

RESiSCAPE[®]

RESIN BOUND AGGREGATES



Guide to Understanding & Installing
ResiFlex

Welcome

This guide is intended to outline the main features and benefits, along with basic installation information and guidance for the ResiFlex Resin Bound System. We hope this will help our retailers, customers and homeowners, to better understand how to install an extremely durable system, with a range of colours to choose from, supported by our Pavetuf Edging Accessories, giving you that design flexibility for something really different.

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Benefits of the ResiFlex Resin Bound System

ResiFlex is an alternative to the Resin Bound Aggregate system, creating a Resin Bound Rubberstone surface suitable for pedestrian use.

- **Budget Friendly:** the system can be applied onto a number of pre-existing surfaces or a granular sub-base, minimising groundwork and reducing costs significantly when compared with some other paving types.
- **Environmentally Friendly:** its flexibility for applying to existing surfaces minimises use of raw materials and waste. Incorporating 50% recycled rubber content with 50% natural aggregates provides an added environmental benefit.
- **Variety of Application:** use for patios, pathways, cycle tracks, courtyards (with no vehicular traffic), equestrian centres and tree pits.
- **Easy Maintenance:** a simple sweep or quick pressure wash every now and again to keep it looking at its optimum, or a spruce up using our Pavetuf Resin Bound Cleaner.
- **Quick Installation:** experienced installers can place upwards of 200m² a day, minimising disruption to family life.
- **Low Impact and lightweight:** the recycled rubber chippings in ResiFlex creates a low impact surface which is lightweight and easy to install.
- **SuDS compliant:** the ResiFlex system is fully permeable when used in conjunction with an appropriately designed sub-base. This eliminates the need for planning permission that may be required due to Sustainable Drainage Regulations.
- **Slip Resistance:** good anti-slip properties as standard, for even greater assurance, Resiscape Crushed Glass can be added.
- **Smooth Surface:** ideal for wheelchair use, children, bicycles etc. For even further improved accessibility, adding our Resiscape GloPath aggregate to your chosen mix, helps guide the way in the dark.

Sustainable drainage systems (SuDs)

The link between growing urbanisation and flooding was recognised by the UK Government several years ago, following the publishing of the Pitt Review, which reported on the 2007 summer flooding. Regulations followed in October 2008 and it's fair to say that implementation has been inconsistent depending on your local authority. Knowledge within the hard landscaping industry is improving and outside the industry, most homeowners will have, at least, heard of it by now.

No doubt, we will all be aware of local and nationwide flooding occurrences since regulation came in and it would be difficult to suggest that the issue is going away. With increased housebuilding and urbanisation being progressed by the UK Government, along with indicators that rainfall is increasing year-on-year, with more extreme events, our need for better water management has never been more necessary.

In summary and in plain English, at the front of your property if your outdoor space is over 5M²; and you are looking to install, extend or to replace an existing area, you will need planning permission, unless you are installing a SuDS compliant system. A SuDS compliant system provides a permeable solution or an option of using standard paving, ensuring that you make allowances for the water run-off, for example, drains to a soakaway.

The ResiFlex system gives you the option of a great looking SuDS compliant pedestrian installation with the benefit of no extra maintenance once in service.

Things to consider when ordering

We have a large network of stockists from whom you can purchase our ResiFlex products. To find your nearest stockist contact our Customer Experience Team or visit our website and use our friendly live chat service.

Call: **0330 333 8030** | Email: **customerexperience@talasey.co.uk**

Or visit the knowledge hub on **www.resiscape.co.uk**

There are a few things to consider when placing your order for ResiFlex:

