

innovation
excellence



SAFETY SURFACES LIMITED

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Welcome to RTC Safety Surfaces...



“At RTC we are committed to providing our customers with the highest quality, best value and most innovative safety surfaces.”

RTC Safety Surfaces was established in 1993 and through our commitment to customer service and technical excellence we have grown steadily to become the market leader in wetpour safety surfacing. We have a wealth of in-house expertise and our friendly, long-serving, knowledgeable staff are available at all stages of a project to assist.

We believe that we are unique because of our total dedication to quality of both product and service.

We offer the peace of mind of a five year guarantee and, crucially, the ability to honour it.



The Sports Industries Federation



Designs to revitalise your play area...

Welcome to RTC...

For more than 15 years, RTC has become synonymous with quality and innovation in wetpour safety surfacing design. Our designers can transform your playground into a 'wonderland' for children to enjoy. It can also bring the whole surrounding area to life.

Our on-site technicians have unrivalled expertise in creative surface installations. Almost any design can be incorporated into a surface allowing scope for logos, themes, games and 3-dimensional designs. RTC Safety Surfaces designs create an attractive, appealing and educational play area where the surface becomes a play feature in its own right. Individual customer ideas and concepts are always welcome to produce genuine bespoke surfaces.

RTC Safety Surfaces can be installed utilizing a wide range of colours. We can help you design a themed area, which can be created easily and cost effectively. Where there are severe budget restrictions an attractive RTC Safety Surface is still achievable by incorporating coloured graphics into a basic black surface. Even the simplest motifs can transform a playground.

Unlike painted surfaces that are prone to image or pattern degradation, our inlaid system will stay looking good year after year, with no noticeable deterioration. Simple to maintain, all RTC surfaces come with a full 5 year guarantee.



- * Incorporate logos, games, 3D designs
- * non slip and trip proof
- * durable & easy to maintain
- * 5 year guarantee



“I was pleased with the professional way that RTC's team surfaced Longleat's new Splashpad in 2006 and how they managed to reproduce the very complicated design resulting in what can only be described as a stunning piece of outdoor art.”

Tim Bentley, Longleat Attractions' Manager

“RTC has done a wonderful job for our outside play areas. The children were delighted with the results and couldn't wait to play on the surface. As an inner city site, it is vital that we have safe, attractive areas for children to run around on and our new Playscapes enhance the whole area.”

Fraser McCarvill, Senior Building Officer
Great Ormond Street Hospital



“I have come to rely on RTC Safety Surfaces for a competitive and reliable service. Whether it be office based staff or the installation teams, I always receive a prompt and courteous service.”

Tim Sharp
Landscape Estimator/Surveyor
Nottinghamshire County Council



See how we made a difference...

A wealth of experience...

The mark of a quality safety surface is not its appearance after installation but its appearance after many years' daily use. RTC Safety Surfaces are designed to stand-up to the rigours which any group of active children can inflict. Only durable synthetic rubber (EPDM) is used in the coloured RTC Safety Surfaces wearing course so there is no unsightly colour deterioration as the colour and quality is consistent throughout the surface.

The attention to detail of our experienced installation staff means that we lay solid foundations to cut your future maintenance costs.

We actively encourage potential customers to contact references from previous projects and if possible, view existing sites. We would be very happy to provide a list of sites in your area to enable you to assess the durability of our surfaces for yourself. Here are some examples of surfaces that have stood the test of time.



"RTC Safety Surfaces have provided wetpour safer surfacing on many projects for us throughout the country. They have proved to be a friendly and reliable company which delivers a high quality product."

Colin Griffin
Commercial Director, The Play Practice (Scotland) Ltd



"Your installation team are a credit to your company. Polite, hard working, with respect for the customer and knowledge of jobs they undertake. Well done!"

Warrington Borough Council



The RTC Safety Surface system...

