt joints require special adhesive to seal the seams. Seal the joints with tape to prevent cement from entering and forming sound bridges.

3.Along the perimeter walls, fold the edges of the soundproofing mat upward, leaving a height 2-3 times the thickness of the floating layer, and secure it to the wall with adhesive dots. The folded edges must be sealed tightly with tape to prevent rigid connections.

4.According to different ground requirements, the floor tiles, floors and other decorative layers are laid.

BL725 single-sided concave foam rubber sound insulation pad

The BL725 single-sided concave foam rubber soundproof pad is manufactured using high-temperature and high-pressure molding techniques with foam rubber and polyurethane adhesive. Its wave-shaped surface design creates micro-cavity structures that significantly enhance material resilience and damping properties, delivering exceptional sound wave and vibration transmission loss characteristics. This innovative solution maximizes impact sound insulation for floating slab systems. Featuring a low natural frequency, the pad exhibits remarkable vibration damping capabilities. With a wide hardness range and excellent impact resistance, it supports customized production to meet specific application requirements. The material demonstrates high tensile strength and tear resistance, ensuring long-term durability. Its superior mechanical properties enable uniform stress distribution under load, while exceptional corrosion resistance, oil resistance, organic solvent resistance, radiation resistance, and extended service life further enhance its performance.

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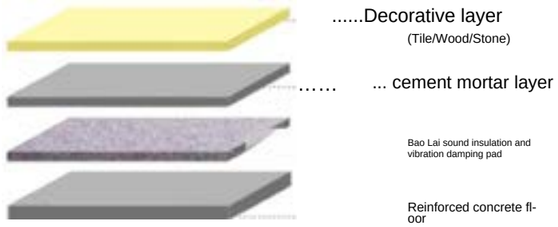


performance parameter

Model BL725 **Density:** 650 kg/m³
Length 10m/12.5m/20m **Thickness** 5-15 mm
Width: 1m **Temperature resistance:** -25 ~80
Fire rating: B2 **Hardness** 35~45 A
Tensile strength: about ×0.5~0.8N/mm²
Voice improvement: 15 dB-45dB
Material composition: rubber, polyurethane, foamed elastic cotton
Applicable places: esidential, hotel, resettlement housing, etc

Construction Process

1.To clean the base surface, ensure it is flat, free of sharp objects or protrusions. If the floor is severely uneven, level it with cement mortar before installing the soundproof mat.

2. Lay the sound insulation mat. The joints can be connected by overlapping or flat connection. The overlapping width should not be less than 50mm, and the flat connection must be glued with special glue.

Seal the joint with tape to prevent cement from entering the joint and causing a sound bridge.

3.Along the perimeter walls, fold the edges of the soundproofing mat upward, leaving a height 2-3 times the thickness of the floating layer, and secure it to the wall with adhesive dots. The folded edges must be sealed tightly with tape to prevent rigid connections.

4.According to different ground requirements, the floor tiles, floors and other decorative layers are laid.

BL710 Polyester fiber thermal insulation and sound insulation composite roll

The BL710 polyester fiber therm al insulation and soundproof com posite roll is ahigh-perform ance therm al insulation mat. This innovative material com bines nano-aerogel with inorganic com ponents and soundproof pads, designed for floor insulation and soundproofing in residential buildings, office com plexes, hotels, hospitals, and sim ilar structures. It also supports underfloor heating system s. The product significantly contributes to China's eco-friendly, low-carbon, and energy-efficient construction initiatives.

Thermal insulation: BL710 polyester fiber insulation and sound insulation com posite mem brane has aunique independent closed cell structure, which makes it have alow therm al conductivity (less than 0. 037W/m.k), because

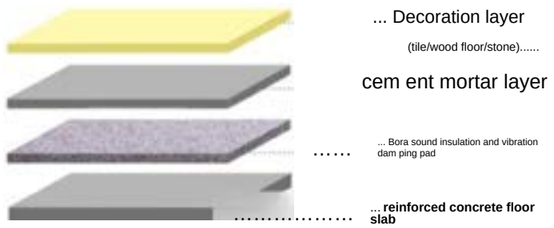
This can effectively block the heat loss through the ground, which is conducive to the stable indoor tem perature, therm al insulation and sound insulation mat, and play arole in low carbon, environm ental protection and energy saving.

