BS 7533 Compliant Mortar Paving System

Bedding, Jointing, Sealing
Case Study

**Castle Green, Taunton:**
Redevelopment of historic square

**Materials used:**
Ultrascape’s BS 7533 Compliant Pro-Bed HS, Flowpoint and Pro-Prime

**Main contractor:**
Britannia Construction
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We are a multi-awarding winning market leading company. A specialist manufacturer of cement and bitumen based products to the world market for over 35 years. We have built a solid reputation based on the research, development and production of innovative materials for use in urban regeneration, highway maintenance, tiling, commercial flooring and internal finishing.

We are committed to providing high specification products that are durable, proven and independently tested and backed up by first class customer, technical and site support.

Manufacturing has been at the heart of Instarmac since 1977 and today products are produced in a modern, automated facility and sold to contractors, distributors and stockists worldwide.

Our own research and development laboratory means that we are always at the forefront of today’s technology. Rigorous testing in-house and through certified external bodies offers you the reassurance of a quality guarantee.
Excellence as standard

We are committed to continuously re-evaluating and reducing our environmental impact to encourage a positive, long-term future and have been recognised and awarded several times for our initiatives. Ultrascape’s ECO products contain recycled glass, supporting our customers’ own sustainability targets without compromising product quality or performance. By continually working with suppliers to take advantage of the most energy and waste efficient products and procedures, and employing the latest available technologies, means we are always achieving a year-on-year improvement in our performance.

Our latest efforts have meant the successful implementation of zero waste to landfill from January 2014. We strive to be pioneering in our corporate social responsibility activities, the working environment we maintain, our culture and the rewards we provide.

We are a Sunday Times Top 100 Small Company with a 3-star Best Companies rating and have been recognised in their international Track 200 which ranks Britain’s mid-market private companies with the fastest growing international sales. All our products and systems are certified to ISO 9001, 14001 and OHSAS 18001. We have been commended for our health and safety processes winning the highly coveted Gold Award from RoSPA (Royal Society for the Prevention of Accidents) three years running.

Delivery

All processed orders are automatically confirmed by email to you. Our privately owned fleet is managed and fully tracked in-house. Live tracking technology means that we can tell you exactly where your delivery is. Our system will automatically text you when your delivery is only 30 minutes away.
Case Study

**Angel Building, Islington:**
Office refurbishment

**Materials used:**
Ultrascape’s BS 7533 Compliant Pro-Bed HS, Flowpoint and Pro-Prime

**Main contractor:**
J Browne Construction Company Ltd

**Strength. Durability. Style.**

**The Benefits of Compliance**

Ultrascape’s Mortar Paving System is fully BS 7533 compliant and also offers the reassurance of being tested by independent UKAS accredited laboratories, which verify its capabilities.

BS 7533 has developed over 20 years to offer clear, consistent and tested methods for designing and constructing rigid and flexible paved areas offering a minimum construction life of 40 years.
BS 7533

The Mortar Paving System of Choice

BS 7533 Mortar Paving System
A range of high performance, rapid strength bedding, priming and jointing materials that meet and exceed the strict demands of BS 7533.

- **Sand Stabiliser, Surface Sealant & Gum Adhesion Inhibitor**
  A single product with 3 uses, solvent free and suitable for flexible or rigid paving constructions.

- **High Performance Resinous Mortar**
  An extremely high strength, chemical resistant and waterproof (once cured) mortar for use in heavily trafficked environments, recessed manhole covers and water features.

- **Vertical Stone and Brick Slip Adhesive**
  A flexible, polymer modified cladding adhesive, specially formulated with exceptional bond, for fixing brick slips and natural stone to a range of vertical surfaces.

- **Specialist Jointing Sand**
  A jointing compound that provides a flexible, yet durable finish when cured. Suitable for use on pavements and lightly trafficked pedestrianised areas with occasional vehicular use.

Trusted reputation

Ultrascape has developed a trusted reputation for quality and value added service. Ultrascape provides products with guaranteed BS 7533 compliant performance which deliver results time and time again. Our premium products have been specified by contractors, architects and engineers for an ever-expanding portfolio of major schemes across the country because we support our customers with technical advice and work closely with them at specification stage.
Ultrascape Pro-bed HS is a fine bedding mortar manufactured to meet and exceed the strict requirements of BS 7533. It is also available in ECO, offering all the benefits of Pro-Bed HS, but containing 20% recycled material, significantly reducing the consumption of virgin aggregates. It is ideal for schemes looking to achieve an ‘excellent’ CEEQUAL award, or where a BREEAM assessment is to be conducted on your building.

Meeting the requirements of BS 7533 (Type A and B mortar) is no easy feat, which is why Ultrascape provide full and current independent test data, from UKAS accredited laboratories, to show full compliance.