RTC Safety Surfaces have been specifically designed by RTC as an impact absorbing system of surfacing for children's playgrounds and play areas. RTC Safety Surface is a multi-component polyurethane/rubber composite which is formed "insitu" by a chemical mixing, wetpouring, levelling, screeding and rolling process. This provides a durable, easy to maintain play surface.



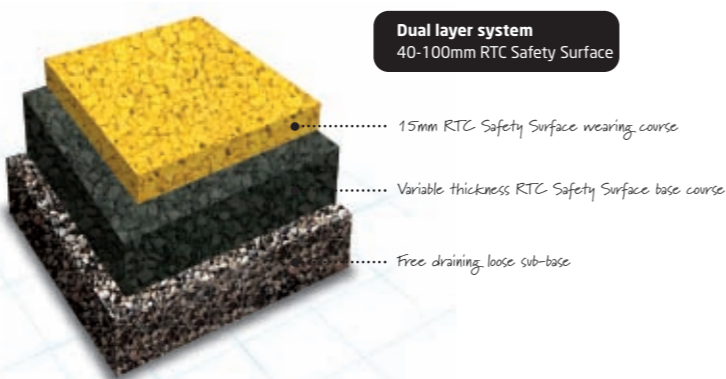
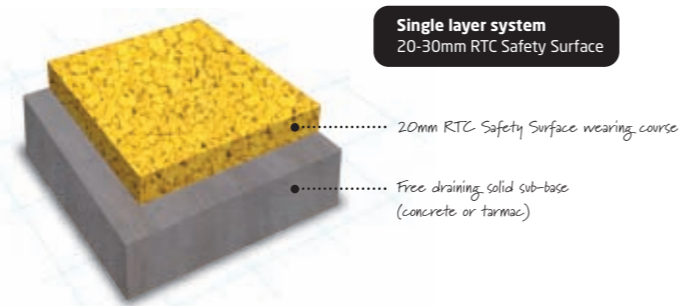
Porous Wearing Course

RTC Safety Surfaces Wearing Course consists of two alternatives:

- A.** For coloured EPDM surfaces the wearing course consists of a nominal 15mm thick resin-bound formulated EPDM (Ethylene Propylene Diene Modified) 1-4mm granule. EPDM synthetic rubber granules are through coloured, and therefore, very resistant to wear, weathering, ozone attack and flame. The coloured granules are specifically manufactured for safety surface production.
- B.** For black EPDM surfaces the wearing course consists of a thick resin-bound recycled EPDM 1-4mm granule.

Base Course

Surfaces greater in depth than 20mm have a base course of rubber which varies in thickness according to the required Critical Fall Height (please see page 8). It is comprised of resin-bound recycled black tyre rubber granulate (4-10mm in size). No fillers or bulking materials are used. Surfaces of 20mm depth are comprised of only a wearing course.



Quality of product

RTC guarantees the functional strength of all our manufactured surfaces for a period of five years against any defects resulting from faulty material or workmanship. We are constantly investing in Research and Development programs and all new systems are tested by the Centre for Sports Technology for conformance to British and European standards before being implemented. Copies of all test results are available on request.

Quality of installation

Our long-serving site technicians are trained to an exceptional standard, ensuring a high standard of work.

On-site testing is carried out on certain installations to ensure that our products meet the relevant Critical Fall Heights.

API Membership

RTC Safety Surfaces are a member of 'The Association of Play Industries', the lead trade body within the play sector.