Noise Reduction and Sound Insulation: Traditional floor slab sound insulation methods typically achieve aweighted standardized im pact sound level of around 80dB, which fails to meet design requirem ents. However, after im plem enting the BL710 polyester fiber insulation com posite mem brane, the sound insulation perform ance im proves to approxim ately 61dB (as specified in China's GBJ118-88 <Code for Sound Insulation Design of Civil Buildings> with a first-class standard of 65dB). This enhancem ent not only fully satisfies design specifications but also significantly enhances the privacy of residential spaces.

Moisture-proof and antibacterial: The water absorption rate of the silica layer is less than 0.05%, which is alm ost no water absorption. Water can not penetrate into the pores of the product. After irradiation with high-energy electron beam and X-ray, the surface antibacterial treatm ent has reached the requirem ents of food grade, so the polyurethane sound insulation and shock absorption pad has no wet environm ent for bacterial growth.

Fire performance: the solid therm al conductivity of silica is low, the ignition point is up to 1000 degrees, can not be easily ignited, fire perform ance is guaranteed.

Install asimple diagram (for reference only) **performance parameter**

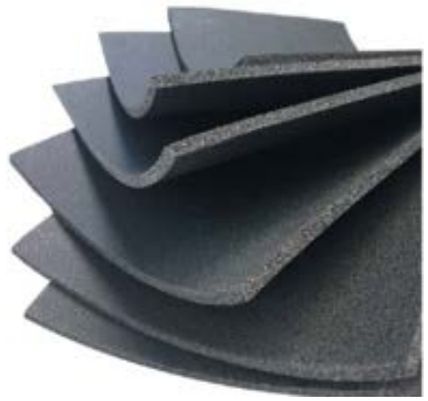


Model: BL710 Density: 650kg/m ³
Length: 10m /12.5m /20m /Volum eThickness: 3-12 mm
Width: 1m Tem perature resistance: -25~80
Fire resistance rating: B1 Hardness: 40 ~50 A
Tensile strength: approxim ately 0.5 to 0.8 N/m m²
Voice im provem ent: 15 dB-35dB
Material com position: rubber, polyurethane, silica
Applicable places: residential, hotel, resettlem ent housing, etc

BL600 electronic cross-linked polyethylene sound insulation mat

The polyethylene soundproof vibration dam ping pad (also known as XPE foam soundproof pad, floor partition soundproof pad, floor noise reduction pad, or floor soundproofing pad) is manufactured using high-density foam materials with athickness of 5-20m m through nanotechnology. The elastic properties of the nano-foam create afloating structure throughout the floor, effectively blocking solid-borne sound transm ission, im proving the bonding effect of the upper floor surface, and enhancing sound im pedance.

The micro-pores in nanofoam create cavity resonance in the hum an ear's sensitive frequency range, reducing sound energy and effectively blocking im pact noise. By altering sound frequencies through this resonance effect, the foam minim izes sound reflections, thereby isolating airborne noise.



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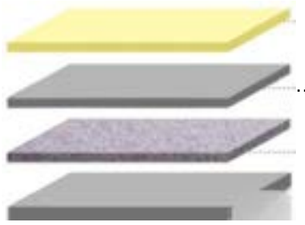


Model BL600 **Density:** 30 kg/m ³
Length 100-400 m/ roll **Thickness** 5-40 mm
Width: 1.5m **Temperature resistance:** 25 ~80
Fire rating B2 **H ardness** 5~10 A
Tensile strength: about ×0.2~0.5N/m m²
Voice improvement: 15 dB-30dB
Material composition: polyvinyl chloride
Applicable places: residential, hotel, resettlem ent housing, etc