Ultrascape Pro-Bed HS can be laid from 10mm to 75mm (with greater depths achieved using successive layers).

Mixed solely with water, Pro-Bed HS takes away the uncertainty of using a multi-component system.

The extremely fast strength gain of Pro-bed HS also sets it apart from its counterparts; meaning that pedestrian areas can be trafficked in as little as 12 hours and vehicular in as little as 24 hours.

### Sustainability

Sustainability is aided with the use of recycled components. 30 tonnes of Pro-Bed HS ECO contains up to 6 tonnes of recycled glass.

### BS 7533 Rigid Construction

### Bedding

#### Ultrascape Pro-Bed HS and Pro-Bed HS ECO

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirement of BS 7533-7:2010</th>
<th>Pro Bed HS / Eco</th>
<th>Pass / Fail</th>
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</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>35N/mm²</td>
<td>38N/mm²</td>
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<tr>
<td>Adhesive Strength</td>
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<tr>
<td>Modulus of Elasticity</td>
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</tr>
<tr>
<td>Shrinkage</td>
<td>=/&lt;0.1%</td>
<td>0.09%</td>
<td>✓</td>
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</table>
Test Requirement of BS 7533-7:2010 Pro Bed HS / Eco Pass

Compressive Strength 35N/mm² 38N/mm²

Adhesive Strength >2.0N/mm² 2.5N/mm²

Flexural Strength >4.5N/mm² 7.5N/mm²

Modulus of Elasticity 18,500N/mm² +/- 3,500 18,333N/mm²

Shrinkage =/<0.1% 0.09%

Laid from 10mm - 75mm

Foot traffic in 12 hours
Bedding

Ultrascape Pro-Bed HS in bulk

Offering all of the benefits of bagged Ultrascape Pro-Bed HS, our 30 tonne silos for larger sites, offer the ability to mix the product on-site at the touch of a button. Perfect for large pedestrianisation or commercial regeneration projects.

Ideal where your site has limited storage, a bulk mortar silo from Ultrascape can accommodate over 30 tonnes of material in a single load - all in a footprint area of less than 3m x 3m*.

*Please contact us to check installation requirements.
Our unique bulk mortar silos feature a ‘single chamber’ design, meaning that the product you find within the silo is the same, single part, pre-blended, high quality material you find in our smaller 25kg bags.

There are no rental, maintenance or delivery charges*.

A bulk mortar silo from Ultrascape not only offers a significant cost saving over traditional bagged material, but also has the added benefit of reducing mortar packaging waste to zero.

Pro-Bed HS ECO, which contains 20% recycled glass, is also available in bulk bags. Contact us to discuss your requirements and feasibility.

*subject to our fair use policy and part loads.

Case Study
Piccadilly Place, Manchester
Central Plaza

Materials used:
Ultrascape’s BS 7533 compliant Pro-Bed HS, Flowpoint and Pro-Prime

Main contractor:
Carillion
Priming

Ultrascape Pro-Prime

Ultrascape Pro-Prime slurry primer is used to provide an exceptional bond between your paving element and Ultrascape Pro-Bed HS fine bedding mortar, and can also be used to promote bond between your roadbase and the Pro-Bed HS bedding mortar layer.

Traditionally paving elements would be laid directly onto bedding mortar, but due to ever-increasing traffic loading, street cleaning and general wear and tear, the paving would often break away from the mortar bed, resulting in many high profile, costly failures and associated litigation.

Failed paving is costly. The addition of a slurry primer to a paved construction is essential to guarantee a bond strength compliant with BS 7533.
The addition of a priming layer between the paving element and the Pro-Bed HS bedding mortar yields an extremely high bond strength which prevents this type of failure. This increases the life expectancy of your paved area and reduces its ongoing maintenance and potential litigation costs.

The British Standard BS 7533 was modified to reflect and remedy this issue, stipulating a bond strength requirement of greater than 2N/mm², double the previous requirement. This can only be achieved by using a priming agent such as Pro-Prime slurry primer. Simple to mix and apply, the addition of Pro-Prime slurry primer to your construction ensures it meets the latest requirements of the British Standard.

Case Study
MediaCity UK

Materials used:
Ultrascape’s BS 7533 compliant Pro-Bed HS, Pro-Prime and Flowpoint.

Main contractor:
English Landscapes
Ultrascape Flowpoint grout exceeds all of the requirements of the latest British Standard. It is also available in ECO, an environmentally friendly formulation, offering all the benefits of Flowpoint, but containing 20% recycled material, significantly reducing the consumption of virgin aggregates.

The third variation of this award winning grout, Flowpoint Smooth, is ideally suited to smooth paving stones and slabs, providing a seamless surface to your construction.
For over 25 years, Flowpoint has been exceeding the demands of clients. It has been used in a variety of project environments including public realm, landscaping and domestic. Ultrascape Flowpoint is now synonymous with fast application, cost effective and robust jointing.