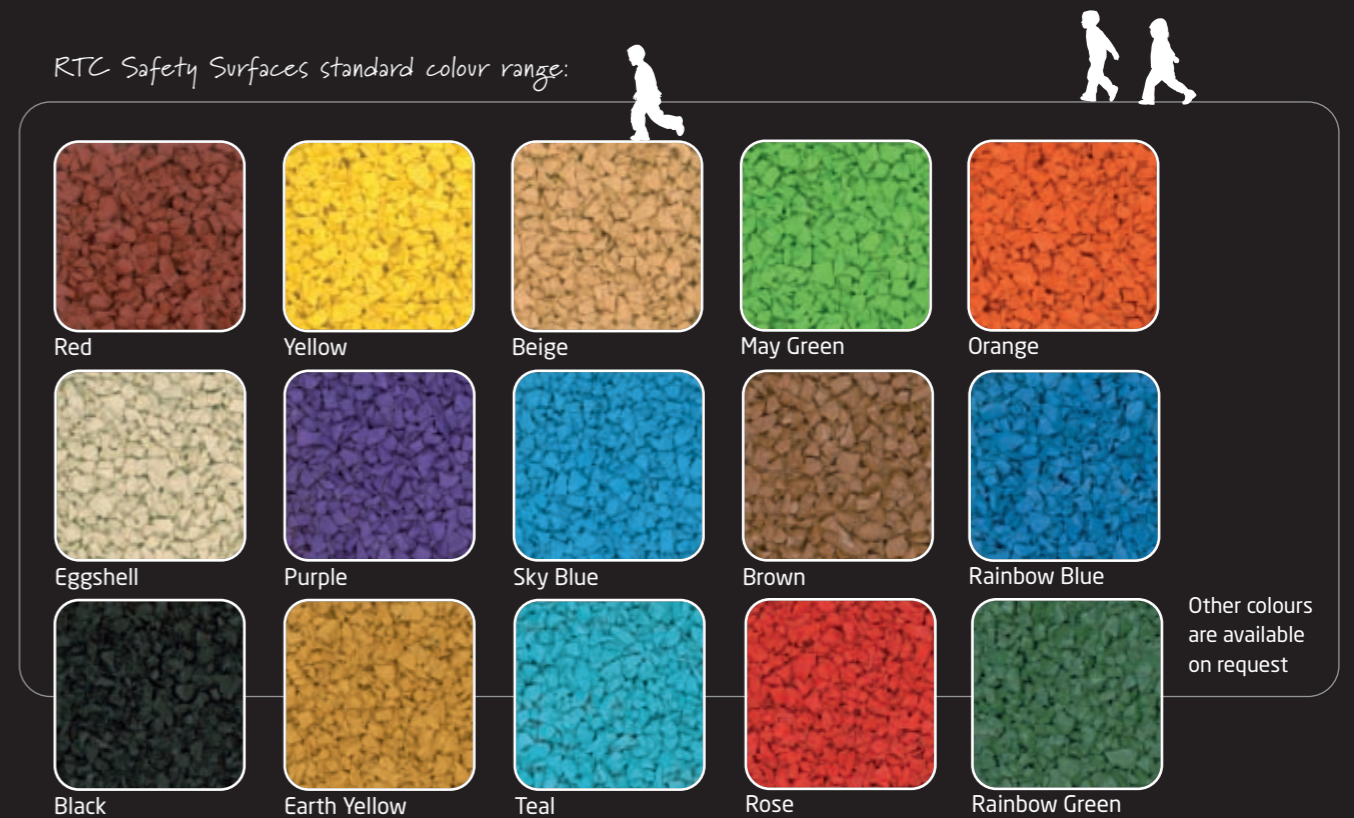
The API ensures that all member companies comply with relevant British and European standards, as well as promoting safer play and play equipment.

At RTC we are proud of our close links to the API and welcome its positive impact on the industry.

Maintenance

RTC Safety Surfaces are very low maintenance, requiring only an occasional sweep or hose down to remove surface debris such as litter.

RTC Safety Surfaces standard colour range:



All colours represented are as accurate as the printing process allows.



Data & Technical Specification

European standards...

RTC's safety surfaces have been independently tested by the Centre for Sports Technology in accordance with BE EN 1177:1998 and also comply with all requirements of BS 7188:1998.

