www.sunshinegym.co.uk

Sunshine Gym
Outdoor Fitness Equipment
at broxap

Buyer's Guide

Safety Surfacing

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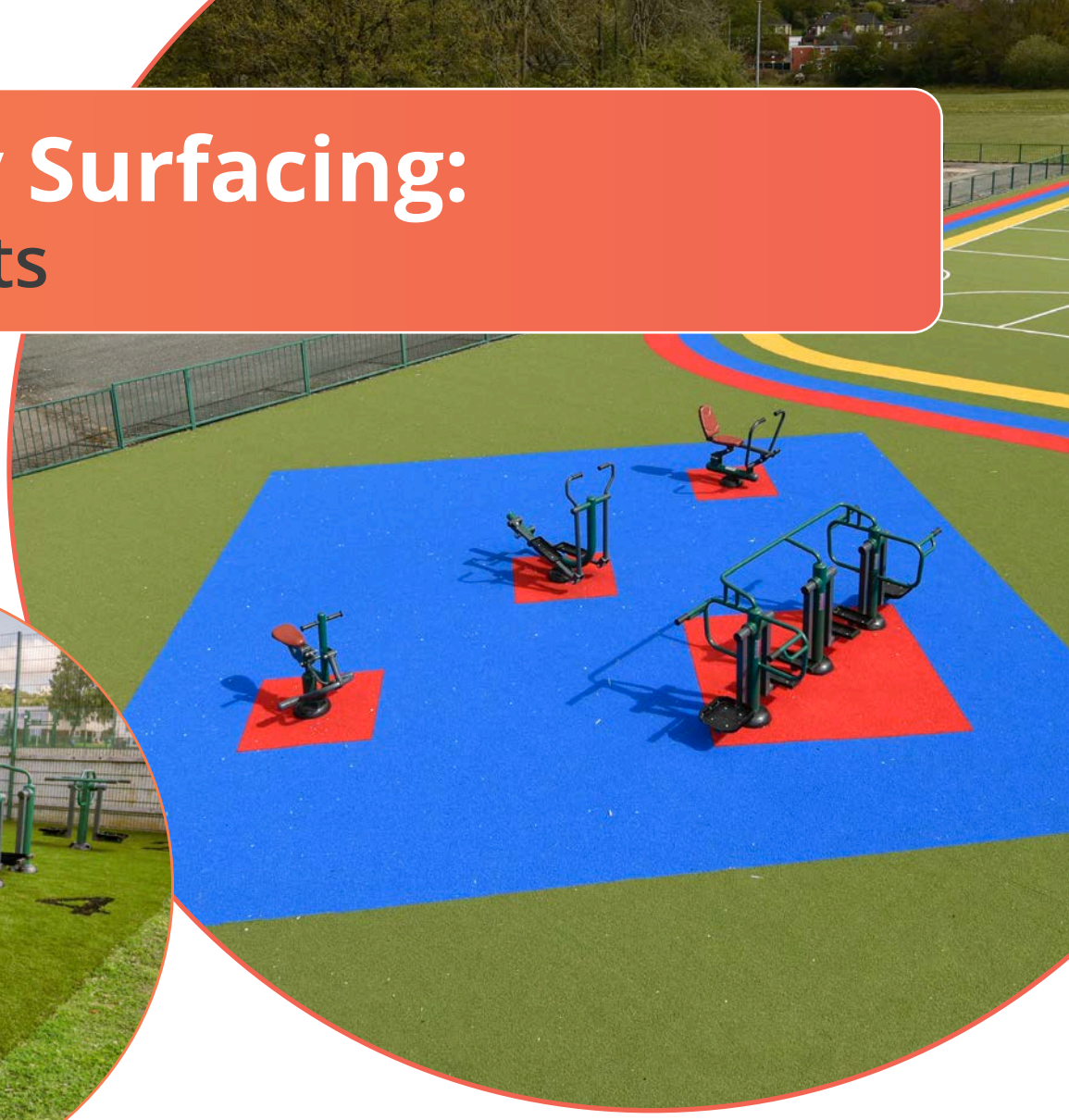
a division of broxap street furniture

Safety Surfacing:
The Facts



Getting the most from your outdoor gym means getting it right from the start.

Our expert teams will always take the time to discuss your project in full as well as help you to design an outdoor gym that meets users' needs.

And while securing the right mix of equipment and an accessible layout are key considerations, often the question of safety surfacing is tackled as an afterthought.

In our buyer's guide to safety surfacing we will provide the technical information you need to be able to make an informed decision about what's best for your location.