Construction Workflow

1.To clean the base surface, ensure it is flat, free of sharp objects and protrusions. If the floor is severely uneven, level it with cem ent mortar before installing the sound insulation pa

2. Install soundproofing pads. The joints should be connected either by overlapping or butt jointing. The overlap width must be at least 50m m, while butt joints require special adhesive to ensure asecure seal. Apply adhesive tape to fully cover and seal the joints to prevent cem ent penetration and sound transm issio

3.Along the perim eter walls, fold the edges of the soundproofing mat upward, leaving aheight 2-3 tim es the thickness of the floating layer, and secure it to the wall with adhesive dots. The folded edges must be sealed tightly with tape to prevent rigid connections.

4.According to different ground requirem ents, the floor tiles, floors and other decorative layers are laid.

Product Presentation

Solve the problem of sound insulation of building floor www.gzblsx.com

BLM10 floating platform sound insulation and vibration damping pad

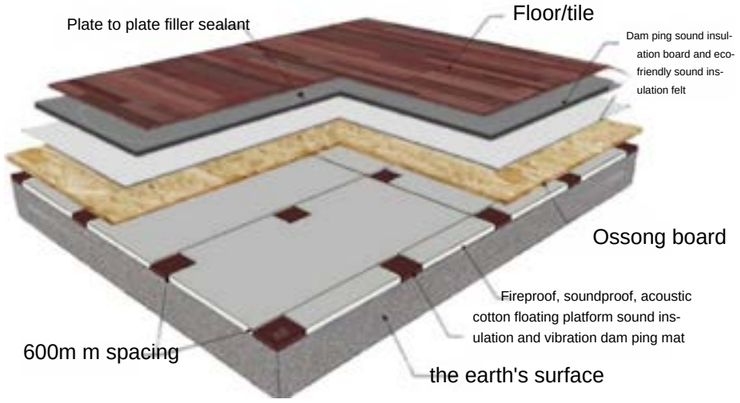
Soundproof vibration dam ping blocks are com posed of polym er rubber granules and cork. The principle of these blocks works as follows: When avibration source (such as low-frequency audio equipm ent or other causes) directly vibrates or im pacts afloor, it generates forced vibrations that transm it through the air beneath the floor, causing sound energy to spread to room son upper and lower floors as well as surrounding corridors. Additionally, vibrations propagate laterally along rigid, continuously connected system slike walls, floor slabs, beam s, colum ns, and foundations, leading to solid-borne sound transm ission. To reduce sound pressure levels from audio equipm ent (e.g., karaoke bars, taxi-m ounted loudspeakers) and im pact noises, measures should not only control vibration sources but also isolate ultra-low frequency vibrations and im pact sounds along vibration transm ission paths. Soundproof vibration dam ping blocks can effectively block low-frequency vibrations and im pact sounds through surface layers, cushion layers, and suspended ceilings.

Specifications: 50m m*50m m*50m m **Fire rating** B2 **Environmental rating** E2 **Main material: soft** wood

Single load weight: 150kg-300kg **sound improvement:** 30dB

Application scope: High-rise building mechanical and electrical equipm ent floor, perform ance hall, bar, KTV room, club floor sound insulation and vibration reduction.

job practice



BLM15 floating platform sound insulation and vibration damping pad

The JD3 floating construction vibration-isolation and soundproofing panel is acutting-edge building rubber product developed based on rubber's dynam ic characteristics, offering superior vibration dam ping and sound insulation. Available in three thickness options—JD3-20 (20m m), JD3-30 (30m m), and JD3-50 (50m m)—with a30m m edge seal thickness.

The floating vibration isolation and sound insulation plate has anovel structure. It has aflat plate with convex grid lines as the anti-slip surface on the top, and asquare arranged with equal intervals of truncated conical bodies on the bottom. In addition, there are hollow holes in the middle of each truncated conical body, which increases t air cushion elasticity in the working state, makes the structure more reasonable in force and im proves the perform ance.

The basic shape of this series of floating vibration isolation and sound insulation panels is astandard 500m m*500m m square flat plate, with convex and concave wedge grooves on the four edges.