BS EN 7188:1998

Tests safety surfacing to different criteria such as the determination of critical fall height, slip resistance, indentation resistance, durability, ease of ignition, tensile strength and elongation at break.

BS EN 1177:1998

Recommends that safety surfacing is used underneath play equipment and gives guidance for area usage.

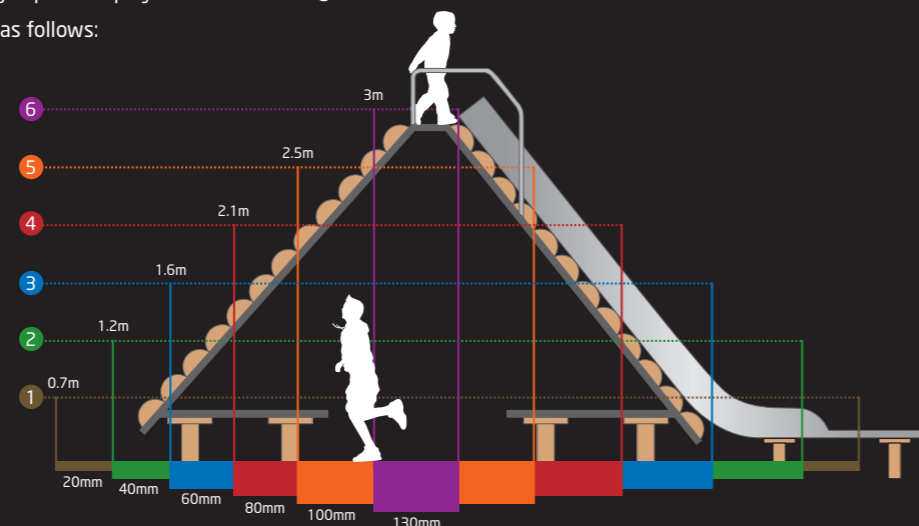


Depth of surfacing...

The depth of surfacing required is calculated according to the Free Fall Height of any play equipment along with the surface's Critical Fall Height. This is the height from which it is assessed that a surface will absorb the impact of a child's fall sufficiently to reduce the risk of serious head injury.

The maximum Free Fall Height (i.e. The distance between any accessible part of the play equipment intended for play and the surface underneath) should equal or not exceed the surface's Critical Fall Height. We would be very happy to advise on the free fall height of any existing or planned play equipment, however general guidelines are as follows:

Depth of surface	CFH
130mm	3m
100mm	2.5m
80mm	2.1m
60mm	1.6m
40mm	1.2m
20mm	0.7m



Stationary Equipment

For equipment on which a child stands, the free fall height is calculated from the highest point on the equipment which is intended for play, usually the platform height.

For equipment from which a child hangs, the height of the hand support is used.

Swings

The Free Fall Height is calculated from the centre of the stationary seat surface at 60 degrees. To work this out divide the length of the chain by 2 then add the distance from the seat to the ground.



Area of surfacing...

The extent of surfacing required around play equipment is dictated by the height of any potential fall.

Stationary Equipment

For stationary equipment with a freefall height of 1.5m or less, surfacing should extend at least 1.5m beyond the edge of the equipment. To calculate the surfacing distance for equipment with a freefall height of over 1.5m, subtract 1.5m from the freefall height and multiply the result by .667 before adding back the 1.5m. The table to the right demonstrates this principle.

Swings

The area of surfacing required for a swing is calculated as follows; to calculate the length of surfacing required to the front and back of the swing multiply the length of the chain x .867 then add 1.75m. The width of surfacing required for seats no greater than 500mm width is 1.75m (i.e. .875m each way from the seat centre).

For swings with seats wider than 500mm the difference between the seat width and 500mm must be added to the 1.75m (50% to each side of swing centre). Please note that areas for two seats in one bay may overlap providing the distance between seats is 20% of the swing chain +300mm.