Our guide is based on the superior quality of the materials that we use, as well as the high standards our installations teams work to, at Sunshine Gym.

We believe this is vital for buyer confidence when investing in an outdoor gym that will be truly fit for purpose.

What is a Safety surface?

A safety surface is designed and installed for the main reason of preventing serious head injury to users who may fall from equipment.

What is a safety surface?

The standards BS EN 1176 and BS EN 1177 outline what safety surface (referred to as an impact attenuating surface) is required and where it should be used.

For static and rocking equipment, the protected area should extend at least 1.5 metres around the equipment. This applies to fall heights from 0.6 metres to 1.5 metres. Thereafter the distance rises to 2.5 metres around the equipment at the maximum permitted fall height of 3.0 metres.

For buyers of Sunshine Gym equipment, it is important to note that a safety surface is not required, according to the standards above, for any critical fall heights below 0.6m. Every single product that we offer in our range has a critical fall height of less than 0.6m.

However, although the critical fall consideration does not apply, some of the traditional safety surfaces used in our industry have secondary benefits that are important for a quality outdoor gym experience.

Why should I have a safety surface with my gym?

Although Sunshine Gym equipment comes under the 0.6m base measurement for critical fall height, a safety surface can inspire confidence in users.

For anyone nervous or hesitant about starting to exercise, first impressions of your outdoor gym area as a whole will be very important. A quality surface is viewed as a safe area to exercise and play, making the gym much more inviting to potential users. The same applies for children. The option to move off a tarmacadam playground on to an area of artificial grass could be perceived as safer by young people who are still learning about risk.

A quality safety surface can also extend the life of your outdoor gym. With repeated heavy use, any natural ground on which the equipment is installed will quickly turn into a mud bath. Here at Sunshine Gym, we want your users to be able to take advantage of the facility in spring, summer, autumn and winter. In colder, wet weather a safety surface can ensure clean, inviting access to your gym 365 days a year.

Finally, a safety surface is much more aesthetically pleasing and inviting to all users. Imagine a tarmacadam playground, with line markings for football, and a running track. Now picture the same playground with artificial grass with the same football pitch and running track cut into the grass with vibrant colours.

The quality of play is immediately enhanced and when Sunshine Gym made this a reality for one customer, it genuinely made a positive difference to the playground experience for children.

What are the different types of Safety surfacing?

Every gym is going to require a surface, even if that surface is just natural grass. During every site visit our advisers carry out, they consider how appropriate and beneficial each surfacing option is based on the demands and features of each location.

1 Artificial Grass

Artificial grass has been around for many years, since about the 1960s. It is commonly used for outdoor gyms, football pitches and in private gardens.

The original concept was based on creating an artificial surface that looked and felt just like natural grass, but did not require the same high level of maintenance and could be used all year round to sustain regular footfall in areas such as outdoor parks and sports pitches. Many different types of artificial grass are available with products imported from all over the world into the UK. Some of the more traditional 'carpets' are now rarely used as advances in technology allow for more realistic simulation. Negative opinion of artificial grass will largely be based on a bad experience with one of the older, now sub-standard products or a poor installation. However with an understanding of what specification of grass is needed for the intended use and correct installation, the product will offer high performance for many years.

Technical detail

A lot of buyers take the same approach in evaluating artificial grass on first inspection – they give it a little stroke just like it was the family dog or cat. Now that is one way to determine the suitability of a grass for its intended use, but it's not a measure of quality. A soft grass that you can walk across bare foot is perfect for a private garden where it is used only on occasion. But this surface won't perform for long periods of time in areas of high footfall, such as an outdoor gym, quickly 'flattening' in a short space of time. So next time you review artificial grass, take note of the below facts before you give it that final stroke.

1. Materials

Artificial grass in most cases will be a mixture of two materials – polyethylene and polypropylene. The amount of each will vary from one product to the next but in short, the higher the polypropylene content, the tougher the grass will be. It is this toughness that is required to maximise its lifespan in an outdoor gym or any other area of high footfall. The opposite applies as well, so grasses with a higher polyethylene to polypropylene content are much softer and are suited to private gardens and terraces.

2. Pile Height

Don't automatically think 'the higher the pile height, the better the quality' because we must again think of the demands of the location. Pile heights can be as short as 8-10mm and in extremes can be as long as 70-80mm. To decide what is most appropriate for an outdoor gym, we need to consider three factors: resilience, feel and appearance. Most artificial grasses available have a pile height of 25–40mm except those of a specialist nature. For resilience, the shorter the better because the tougher polypropylene strands tend not to be higher than 25mm. However, appearance considerations would move us towards the top end of the scale, as users will want and expect it to have a softer look and feel. The perfect pile height for our outdoor gym proposals is somewhere between 28mm and 30mm.