Paving grouted with Flowpoint can be opened to pedestrian traffic in just 1 hour and vehicular traffic in 4 hours (tested at 20°C).

The product is available in three alternatives: regular, ECO and Smooth. Overall all three offer the same great features; however you can choose to benefit from recycled material or a smooth surface finish.

Flowpoint ECO is ideal for schemes looking to achieve an ‘excellent’ CEEQUAL award, or where a BREEAM assessment is to be conducted on your building.

All three alternatives are sold individually as pre-mixed dry packs, which only require the addition of water on-site. Once the desired consistency has been achieved, the product is poured over the paving, filling joints with ease and then the surplus is simply washed off. The nature of this method causes many to worry about staining; however this flowable grout leaves a perfect stain free finish.

Visit Ultrascape products to see Flowpoint in action.
Jointing

Ultrascape Cempoint

Ultrascape Cempoint provides a quick and clean method of jointing both horizontal and vertical faces (such as cladding and steps). Still meeting the strict demands of BS 7533, Cempoint combines all the benefits of this exacting standard with the convenience of being installed using a hand-held mortar gun.

As with the rest of the products in the Ultrascape BS 7533 compliant mortar paving system, Cempoint is supplied as a pre-blended product, requiring only the addition of water on site; thus reducing the potential for colour variance and workmanship issues during installation. Cempoint is not only specially modified to meet the requirements of BS 7533, but is also manufactured with convenience and usability in mind.

The light and pliable texture of Cempoint makes it fast and convenient to work with. The hand-held mortar gun allows intricate areas to be grouted neatly. Cempoint is just as suited to pointing brickwork and stone walling as it is to paving flags and setts.
Ultrascape’s Cempoint gun injected mortar is perfect for those smaller areas which can be difficult to grout. Fast and easy to apply, with no wastage, it neatly and directly fills the paving joint.

Case Study

Bullring Birmingham

Materials used:
Ultrascape’s BS 7533 compliant Flowpoint

Main contractor:
P.J. Carey Ltd
Resinous Mortar
Ultrascape Resi-Bed

Ultrascape Resi-Bed is a resinous mortar, which provides exceptional strength and bond for areas under extreme stresses. It is perfectly suited for bonding to steel, such as recessed manhole covers.

A resin mortar is an exceptionally high bond strength, long-lasting solution for areas subject to extreme wear and tear.
Resi-Bed is entirely waterproof and chemical resistant once cured, making it ideal for use in water features. It has an exceptionally high bond strength and the ability to withstand higher flexural strain than traditional sand and cement mortars. Recessed manhole covers have long been a source of frustration for designers, contractors and maintenance managers alike. Sand and cement mortars have difficulty resisting the inherent ‘flex’ of the cover under traffic loading and also have equal difficulty bonding to the steel of the cover itself. Resi-Bed offers a lasting solution which overcomes both of the issues.

Resi-Bed is also often used on raised carriageway, or ‘table’ construction, at the leading edges, where exceptional forces can be experienced. Using conventional mortars on the leading edges of raised tables leads to early failure, which also encourages failure in the surrounding paved area. Resi-Bed can prevent this failure ensuring the table remains intact.

Case Study

Granary Square, Kings Cross:
Installation of 1000 water fountains
Materials used:
Ultrascape’s Resi-Bed
Main contractor:
Miller Druck International Stone
Vertical Stone and Brick Slip Adhesive
Ultrascape SlipBond

Ultrascape SlipBond is a flexible cladding adhesive for external use. It consists of blended cements, graded fillers and additives and a high level of redispersible powder polymer.

Polymer modified for increased strength, exceptional bond and enhanced performance.

It is specially formulated with extended workability for fixing brick slips and natural stone to a range of substrates including sand/cement render, brick and block work and can be used with external wall installation systems.

SlipBond’s frost resistant formula makes it ideal for use in all weathers. It has extended workability allowing large intricate areas to be covered. It can be applied to a thickness of 3mm-20mm up to 1m² at a time.
Ultrascape PaveJoint *plus* is a specialist jointing compound that provides a flexible yet durable finish when cured. It is suitable for use with most types of paving including natural stone, concrete, slate, clay, terracotta and granite. It can be used on pavements and lightly trafficked pedestrianised areas with occasional vehicular use. Water is used to pre-soak the surface and this also helps the sand to penetrate deep into the paving joint. Staining of the paving is prevented by keeping the area wet during application.
The all weather jointing compound. Protects paving from weed growth.

Ultrascape PaveJoint plus can be used to fill joints from 3-20mm. The area can accept pedestrian traffic in as little as 18-24 hours and its all weather formula means it is resistant to freeze/thaw conditions.