Height of fall	Surface distance
1.5m	1.50m
1.6m	1.56m
1.7m	1.63m
1.8m	1.70m
1.9m	1.76m
2.0m	1.83m
2.1m	1.90m
2.2m	1.96m
2.3m	2.03m
2.4m	2.10m
2.5m	2.16m
2.6m	2.23m
2.7m	2.30m
2.8m	2.37m
2.9m	2.43m
3.0m	2.50m

"We are absolutely thrilled with the Play Surface that RTC Safety Surfaces installed for us. The children love the safe environment it has created and are now able to play safely with no fear of hurting themselves when they fall.

The installation was quick and very professional. The staff from RTC were courteous and very well organised. We would certainly recommend this organisation to other schools."

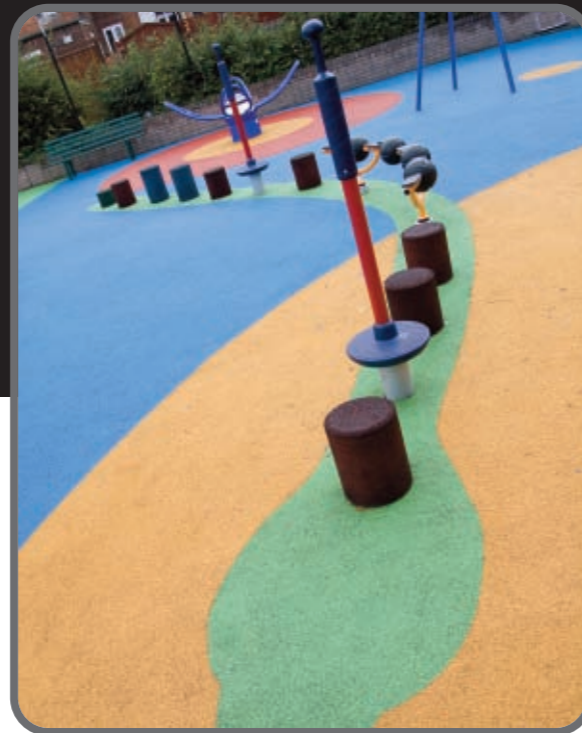
Julie Bradley (Headteacher)
St Leonard's Church of England School, Burnley



Sub-base specification...

Our surface can be installed onto a variety of existing sub-bases such as concrete or macadam.

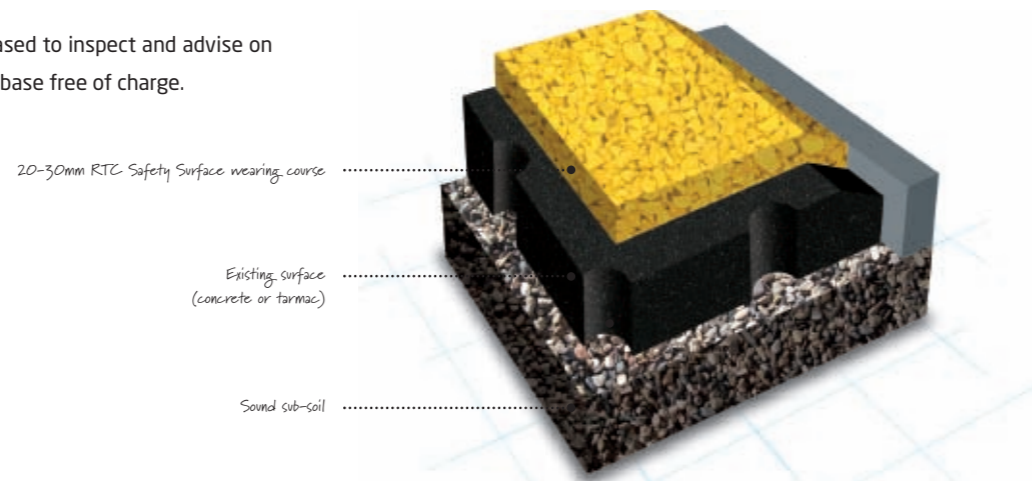
Alternatively, we can arrange for the construction of new bases in open textured macadam for surfaces between 20mm and 30mm or MOT Type 1 stone for surfaces thicker than 40mm. The critical issue is that the base is free draining to ensure maximum longevity of the surface.