3. Shape

More specifically here, we look at the shape of each individual strand of artificial grass from directly above. You may be surprised to learn that the green strands of artificial grass in most cases aren't flat because flat strands offer very little resilience. There are four main shapes available. The most common strands used in our industry are either a C shape or a U shape. Both offer a similar, very fine balance between resilience, feel and appearance.

Light reflection is also a consideration here. With a C or U shape, some reflection is achieved for appearance but it also doesn't feel too hot to touch by retaining excessive heat. Other options are W shape, which is the best for heat deflection, reducing the risk of distortion. This isn't commonly used in the UK because we don't get the high temperatures that other countries experience. At the other end of the scale is an S shape that is fantastic at reflecting light and looks great in private garden space, but isn't ideal for an outdoor gym.

4. Stitch Rate & Gauge

Artificial grass is usually stitched to a latex or PU (polyurethane, a common type of plastic) backing to lock the strands together into rows. The stitches are sown into linear rows that can easily be seen on the underside of the backing. The stitch rate is therefore the amount of stitches per 10cm, so a 12 stitch rate means there is 12 stitches per 10cm length of linear stitching in the artificial grass. In short, the higher the stitch rate, the more grass strands are in the linear stitching. The gauge is also very important here as this is the measurement between the rows of stitching. A little bit like stich rate, the smaller the gauge, the closer together are the rows of stitches and therefore the more grass strands. To find the right grass for your outdoor gym, we offer a high specification grass with an 18-20 stitch rate and a guage of about 3/8 ins, which is proven to stand up to the demands of an outdoor gym in playgrounds and other areas of high footfall.

5. Decitex

Better known in the industry and Dtex, this simply relates to weight of the yarn used to manufacture the artificial grass stands. In simple terms, the greater the Dtex, the more substantial the strand of grass, but again, we must consider purpose and also a balance against stitch rate and gauge. There are some manufacturers that massively increase a stitch rate of artificial grass to sell it as a premium product. To compensate, they use a really low Dtex strand so in essence, they are selling a product that isn't well balanced. That is why it is important to always take the Dtex into account. The perfect Dtex for Sunshine Gym, based on the stitch rate and gauge provided above, is somewhere between an 11.5 and 12.

We provide to our customers an artificial grass suitable for purpose, with a good balance between the five factors above, to achieve a high quality finish.

Installation detail

The fitting of artificial grass must be done by a professional team - once the grass is cut to size, there is no going back if a mistake has been made.

Firstly, artificial grass must always be installed on a hard surface for maximum performance and lifespan. That hard surface could be pre-installed such as an existing playground or tarmacadam area, or we can install that hard surface into an area of natural ground, such as a playing field, before laying the artificial grass on top. It stands to reason then that if we are installing into a natural surface, additional costs will be incurred.

This process involves the excavation of the area to the desired depth to lay a compacted MOT stone sub base. It is at this stage that the equipment foundations are installed. The whole sub base and foundations are then covered with a layer of dust to provide a consistent 'flat' surface for the grass to be laid. Some installers use sand here, but the problem with sand is that it moves over time, whereas dust almost sets and is less likely to move. The artificial grass, and shock pad if required, is then fitted.

Positives

It is our opinion that artificial grass is the most aesthetically pleasing and inviting surface to users of an outdoor gym. The vibrant appearance, especially in urban or built surroundings, is just so appealing to users and looks superior to any other surface.

- ✓ The best looking surface to complement an outdoor gym.
- ✓ The most inviting surface, especially in an area of a lot of grey such as a school playground.
- ✓ All year round access – no gym down time in the winter.
- ✓ Easily maintained in a secure environment.
- ✓ Tough and long lasting, as long as you've chosen the right product for purpose.

Negatives

Artificial grass can be a great addition to an outdoor gym in the right circumstances. However, in the wrong situation, it can actually work against you. Locations where artificial grass is not suitable include public parks due to high levels of vandalism such as lighting fires, breaking glass bottles and general damage.

- × Difficult to maintain if vandalism is present such as in public spaces.
- × Can be a more expensive option compared to alternatives.
- × Easy to select the wrong product without an understanding of the technical facts.

Consider if the area is secure against high levels of vandalism; and if the budget allows for artificial grass after equipment has been selected. If both answers are yes, then artificial grass is a brilliant choice for an outdoor gym.