- Consider what the area is going to be used for. For more advice on appropriate depth coverages depending on types of use, please refer to our 'Coverage specifications' advice on page 9.
- Consider what, or if any, groundwork will be required. For more advice on appropriate bases, please refer to our 'Base types' advice on page 10.
- Consider who is going to do the work and what equipment is required, (see page 9 for full details).
- Plan your project carefully, firstly, ensure you have enough product to finish the job to avoid potential batch variations and 'day joints'. We recommend that an extra 10% is ordered as provision for undulations in the base.
- Consider what sort of design you are after. We have a range of Pavetuf Edging accessories to add that classy finishing touch. Visit our website at **www.pavetuf.com**.
- Consider what Resiscape Accessories you need to order too, e.g., Spirit Cleaner, Crushed Glass Grit or GloPath. Visit our website at **www.resiscape.co.uk**.
- Products being delivered direct to site/homeowners will be delivered kerbside. It is important the driver has easy access and maneuverability at the delivery site. Please note that the drivers cannot off-load very far from the vehicle so you may need to consider how the products will be moved to the project area.
- For very large areas, consider how much you can get done in a day, to avoid 'day joints'. Design-in breaks in an expanse to allow for this, if required. Consider our Pavetuf Edging accessories as a design solution. An experienced team of three maybe able to lay around 200m², on a good day.
- If you have a concrete base with expansion joints then, again, our Pavetuf Edging accessories are there to give you as desirable solution.
- If you have received a sample, please be aware that natural quarried aggregates are used so some variation may be present from the sample to the actual product delivered. The samples are indicative only of final colour and should not be considered exact representations of every batch.
- ResiFlex resin is non UV and as such the resin will darken when subjected to UV exposure. Please be aware this may affect seasonal fixtures, such as plant pots and garden furniture, exhibiting a colour difference when moved. The long-term durability is not affected, and colour variations tend to diminish over time.

Receiving your ResiFlex

A few things to remember once you receive your order:

- Inspect and count all the products, ensuring you have received the complete order requirements. Check all the aggregates and recycled rubber chippings are dry and the bags are intact after transit.
- Assuming your job is bigger than one kit, stack your aggregates, recycled rubber chippings and resin into organised kit quantities. A single kit/mix is made up of two 25KG bags of 2-5mm aggregate, two bags of 25KG 2-6mm recycled rubber chippings, one 6.25KG bag of C50 sand and a tub each of Part A Resin and Part B Hardener.
- Be aware, every effort is made to ensure that your order is supplied from the same batch of aggregates. However, it is not always possible to guarantee that there will not be some shade variation. Bear this in mind when organising your bags into kits and ensure a natural blend.
- If you are not satisfied or concerned about any aspect of your delivery, please report it to your supplier before you start work, so we can support all parties to resolve the situation, as appropriate and as urgently as possible. Talasey Ltd will not accept liability or costs for installation of product for issues not found as part of recommended 'Pre-Start Checklist' on page 13.
- Store your resin in a cool, well ventilated area in warmer conditions. The back of a van is not a great place on a hot day.
- Keep your aggregates covered or under shelter if you are not using them immediately.
- Do not forget your Spirit Cleaner! Your tools, such as your mixer and trowel, need to be cleaned throughout installation to prevent sticking and curing to everything.
- Double-check you have enough product. Do not forget, the kits are calculated assuming a uniform 25mm or 30mm depth of coverage depending on which application you are using. Double-check your base, are there undulations that result in you needing more product?

Health & Safety

A full risk assessment of the project is recommended. Safety Data Sheets, pertaining to all chemicals, are available for download from our website at www.resiscape.co.uk.

It is your responsibility to ensure that you comply with all applicable health and safety legislation and guidelines.

Wear appropriate PPE, at all times, when handling the components and accessories from ResiFlex and Resiscape Resin Bound Aggregate Systems. Only use in well ventilated areas.



Wear chemical resistant, impervious protective gloves.



Wear safety eyewear, particularly when handling and mixing chemical components.



Wear protective clothing, if skin contamination is possible.



Wear a dust mask when handling the aggregates and dry-mixing.



Consider ear protection within risk assessment.



Wear knee pads when trowelling.

Disposal

Dispose of material and packaging as directed on the product labels.

Installing ResiFlex

If this is your first time ever, or first time in a while, using this type of system, we strongly recommend reading all sections of our guidance before starting on installation.

Most professional teams will consist of, at least three people. One man mixing with two placing and trowelling. Consistency is the key for the very best finish. Consistent mixing times and trowelling technique will achieve a consistent finish.