Laying RTC Safety Surfaces onto an existing surface...

Most existing surfaces in reasonable condition including concrete, macadam and flags are suitable for installation of RTC Safety Surfaces. This can prove to be cost-effective as it eliminates the need for additional groundwork preparation. To ensure good drainage underneath our surface, 30mm diameter holes are punched through in a 300mm grid pattern over the whole base area.

An RTC surveyor would be pleased to inspect and advise on the suitability of your existing base free of charge.



Base Preparation for RTC Safety Surfaces of Depth 20-30mm

The existing ground is excavated to accommodate a base layer of 100mm MOT stone, 50mm open textured macadam plus the depth of the safety surface required. A concrete kerb edging of 150mm x 50mm is installed around the perimeter of the specified area, then filled with the stone and macadam layers. This leaves the correct depth below the top of the kerb to accommodate the required thickness of the RTC Safety Surface.

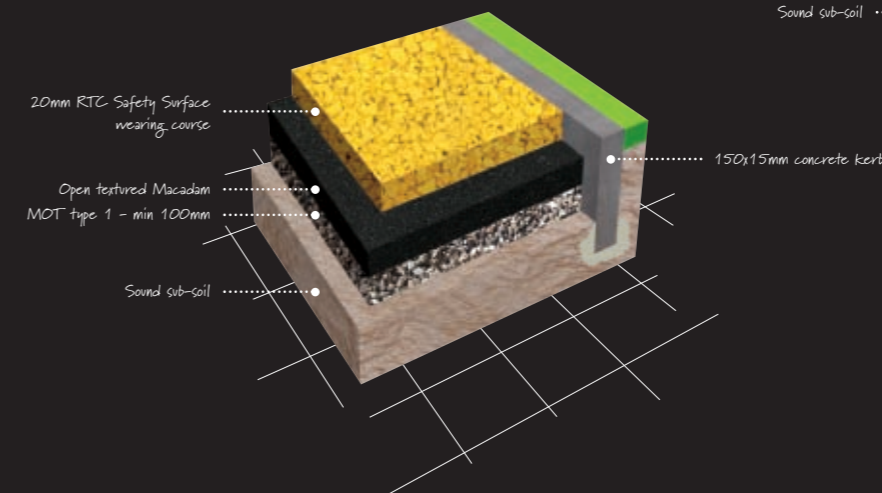
Open Textured Macadam Layer

This is installed with a minimum consolidated thickness of 50mm. A single course of open-textured bituminous Macadam (to BS4987) is laid using aggregate of 20mm nominal size. In the Macadam mix the bituminous binder should be 100 per cent bitumen straight-run without cutback. The finished surface should have deviations no greater than 7mm under a 3m straight edge in any direction.

The RTC Safety Surface is then installed directly onto these two base layers, finishing flush with the top of the kerb edges to ensure a perfect finish and eliminate any trip hazards.

MOT Type 1 Stone Layer

This is installed and compacted to a depth of 100mm. The finished surface should have deviations no greater than 7mm under a 3m edge in any direction.