Where to use

- ✓ **School playgrounds and playfields**
- ✓ **Secure parks and spaces with no vandalism**
- ✓ **Private residences**

2 Wetpour

Referred to as soft surface, rubber chipping, rubber tarmac and many other names, wetpour is quite simply rubber chips of a certain size mixed together with a specialist glue and laid flat on the ground to create a safety surface.

If critical fall heights were a consideration in our outdoor gym equipment, we would need different specifications and depths of wetpour, depending on the height of the equipment. But as we've already established, all of our equipment falls below the 0.6m critical fall height threshold set in BS EN 1176 and 1177.

Therefore we usually offer a standard depth of 40-50mm to provide a good cushion feel. With wetpour now commonplace and used in playgrounds for many years, it is perceived by most as safe for exercise and play in comparison with hard surfaces. Essentially, as a mix of rubber chips and glue, wetpour and derivatives have appeared in various forms with the quality of the rubber and adhesives advancing all the time. We should also consider here that some of the patterns and colours used in various projects throughout the playground industry are nothing short of fantastic and in the best cases actually engage the users more than the play equipment itself.

For an outdoor gym, the same could be applied. Let's think about a primary school class of 30 children. It is unlikely that a budget will allow for enough outdoor gym equipment for every pupil in the class. But it we extend the gym with the wetpour surface, marking a shuttle run track along the length of the gym, a jumping jack zone, a skipping zone, etc. then the whole class could rotate through the exercise and outdoor gym equipment area. Take a look at our Buyer's Guide for Primary Schools for more ideas like this.

Technical detail

Wetpour is made up of three key parts: two types of rubber granule and the glue/adhesive that holds everything together.

1. Ethylene Propylene Diene Monomer - Top Layer

Referred to in the industry as EPDM, this is the small rubber chips that you see when looking at an area of wetpour surfacing. EPDM is a synthetic material that is available in a massive range of colours, and is highly resistant to heavy footfall, flammability and the British weather. The rubber chips themselves are a very small chip, ranging in size from 1mm to 4mm so that a very smooth surface can be achieved.

2. Styrene Butadiene Rubber - Base Layer

You should never see the SBR on a completed area of wetpour because it will always be covered by the top layer of EPDM. SBR has different properties to EPDM and actually provides much of the shock absorbency of the wetpour area when it comes to critical fall testing. SBR is made by recycling lorry tyres - but not just any lorry tyres; only those that pass the rigorous quality standards usually sourced from the branded tyre manufacturers in Europe. The chip size is much larger for SBR, from 2mm-8mm. This is because it is present to provide a shock absorbing base layer and doesn't need to be perfectly smooth like EPDM.

3. Wetpour Binder

The binder is the glue that holds both the EPDM and SBR together but it needs to have the perfect flexibility for both materials to maintain shock absorbency. A key factor in binders in UV stability as not every binder is the same. A UV enhanced binder will help protect the colour of the EPDM for much longer, ensuring a greater lifespan out of the surface. Sunshine Gym uses a UV enhanced binder from one of the world market leaders in wetpour rubber and binder supply. The quantity of binder used in both SBR and EPDM has to be very exact as too little binder will result in a weak mix and too much can cause dis-colouring and reduced shock absorption.

Installation detail

The laying of wetpour is a specialist installation. It isn't an easy job and to get it correct, the installers must have had the correct training and experience to provide a perfect finish.

Similarly to artificial grass, wetpour must always be installed on a hard surface for maximum performance and lifespan. Again, that hard surface could be pre-installed such as an existing playground or tarmacadam area, or purposefully installed into an area of natural ground such as a playing field. Please note that if we are installing into a natural surface, additional costs will be incurred.

If we were to install on to an existing hard base such as a tarmacadam playground, we can potentially use a 20mm layer of EPDM because, as we have already established, we don't need any exact shock absorption to comply with BS EN 1176 or 1177. In contrast, when installing a new hard base, we would excavate the area to the desired depth and lay a compacted MOT stone sub base. The depth would allow for between 100-300mm MOT depending on existing ground conditions and 40-50mm of wetpour. Once the hard standing is complete, we first mix the SBR and binder and lay to a depth of 25-35mm. The laying process is known as screeding and is very similar to how a plasterer would plaster a wall in your house.

Once complete and ready, the EPDM top layer is laid in the desired colour/s at between 15-20mm thick and again screeded to provide a nice flat finish. Larger areas can also be rolled using a professional wetpour roller, which is just like an oversize weighted paint roller. This is to close off any nooks and crannies and provide a lovely flat area. It is all then allowed to set.