The floating vibration-isolating and soundproofing panels are manufactured from vulcanized natural rubber, which fuses into asingle unit through heat during the vulcanization process, ensuring high strength and long-lasting durability. In term sof technical perform ance and service life, these panels have dem onstrated excellent results in multiple testing and measurem ents. Moreover, their installation quality surpasses that of sim ilar international products.

JD -20

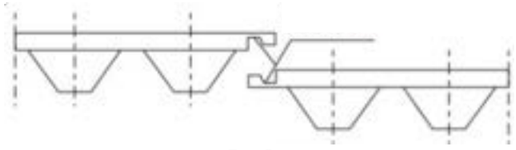
JD -30

JD -50

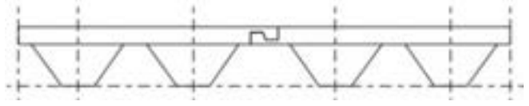
JD elevation drawing

Jd3 Floating Vibration and Sound Insulation Panel delivers exceptional vibration and noise isolation perform ance. Featuring arational structural design and user-friendly installation, this product has earned widespread trust and acclaim across industries. It is widely applied in high-vibration-isolation scenarios including: soundproofing for broadcasting, film, recording, and public address system s; floor isolation in office buildings, residential com plexes, hospitals, and school laboratories; acoustic treatm ent for entertainm ent venues like dance halls, concert halls, and martial art training centers; and vibration control in equipm ent room s. The standout feature of this floating panel is its effortless installation, allowing flexible cross-shaped wedge joint assem bly. For specialized applications, pre-applied adhesive layers on wedge-shaped grooves enable seam less integratio into any-sized floating panels, ensuring leak-proof perform ance throughout the construction process.

Seismic isolation and sound insulation panel installation method

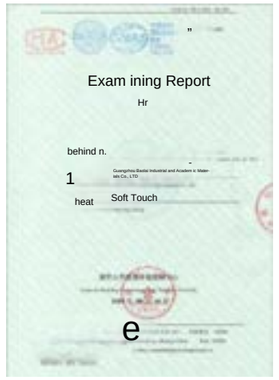


First Steps



the second step

Product Test Report



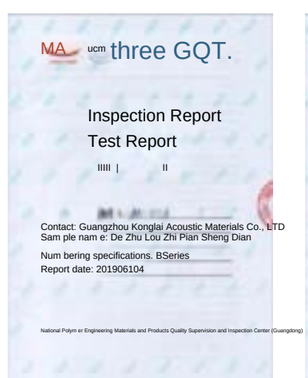
Sound Insulation Pe-rformance Test

Thermal Conductivity Test

Fire Rating Test

Acetaldehyde Detection

H eavy Metal Content Test



Stretch performance test

Tear resistance test

Benzen content test

Chengdu Cloud Office Building

Sanya Haitang Bay Four Seasons Hotel

Shandong Jianzhu University

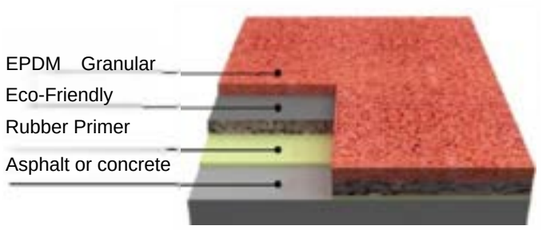
G uangxi University

In addition to sound insulation materials, we also sell sports flooring materials and undertake sports flooring projects.

Artificial Turf on aSoccer Field

Product Introduction

EPDM eco-friendly granular flooring features multi-color rubber compounds with high density, ensuring exceptional stability and durability. EPDM colored plastic flooring is created through on-site application of EPDM granules, adhesive, and other materials. The protective mats absorb impact forces, safeguarding us er safety. This flooring offers excellent flatness, high compressive strength, balanced hardness and elasticity, and stable physical properties. With diverse patterns available for customization, it promotes physical and mental well-being particularly for children while effectively reducing fall injury rates. Globally recognized for its safety and versatility, this innovative flooring solution has gained international acclaim.