Recommended Equipment

- Forced action pan mixer – you can hire them easily enough. Do not be tempted to use a standard cement mixer as this will not work.
- Power supply – you may need provision for 110V transformer and lead.
- Tarpaulin – for your mixer and protection from spillages.
- Stopwatch – mixing time needs to be consistent.
- Drill and whisk paddle – for mixing the resin and hardener.
- Trowel or float – you can purchase special resin trowels. Alternatively, a plasterer's trowel can be used.
- Powered hover trowel (optional) – for the very best finish consider one of these.
- Gaffer tape – for protecting the edges of the area.
- Clean wheelbarrow – use a plastic liner for ease.
- Resiscape Spirit Cleaner and plenty of rags.
- Gazebo (best practice, over mixer, in case of unexpected showers or excessive heat).

Coverage Specifications

Concrete or Tarmac Base	Minimum Depth
Pedestrian, Cycle, Equestrian areas	25mm
Granular sub-base	Minimum Depth
Pedestrian, Cycle, Equestrian areas	30mm

Each kit will cover:

- 4.2m² at a depth of 25mm laid onto concrete or tarmac.
- 3.6m² at a depth of 30mm laid on compacted stone.

Each 4.3m² kit contains:

- 2 x 25kg Bags of 2-5mm Aggregate
- 2 x 25kg Bags of 2-6mm Recycled Rubber Chippings
- 1 x 6.5kg Bag of C50 Sand
- 1 x tub Part A Resin
- 1 x tub Part B Resin

Please note: ResiFlex Resin is not UV stable and as such will darken. No accelerator is required in the mix.

Base Types

Compacted Stone

Unlike our Resiscape Resin Bound Aggregate System, the lightweight recycled rubber chippings in the ResiFlex system allow the surface to flex allowing it to be laid directly onto compacted stone, saving you time and money.

A hardcore base, such as MOT Type 1, is generally adequate for domestic pedestrian applications. Infill this to a minimum depth of 100mm, damping down before compacting well with a vibrating plate compactor in layers of 50mm.

If a permeable SuDS installation is required, MOT Type 3 granular sub-base can be used but must be designed in conjunction with the relevant specification.



ResiFlex Surface - Hand applied and trowelled to a smooth finish laid at 30mm thick.

Sub-base - Laid in well compacted layers to a minimum fall of 1.5% (1 in 66). Minimum 100mm depth of well compacted non-frost susceptible Type 1 or Type 3 granular sub-base (dependant on ground conditions).

Optional membrane - Geotextile membrane to prevent upward migration of fine soil particles.

Sub-grade

Tarmac

The ResiFlex system can be laid at a depth of 25mm directly onto the surface of a new or existing tarmac surface. If this is new, we recommend you allow sufficient time to allow for it to set before placement of the ResiFlex top surface. Consult a local expert to be sure but often 1 – 2 weeks is sufficient for setting.

It is important the base surface is laid to an adequate fall to allow drainage (minimum 1.5%).

Concrete

Concrete also provides a suitable base for the ResiFlex system laying at a depth of 25mm. If the concrete base is new, then you should allow 28 days for the concrete to hydrate before placement of the ResiFlex top surface. Any existing base which has cracks in the surface should have these filled with a polymer/cement crack filling material.

It is important the base surface is laid to an adequate fall to allow drainage, (minimum 1.5%).

There needs to be an allowance for sufficient expansion joints in the concrete slabs, to allow for movement. If an old base does not have these already present, seek expert advice to have these incorporated. Where expansion joints are required, these must also reflect through to the ResiFlex top surface. This can be done stylishly, using our range of Pavetuf Edging accessories.

Additional Use

ResiFlex is suitable for use around trees, see the diagram below.



Preparation

If installing on a concrete or tarmac base:

- Ensure this is free of dust, organic matter and loose materials.
- Ensure this is clean and free of contaminants, e.g. oil, grease.
- If installing on a concrete or tarmac base ensure this is free of cracks or damage. These will be reflected in the finished surface. Repair any areas of damage prior to ResiFlex surfacing. Movement in a new base or old pre-existing base, after ResiFlex surfacing, will also reflect itself eventually so ensure the construction is solid.