Positives

Wetpour comes a very close second in appearance to artificial grass. Some of the colours, patterns and layouts that can be created are very impressive. The UK public are also very aware of wetpour and many believe it to indicate a 'safe' place to exercise and play so they will be more inclined to use the outdoor gym equipment.

- ✓ A fantastic visual surface that can be suited to any location.
- ✓ Recognised as a safe and inviting area for users of all ages and abilities.
- ✓ All year round access – no gym down time in the winter.
- ✓ Low maintenance even with low levels of vandalism.
- ✓ Tough, long lasting with future options for good quality repairs.

Negatives

The biggest drawback to wetpour is really the cost in comparison to other options, especially when any excavating is required and hard standing bases need to be laid. It is worth noting as well that wetpour shrinks over time. A good installation will result in more time passing before this happens but inevitably it will require repairs.

- × An expensive surface compared to other options available.
- × Maintenance is often minimal but repairs will need to be made in the future as a result of shrinkage.
- × Can be installed very poorly if not using a fully trained and experienced team.

A little bit like artificial grass, wetpour will enhance the aesthetics and functionality of an outdoor gym and will certainly be more inviting to everybody. It's really a question of whether the budget covers both the best outdoor gym equipment and a fantastic area of wetpour surfacing.

Where to use

- ✓ **School playgrounds and playfields**
- ✓ **Well maintained parks**
- ✓ **Open spaces**

3 Rubber Bound Mulch

Rubber bound mulch, or just simply mulch as it is referred to in our industry, has a very natural appearance resembling the shape of rough cut bark chippings that were once widely used as playground surfacing. In reality, the shape is the only part of mulch that resembles bark chips.

Mulch is actually a recycled rubber that has been shredded in large particles and then bound together using a specialist glue, in a very similar way to wetpour. In direct comparison, as wetpour is the closest alternative in terms of bound rubber fragments, mulch contains much larger particles to either EPDM or SBR and doesn't have that same smooth appearance. From a cost perspective, mulch is actually more expensive in raw form than SBR but it is the installation that can make the surface a cost effective option. Not all rubber bound mulch is considered equal in terms of the quality of the material. Sunshine Gym again uses one of the world's most renowned suppliers for both the rubber and binder. Be careful not to buy a sub-standard product as the surface area can wear and shred away increasing maintenance and reducing lifespan.

Technical detail

Unlike wetpour, mulch is a one layer system with most being 40-50mm thick when used in conjunction with our outdoor gym equipment.

All mulch starts out as a black recycled tyre, just like SBR, but the difference is that mulch is used as a complete wearing course. If left uncoated, it can leave marks on the user's clothes and shoes due to the carbon content of the material. That of course doesn't matter with SBR as this is a base course and never used on the top layer. As a result, all mulch is therefore coated with a colour, although as we are coating a naturally black rubber, colour options are much more subtle and blend in well with the natural environment.

The binder used has the same properties as that used when binding wetpour. A UV enhanced binder – especially a high quality product such as that used by Sunshine Gym - will help protect the colour for much longer getting a greater lifespan out of the surface. It is very important that moisture isn't present as this can set the glue too quickly creating a white-yellow film on top of the surface that doesn't look

Installation detail

The laying of mulch is, again, a specialist installation and must be done by a professional team who know what they are doing, but the process of mixing the rubber shreds with the binder and then screeding and rolling is very close to process of laying SBR.

There is some confusion as to how mulch can and can't be laid and the confusion comes from trying to find a low cost surfacing option. Now in theory, mulch should be laid on a hard surface exactly the same as with artificial grass and wetpour. The hard surface may be pre-existing such as a tarmacadam playground, or we may need to install the hard surface by excavating an area, laying with an MOT sub base before installing the mulch on top. However, it is commonplace in the UK to lay mulch directly on the top of natural ground, which is where the cost saving comes in.

Due to the size of the particles and the way in which it can be laid, it is possible to provide a good looking, moderately flat finish on the installation. For how long the surface stays that way is very much dependant on the ground beneath the mulch layer. If the ground moves or subsides, which can happen with water runoff or rotting tree roots, then the mulch surface will move with it, creating dips and troughs. If that movement is excessive, then the mulch could crack and split. It is a decision based on cost versus estimated lifespan. An area of mulch with a hard base will almost certainly last longer whereas an area of mulch without a sub base will cost less. That decision is unique in every situation and for the consideration of the buyer.