The universally recognized best all-weather outdoor sports field material.

Applied Range

1. Sports venues: kindergartens, nurseries, school playgrounds and activity areas, athletic fields, running tracks, martial arts training halls, and practice grounds.

2. Leisure and entertainment venues: children's playground, gym, fitness center, training room, dance room, bath center, and poolside area.

3. Public places and municipal facilities: sidewalks, overpasses, underpasses, parks, docks, airports, and naval vessels Plates, shopping malls and other places that need to be anti-slip.

Rich colors to mix and match

All-weather: It can be used in extreme climates such as high and low temperatures without being affected by climate.

Evergreen: give you aspring feeling all year round.

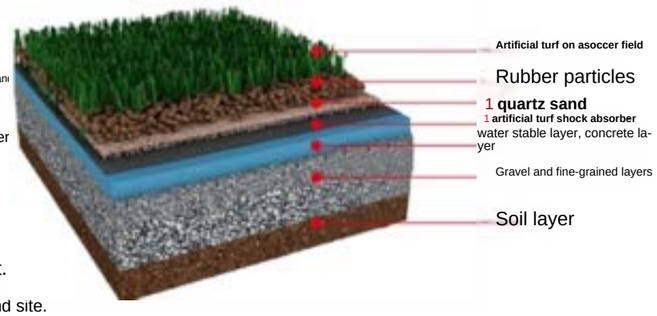
Environmental protection:: in line with environmental protection requirements, can be recycled an

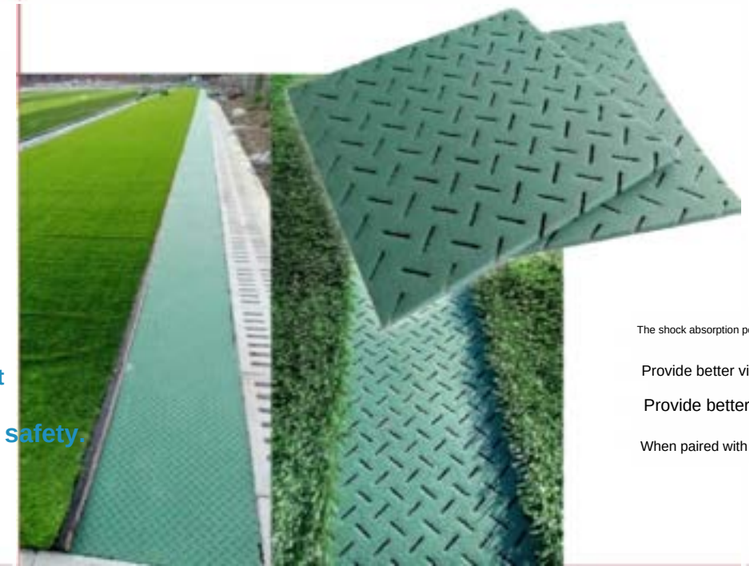
Authenticity: Made using biomimetic principles, the natural grass is virtually identical, with excellent elasticity and acomfortable feel under ot.

Life: Durable and fade resistant. Generally, it can guarantee aservice life of more than six years.

Maintenance: There is basically no maintenance cost.

Easy construction: can be laid on asphalt, cement, hard sand site.





Artificial Turf Shock Absorber

Shock absorption, vibration, drainage and shock absorp-tion

Moisture-proof, waterproof and elastic

Environmentally friendly and non-toxic, easy to ins-tall

The shock absorption performance is stable and lasting, providing more lasting shock absorption for the entire artificial turf system.

Provide better vibration absorption performance for the lawn, reduce sports injuries and falls.

Provide better sports performance, closer to the performance of natural grass court.

When paired with premium artificial turf, the field can meet FIFA's international stadium standards.

Provide Perfect Suction Performance to Reduce the Injury Caused by Falling from aHeight

Long lasting, easy to clean, suitable for indoor and outdoor flooring, is the best choice for child safety.