For all base types:

- Ensure the base is dry. If in doubt, use a Hygrometer to check it. Force dry with appropriate equipment if you have it.
- A suitable edging detail is optional and can be used. This can be done stylishly, using our range of Pavetuf Edging accessories
- Check for undulations in your base that will affect the quantity of product you require. Remember, coverage needs to be either 25mm or 30mm depending on your application. Even small variations can make a significant difference to overall usage.
- Some installers find it useful to mark out the areas in grids with chalk, as a double-check that quantities are correct prior to start and that they are consuming at the correct rate once on with installation.
- Plan your starting point and route of travel with the wheelbarrow. We recommend starting at the further point and work your way back toward the mixer.
- Tape off the area, you don't want people walking on the area until its sufficiently cured.

Important! Pre-Start Checklist

Resin Part A	1 tub	
Hardener Part B	1 tub	
2-5mm Aggregates (25kg)	2 bags	
2-6mm Recycled Rubber Chippings (25kg)	2 bags	
C50 Sand (6.25kg)	1 bag	

- Check if there are any signs of damp or condensation in your bags of aggregate. Do not use them if so.
- Check if there are any shade or batch variations amongst your aggregates. Mix them uniformly across your prepared mix kits to create a natural blend across the entire installation. It is not always possible to guarantee there will not be some natural variations from bag to bag.
- Protect areas not to be coated from spillage or carry over. Use a tarpaulin under your mixing area. Mask off edgings etc with gaffer tape.
- Check your mixer and all your tools are clean and dry before you start.
- Check the forecast, only attempt installation on days when no rain is forecast.
- Check the conditions and dew point. Is the area dry? See below for more guidance on checking the dew point.

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Mixing

- Open and pour Part B into the Part A Resin bucket and mix together, using your drill and whisk paddle, for 45 seconds.
- Empty all the 2-5mm aggregates and the 2-6mm recycled rubber chippings into the forced action mixer and begin to dry mix for approximately 30 seconds.
- Pour the resin in with the already mixing aggregates and rubber chippings and allow to coat for approximately 30 seconds.
- Add in the C50 sand and continue to mix for a further 60 seconds, until all aggregates and rubber chippings are glazed.
- Before emptying the whole mix into the wheelbarrow, carry out a quick visual check to see if the whole mix looks coated and there are no dry spots.
- Once you are satisfied, release the ResiFlex mix into the wheelbarrow.
- The mixer operator should then keep the mixer clean between each mix, avoiding build-up. This avoids contamination of clumps from mix to mix and cuts down on cleaning time at the end of the day.

Installation

Depending on air temperature, on average, you have approximately 20-30 minutes to work with each mix. On warmer days, timings can reduce significantly.

- From your starting point, tip the ResiFlex mix out onto the prepared base.
- Using your trowel, or a spazzle, spread the material out into the desired areas.
- Look out for any dry aggregates that are not fully coated. Do not continue until resolved. This indicates the mixer is not operating as effectively as is required.
- Begin to trowel, in strokes, and compress the mixture down until you get a flat surface to the desired depth.
- Clean your trowel and other tools throughout installation with Resiscape Spirit Cleaner to stop any mixture sticking, making the strokes easier and more consistent.
- At the end of each mix, leave the edge slightly mounded up to allow overlapping with the next mix and to avoid colour banding.
- Take care throughout to maintain your desired depth and check for a level surface.
- Repeat until complete. Please remember, the ResiFlex system needs to be installed in a continuous process, unless designing in a day joint.

It is important the area is kept protected from rain until cured. Depending on the thickness laid and the weather conditions, (curing will be extended in colder conditions), the area should be left for a minimum 4-8 hours for foot traffic. Ensure the area is not soft or tacky before walking on it.

Aftercare of your ResiFlex

A well installed ResiFlex system is easy to maintain and its durability can assure you of many years of use. Different environmental conditions and types of use can occasionally cause a change in appearance. Generally, there is always a solution.