Positives

Mulch is the most natural looking artificial rubber surface when comparing to a typical barked or natural woodland type area. The subtle colours blend in very well with the natural landscape with the surface being laid moderately flat. In those cases where a surface is required to keep a gym open all year around and the ground beneath is sturdy, laying the mulch directly on to natural ground will provide a substantial saving compared to wetpour and artificial grass.

- ✓ Natural looking artificial surface that blends in with the environment.
- ✓ Recognised as a safe and inviting area for users of all ages and abilities.
- ✓ All year round access – no gym down time in the winter.
- ✓ Lower cost surfacing option based on a good quality natural surface.

Negatives

Mulch has one major flaw - it's rarely laid on a hard base and most installations are laid directly on top of natural ground to keep costs to a minimum. If little or no consideration is given to how substantial the ground beneath the mulch is, the surface becomes very uneven and can become uninviting to users.

- × No guarantee of longevity when laid on a natural surface.
- × Colours are dull and drab in a playground scenario.
- × Can be higher maintenance in areas of likely vandalism due to the nooks and crannies throughout its surface.

The big appeal of mulch really is that in the right circumstances, it could be laid on top of natural ground. The ground has to be just perfect with no drainage problems or water run-off and you have to accept the lifespan is much less than if it was installed on a hard base. But with limited budget, it does provide a year round surface of limited lifespan.

Note: Sunshine Gym does not recommend that mulch is laid directly on top of natural ground as we cannot guarantee what will happen with the natural ground beneath the mulch, and always try to provide a product that we are confident will perform for many years. We always recommend that mulch is laid on to a hard base.

Where to use

- ✓ **School playgrounds and playfields**
- ✓ **Well maintained parks**
- ✓ **Open spaces**

4 Rubber Grass Mats

Rubber grass mats, sometimes simply called grass mats or by their various branded trade names, are designed to protect an area of natural ground immediately in the main footfall areas of an outdoor gym.

Unless you are planning to restrict use of your gym, then based on our experience, the gym equipment will be very well used and therefore the ground around each piece will be very heavily impacted. In the case of natural ground such as a playing field or natural areas in a park, the grass in the worst affected areas will quickly die away leaving natural ground. This would be unsightly in the warmer months but still usable, however in the winter it will be very muddy. This not only leaves a mess but also makes the equipment uninviting and you are left with a gym that can be used maybe six months of the year at best. In this situation, rubber grass mats can make all the difference.

Technical detail

Grass mats are usually 1.5m x 1m in size, between 22-25mm thick, and are designed to carry out two main functions.

The first is as a shock absorbing surface, although as no critical fall heights are 0.6m or over with our equipment, we don't need to have a safety surface to meet BS EN 1176 or 1177.

The second function, is to protect the grass and ground beneath the grass mat plus providing a semi-hard standing for the users of a gym. Often manufactured from recycled rubber, each grass mat has a series of large holes to allow the grass to grow through. When installed and maintained correctly, the black rubber mat would only be visible immediately after fitting. Soon after that, enough strong and thick grass will grow through so users may never know that it even exists in the first place.

Installation detail

Typically, grass mats can be installed in two layouts. The first and most common is known as 'spot grass mats'.

This is where a series of grass mats, usually three or four, are configured immediately around an individual piece of equipment to protect that ground which suffers the heaviest tread, such as the areas where a user mounts and dismounts a piece of equipment. In theory, the ground in between equipment is impacted substantially less and rarely always in the same place so needs less protection.

The second we refer to as 'continuous grass mats'. This is where we configure a large number of grass mats to cover the entire outdoor gym areas, including pathways. This offers the very best protection, although is certainly more costly, whereas spot grass mats are generally suitable for many gyms.

In both styles, the installation process for the group of mats is exactly the same. The first step is to measure and mark out where the mats should be positioned. This allows the mats to be cut in around the newly installed outdoor gym equipment. The next step, and one that is essential (and often missed by poorer installers), is to lay ground reinforcement mesh. This mesh reduces the chance of the mats sinking into the natural surface in particularly wet weather. Next comes the mats, which are joined together by cable ties, using enough ties to eliminate any potential trips caused by uneven ground. Then the edges, which should always be tucked into the natural ground again to remove any trips, are then pegged for extra security. Once the grass starts to grow through the mats, it becomes more stable until it completely disappears from view.

Positives

Without any shadow of doubt, the number one positive is the low cost of the mats. Priced around £37.50 - £45.00 for supply and fitting per mat, they are the best option from a cost point of view in protecting the ground and having a gym available 365 days a year on a natural surface (when maintained correctly – see our maintenance page for more details).