There is no waste on-site; any leftover material can be re-used (see storage instructions on technical data sheet).
Ultrascape Paving Guard is a solvent free liquid sand stabiliser, surface sealant and chewing gum adhesion inhibitor.

Paving Guard provides a versatile solution for joint protection in domestic, commercial and public realm projects.

The product is an acrylic polyurethane hybrid and as such provides for both a user-friendly application and an extremely robust and durable finish, normally only achieved with solvent stabilised products.

Joint Protection
Ultrascape Paving Guard

Joint protection is essential for the longevity of large public realm projects.

Sand Stabiliser
When used on flexibly constructed paved areas, the product bonds the particles of jointing sand to one another preventing wash-out during cleaning cycles, whilst maintaining the necessary degree of flexibility required for this construction type.

Surface Sealant
When applied the product forms a protective barrier to many common stain agents (oil, grease, foodstuffs etc.) and reduces the effects of such stains whilst also facilitating easier subsequent cleaning of treated areas.

Chewing Gum Adhesion Inhibitor
Paving Guard reduces the ability of chewing gum to adhere to the surface of paving; making it easier to remove during normal cleaning cycles.
Foot traffic after 5 hours
Instarmac is an approved CPD provider to the Royal Institute of British Architects and the Royal Institute of Architects of Ireland. ‘Streetscape Installation Solutions’ and ‘Paving the Way’ training sessions are delivered by our staff at either your premises or at our purpose built facilities. These sessions define the benefits and intricacies of flexible and rigid construction and deliver a greater understanding of the products, materials and design possibilities.

For more information or to book a free training session, please email: cpd@instarmac.co.uk

**Training & Site Support**

**Ultrascrape’s Accredited CPDs Providing Regeneration Solutions**

**Covering:**
- Urban Regeneration
- British Standard BS 7533
- Rigid and Flexible Pavement Construction
- Reasons for Pavement Failure
- How to Avoid Pavement Failure
- Material Performance
- Material Application
## Product Selection Guide

**Suitable for**

- Adhesive strength
- Compressive strength
- width/depth
- Minimum and maximum coverage
- Product yield
- Set time for vehicular traffic at 20°C
- Set time for foot traffic at 20°C
- Working time at 20°C

### BS 7533 compliant, fine bedding mortar.

- Also available with 20% recycled glass.
- BREEAM assessment is going to be conducted.
- Recycled version is particularly suitable where a CEEQUAL or Paving in public realm, light, driveways and paved areas.

### Single part, pre-blended, water based slurry grout. Also available with 20% recycled glass.

- BREEAM assessment is going to be conducted.
- Ideal for larger schemes.
- Recycled version is particularly suitable where a CEEQUAL or Paving in public realm, light, driveways and paved areas.

### Single part, pre-blended, BS 7533 mortar. Also available with 20% recycled glass.

- BREEAM assessment is going to be conducted.
- Ideal for installing paving into recessed manhole covers, raised carriageways and exceptional loading centres and pedestrianised areas. Can be used as a sand stabiliser to bond particles of jointing sand to one another. Specialist jointing compound vertical stone and brick slip.

### Single part, pre-blended, BS 7533 compliant slurry grout, with a smooth surface finish.

- Also available with 20% recycled glass.
- BREEAM assessment is going to be conducted.
- Ideal for fixing brick, sand/cement render, brick and slipbond.

### Single part, pre-blended, gun applied, BS 7533 mortar for vertical and horizontal jointing.

- BREEAM assessment is going to be conducted.
- Ideal for installing paving into recessed manhole covers, raised carriageways and exceptional loading centres and pedestrianised areas. Can be used as a sand stabiliser to bond particles of jointing sand to one another. Specialist jointing compound vertical stone and brick slip.

### Single part, pre-blended, solvent free liquid sand stabliser, surface sealant and chewing gum adhesion inhibitor.

- BREEAM assessment is going to be conducted.
- Ideal for fixing brick, sand/cement render, brick and slipbond.

### Product Overview

- BS 7533 compliant, fine bedding mortar. Supplied in bulk mortar.
- BS 7533 compliant slurry grout, with a smooth surface finish.

### Coverage

<table>
<thead>
<tr>
<th>Product</th>
<th>Coverage</th>
<th>Unit size</th>
<th>Set time for vehicular traffic at 20°C</th>
<th>Set time for foot traffic at 20°C</th>
<th>Working time at 20°C</th>
<th>Product yield</th>
<th>Adhesive strength</th>
<th>Suitable for</th>
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<tbody>
<tr>
<td>Pro-Bed HS / ECO Pro-Bed HS / ECO (Bulk Supply) Pro-Prime Flowpoint / ECO Flowpoint Smooth</td>
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