General Soiling & Cleaning

In most domestic environments, all you will need to do is give the area the occasional sweep with a broom.

For a more robust cleaning solution we recommend the use of our Pavetuf Resin Bound cleaner which has been designed specifically to aid easy removal of soiling without the need to use a pressure washer. If you do choose to use a pressure washer, sweep up first to remove abrasive particles. We would recommend the pressure is set no higher than 150 bar rating. Fitting one of the patio cleaner rotary heads is ideal, otherwise have the jet set as a fan, holding approximately 12"/300mm away from the surface.

When using the ResiFlex system only, these may be affected by seasonal fixtures, such as plant pots and garden furniture, exhibiting a colour difference when moved. The long-term durability is not affected, and colour variations tend to diminish over time.

Organic Soiling – Leaves, Algae etc

As with any paved area, it is good practice to keep the area clear of leaves. Allowing leaves to lie for periods of time can allow certain types to leach their tannins and stain the area, it depends on the species as to the severity. Allowing leaves to gather for extended periods of time will also encourage algae growth, if you have an area predisposed to it.

Algae can grow on almost any surface given the right conditions, not just horizontal areas. There are so many variables that can affect whether it grows or not. Some airborne weed seedlings may settle into crevices, these should be cleared as regularly as required. The good thing about ResiFlex is that it is easy to clean organic matter off the surface. Our Pavetuf Green-Off has been tried and tested to remove organic growth from many hard landscaping areas. This is easily sprayed onto the surface to kill the spores and can keep it at bay longer than just general cleaning.

Alternatively, you could try hot, soapy water and a stiff broom or the pressure washer.

Snow, Ice & Frost

The ResiFlex system is completely durable against anything our climate can throw at it and it is safe to use rock or grit salt without fear of damaging your surface. Be aware, salt can be harmful to plants and flower beds and you may need to clean up the area once it gets milder. There are cleaner, more environmentally friendly chemical alternatives on the market if you prefer.

For clearing snow, only use a plastic snow shovel not a metal one, to avoid damaging or scuffing your surface.

Oils & Chewing Gum

Oils, petrol & diesel can damage the surface if left. We recommend cleaning at your earliest opportunity. You can use clean water and detergent. If this is not successful, purchase a bio-degradable 'Oil Stain Remover'.

If the surface is contaminated with chewing gum, its best removed using a bio-degradable remover designed for the purpose. A 'Google' search will throw up potential solutions. If in doubt where to purchase, we recommend you take advice from the manufacturer of the product to ensure its appropriate.

Normal/Abnormal Use

The ResiFlex system has been designed for normal pedestrian use, therefore, protection should be provided, wherever possible, against abnormal usage. This applies to heavy objects, such as skips, which should not be dragged across the surface. The area should be protected, in these instances, to avoid damage, scuffing or staining.

Damage Repair

However unlikely, if the worst happens and a small patch does get damaged then it can be repaired. Do so at the earliest opportunity. If you have any aggregates and recycled rubber chippings left over at the end of the installation, it is worth keeping a small amount of the original batch materials in case they are ever needed, as it will minimise variation.

The damaged area should be chiselled out by hand. Mix the patch repair quantities, taking care with the proportions. You can readily purchase a syringe suitable for small chemical dosages, if required. Then feather in the edges, to achieve a durable, and as seamless as possible, repair.

General Information

All advice contained within this document is intended for guidance and indication purposes only. It is the responsibility of the Project Specifier, or User, to ensure that adequate design considerations are made for their specific project and the specific site variables and potential uses.

Follow local building regulations at all times.

All sizes, weights and measurements contained within this document are nominal.

Talasey Ltd will not accept responsibility for improper use of our products or product guidance.

Talasey Ltd are continually improving their products and services and therefore, reserve the right to change product specification, product designs and any guidance, without notice.

www.resiscape.co.uk

For further information or technical advice call

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info@talasey.co.uk
0330 333 8030
www.talasey.co.uk



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