- ✓ Cost effective option to protect the natural ground, even in areas of heavy footfall.
- ✓ Natural appearance once grass has established, usually 3-4 weeks in the spring and summer.
- ✓ Provides a hard standing (or soft-hard as they are impact absorbing) for users of equipment.
- ✓ All year round access – no gym down time in the winter.

Negatives

The biggest drawback of rubber grass mats comes from a maintenance perspective. The effectiveness of grass mats comes from the grass being able to establish and grow through them.

But if installed on very wet ground, even with the ground reinforcement mesh, the mud can work its way into the holes of the grass mats. As the ground dries, the mud hardens and the grass is unable to establish. Without the grass, the next amount of rainwater can't drain away and we're back to mud (if re-seeding is an option, purchase a tough and hardwearing grass seed, something like a rye grass to re-establish the grass in the growing months). Keeping the holes clear and establishing the grass is essential. Having said that, a grass mat with a little mud is still better than a muddy puddle.

- × Can clog up in wet conditions, stopping any new grass from growing.
- × Grass will only grow in the right conditions so difficult to establish in the winter months.
- × Mats are not a solid surface like bound rubber and artificial grass so are less effective in direct comparison.

If you are positioning your gym on natural ground/grassed area and your budget won't allow for artificial grass or bound rubber (wetpour or mulch), we would always recommend the addition of rubber grass mats to provide a decent level of ground protection yet still maintaining the natural appearance of well-kept grass.

Where to use

- ✓ **School playgrounds and playfields**
- ✓ **All parks**
- ✓ **Open spaces**
- ✓ **Holiday parks**
- ✓ **Care facilities**

5 Grass

Can we class grass as a safety surface or just a surface? You may say just a surface but it is considered a safety surface for critical fall height of up to 1.5m with a set criteria as it can be impact absorbing (https://www.rospa.com/play-safety/advice/grass).

This is a debate that will forever continue as so many variables have to be considered here that there is unlikely to ever be a unanimous opinion. However, a safety surface is not needed for Sunshine Gym outdoor fitness equipment to comply with BS EN 1176 and 1177 as all of our equipment is 0.6 m critical fall height.

Around 50 per cent of our recent installations have been into a grassed surface, although most have incorporated rubber grass mats. However, a small number of them have been installed directly into the ground From a price perspective, this is the most cost effective option in terms of initial outlay you can choose.

However, on-going maintenance costs and limited use of the gym in cold and wet weather will certainly bring these costs back up, which explains why we only occasionally install into grass without any additional surface support.

Technical detail

There are a handful of circumstances where installing directly into grass is acceptable. The popularity of having a couple of pieces of outdoor gym equipment in a private garden is increasing due to the growing interest in improving health and fitness.

Not everybody wants to be stuck inside on a traditional exercise bike or treadmill and would much prefer to exercise on dedicated outdoor fitness equipment. In this case, the low frequency of use will have minimal impact on the natural ground and additional surfaces will only have minimal benefits.

However, some customers will only have enough budget to purchase the gym equipment itself, and are maybe considering a surface as a future investment. If this is the case and there is no budget for surfacing, then you have to purchase the most tough and hardwearing grass (seed) available. We would recommend a grass with a high content of rye grass and red fescue to establish a deep root system and hardwearing grass strain for maximum protection.

Installation detail

Installation into grass is usually the easiest way to install. Only 'usually' because we dig down 600mm to install the equipment ground anchors and quite often will find buried concrete works and rubble.

The installation process for Sunshine Gym ground anchors is identical in principle with every project. The key with a grass install is in the finish. The top 150mm of ground needs a good top soil, usually what was dug out in the first place if of sufficient quality. We always finish by seeding the area, which will grow (depending on the time of year) thanks to the fine top soil and re-establish a match to the surrounding area.

Positives

A grass installation is easily the most upfront cost effective option. Quite often a gym will be located in a park or close to a green area so grass, complemented by our green and grey branded equipment, will blend in very well with the natural environment.

- ✓ Low cost option based on the initial outlay.
- ✓ Environmentally friendly with natural appearance.

Negatives

What budget has been saved initially on not upgrading to an additional surface will need to be spent on maintaining the ground, regular re-establishment works to the grass and almost an impossible battle against the standing areas of the gym becoming a mud bath. Any gym that sees regular use will have constant periods of closure while the ground continually recovers.

- × High maintenance costs.
- × Almost certain 'mud baths' in gyms with medium to high usage.
- × Long periods of the gym being out of action while the ground recovers, sometimes for several months at a time.
- × Likely to appear un-inviting to users over a period of time.