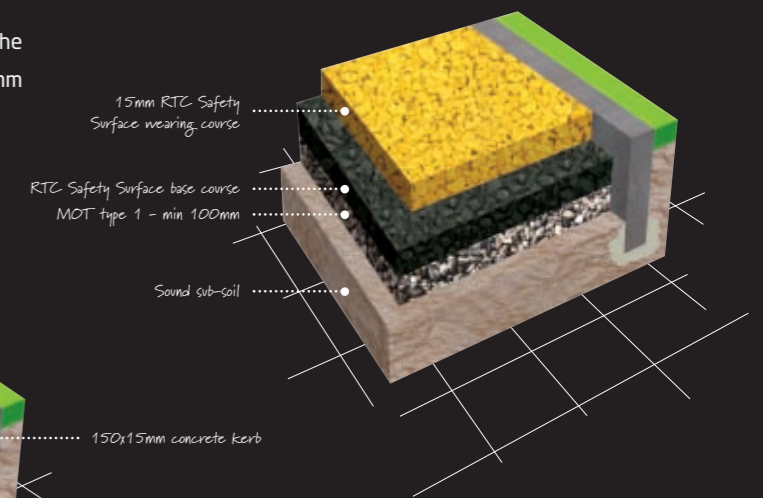
Base Preparation for RTC Safety Surfaces of Depths 40mm or over

The existing ground is excavated to accommodate a base layer of MOT Type 1 stone compacted to a depth between 100mm and 300mm, depending on site conditions, plus the depth of the safety surface required. A concrete kerb edging of 150mm x 50mm is installed around the perimeter of the specified area which is then filled with the MOT stone layer and consolidated. This leaves the correct depth below the top of the kerb to accommodate the required thickness of the RTC Safety Surface.

MOT Type 1 Stone Layer

The MOT foundation layer should be compacted to a tolerance giving local deviations no greater than 7mm under a 3 metre straight edge in any direction. The stone must consist of a minimum of fines to ensure good drainage.

The RTC Safety Surface can be installed directly onto this base, finishing flush with top of the kerb edges to eliminate trip hazards.



Frequently asked questions...

How long will my surface last?

All RTC Safety Surfaces are supplied with a 5 year guarantee against any defects resulting from faulty material or workmanship. With straightforward maintenance, however, we expect the surface to last significantly longer than this.

How do I maintain my RTC Safety Surface?

One of the big advantages of installing an RTC Safety Surface is the ease of maintenance. An occasional sweep or hose down to remove surface debris such as leaves or litter is all that is required.

Do you have a price list?

No. The cost of installation depends on a variety of factors including area size, depth, site location, vehicular access, colour and design details. For this reason and to keep prices as competitive as possible each installation is priced individually. We have a dedicated Estimation and Design Department who are always available to provide you with an accurate quote.

How much Surfacing will I need around play equipment?

It depends. When a surface is being installed underneath play equipment then we recommend that British and European Standards are adhered to. Our staff are happy to provide advice on this on the telephone or via a site visit.

How long will it take for my surface to be installed?

Obviously this depends on the size of the area to be surfaced. Our high-capacity purpose built mixers ensure that full installation usually takes between 1 day and 1 week

How soon can I use the surface after it has been laid?

The next day. Unlike other companies, we provide a dedicated site security until the surface is cured.



How deep should by surface be?

The depth of the surface depends upon the Critical Fall Height of the play equipment. The minimum depth of 20mm is suitable for runabout areas, low portable equipment and bicycles. For bigger equipment with a higher CFH, we recommend that British and European standards are adhered to.



If you require any further information or advice on our products, please contact us on
01282 414131
or email us on
sales@rtcsafety.co.uk

Glossary...

SBR (Styrene Butadiene Rubber) Granulated recycled truck tyres used in the base course of wetpour surfaces and the wearing course of black SBR surfaces.

EPDM (Ethylene Propylene Diene Modified) Granulated synthetic rubber available in a wide range of colours used in the wearing course of coloured wetpour surfaces.

RECYCLED EPDM Granulated synthetic black rubber used in the wearing course of black EPDM wetpour surfaces.

MOT Type 1 (Ministry of Transport Stone Grade 1) A grade of stone classified by the Ministry of Transport. It is used in the construction of sub-bases.

CFH (Critical Fall Height) The height from which it is assessed that a surface will absorb the impact of a child's fall sufficiently to reduce the risk of serious head injury.