Grass, when maintained correctly is an acceptable surface in gyms with very low footfall such as a private back garden gym used by a small family. If there is any likelihood of medium to heavy use, we would always recommend spot grass mats (lowest cost option to protect grass) at the very least.

Where to use

- ✓ **Private residences**

6 Tarmacadam

Tarmacadam is already considered the right choice for playgrounds and parks up and down the UK.

Is tarmacadam a safety surface or just a surface though? Well, for the first time in this list tarmacadam isn't considered a safety surface as it has no impact absorbing properties. But we already know that we don't need a safety surface to comply with BS EN 1176 and 1177 as all critical fall heights are below 0.6m. That means tarmacadam could in fact be the right choice for your outdoor gym.

Technical detail

Tarmacadam surfaces are typically installed in one of two scenarios in an outdoor gym.

The first is the installation of a new continuous tarmacadam surface. This could be either a skim or a brand new area of tarmacadam installed into natural ground. The second is another of our most common installations, where we install into an existing tarmacadam area, usually a playground, and complete a patch repair. Both options carry a price, but a patch repair is very cost effective, whereas a new tarmacadam area into natural ground can be an expensive option.

Installation detail

The installation process here is very different for each of our two scenarios so we need to consider both separately.

1. New Tarmacadam Area

The installation process is actually very similar to installing wetpour or artificial grass, but of course with a different type of surfacing. To start with, tarmacadam must be laid on to a hard base such as an existing concrete foundation. If that hard base doesn't exist, such as in natural ground, we need to install one. This is done by excavating the area to the desired depth (dependant on ground conditions), installing an edge, laying and compacting MOT stone and completing the base with a layer of tarmacadam base material. This surface actually provides a solid footing for the foundations of the outdoor gym equipment to be installed and is the perfect time in the program to carry this out. The finishing choice is to lay a wearing course or top layer to achieve that smooth tarmacadam appearance that we are all accustomed in seeing in leisure spaces throughout the UK.

2. Tarmac Patch

The requirement of a tarmacadam patch comes about because we have to dig out the existing surface in a playground where the gym equipment will be located. We can't reinstate old tarmacadam like in a grass/top soil project, because this material can't be reused in that way. So, a new patch is required. We achieve this in one of two ways, depending on conditions at the time. We either lay or compact a patch of cold lay tarmac, which is compressed and binds together, or we bring the concrete foundation level with the surrounding area and manipulate the surface with a tarmacadam appearance to finish.

Positives

Tarmacadam arguably offers one of the best options for a hard standing surface due to the very minimal maintenance required, even in areas of higher vandalism which can't be said for the alternatives. Tarmacadam also provides fantastic drainage properties in the immediate area of the gym so in the right scenario provides the best all-year outdoor gym.

- ✓ The best hard standing option for using a gym 365 days a year.
- ✓ Very cost effective when installing into existing tarmac.
- ✓ Low maintenance, even in areas of higher vandalism.
- ✓ Fantastic drainage around immediate area of the gym.

Negatives

In the case of a new tarmacadam area, it can be quite expensive to install in comparison to artificial grass or wetpour. It is really only the likelihood of vandalism that would make tarmacadam a better option in comparison. On the other hand, in the case of tarmacadam patches, most customers will be looking to increase the usable space of an area such as a playground. However, most playgrounds are already well used and often cluttered. Finally, in both cases, tarmacadam isn't well fitting in the natural environment, and can look out of place in some parks and woodland.

- × Costly to install a new continuous tarmacadam area.
- × Installation into existing tarmacdam playground doesn't add to the exercise/play space.
- × Doesn't fit well into a natural looking area.

In areas of medium to high vandalism, new tarmacadam is the easiest surface to maintain and the initial cost outlay is effective over time based on the savings in maintenance costs. Installing into existing tarmac is the best all round cost effective option. You already have a hard standing to provide inviting access all year around and almost all budget can be maximised on the equipment.

Where to use

- ✓ **Parks and playgrounds**
- ✓ **School playgrounds**
- ✓ **Holiday parks**
- ✓ **Care facilities**

Summary

The word safety in safety surfacing isn't really a factor here based on BS EN 1176 and 1177. The questions is what surfacing should you have?

The answer lies in cost versus maintenance with consideration of the aesthetics of the gym's local environment. Certain situations require higher levels of maintenance and as a result, a greater up front spend, resulting in lower on-going maintenance costs. In contrast, secure gyms, where users of all abilities need to be encouraged, such as a primary school pupil with low confidence, require an inviting surface which is perceived as safe.