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SPECIFICATION GUIDE // STREETSCAPE SYSTEM
BEDDING // PRIMING // JOINTING // SEALING

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STREETSCAPE

**ECO
BS7533
PAVING
MORTAR
SYSTEM**



PAVING THE WAY TO EXCELLENCE

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120 Fenchurch St, London
Photographer: Dirk Lindner (also cover image)



CONTENTS:

05	PRODUCTS AND SERVICES
06	REDUCED CARBON
08	RIBA APPROVED CPD SEMINAR
11	BEDDING
17	PRIMING
21	JOINTING
30	EPOXY MORTAR
33	SEALING
36	EQUIPMENT

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Ambleside, Cumbria
Photograph courtesy of Hardscape, hardscape.co.uk



Larsen Building Products has been manufacturing quality building products since establishment in 1975.



Accrington Town Centre
Photograph courtesy of Hardscape, hardscape.co.uk

STREETSCAPE

PRODUCTS AND SERVICES

New Product Development
New product development is our mantra. The requirements of our markets and customers are of paramount importance, we push ourselves constantly to improve our product portfolio. All research and development is focused on delivering quality products and value for money whilst reducing our environmental impact.

Customer Service
At Larsen we believe in speaking with our customers directly. Our highly trained sales support team will deal with your request in a timely and professional manner. They will ensure you are provided with accurate and pertinent information, that your call is handled competently and to your complete satisfaction.

Logistics
All deliveries are tracked from point of order through to delivery by a dedicated team member. Our extensive portfolio of haulage company partners provide Larsen with real time information and a network that enables us to cover anywhere in England, Wales, Scotland, Northern Ireland and the Republic of Ireland on a 3-5 working day lead time.

Technical and Site Support
Larsen Streetscape technical backup and support team will assist with product specification, recommendations and offer a solution. Site support is available upon request, ensuring all our experience is available for you throughout your project.





changing
tomorrow
today

**CO₂ SAVED PER 1,000M²*
PAVING LAID EQUATES TO:**

**CARBON ABSORBED BY
157 TREES
GROWING FOR 10 YEARS**

**24,497
CAR MILES **NOT** DRIVEN**

Victoria Square, Belfast
Photograph courtesy of Hardscape, hardscape.co.uk

ECO BS7533 **PAVING MORTAR SYSTEM**

Researchers within the cementitious industry have sought to reduce the impact cement has on the environment, whilst maintaining the quality of cementitious products. This research has focused on a search to find a waste material or by-product from manufacturing processes, which can be used as a partial replacement of cement such as Ordinary Portland Cement, OPC, in concrete, without compromising its desired strength. The most common materials that are pozzolanic and suitable for use as a partial replacement of cement are Ground Granulated Blast furnace Slag (GGBS), Fly Ash (FA), Rice Husk Ash (RHA), Silica Fume (SF).

Larsen have opted for GGBS as a partial replacement of OPC in our range of BS 7533 paving mortar products. GGBS is a waste product generated in huge quantities from the steel industries manufacture of iron. The partial replacement of OPC in concrete by GGBS, not only provides a saving on CO₂ production but also facilitates environmentally friendly disposal of the waste slag.

CO₂ savings that can be made through the replacement of OPC with GGBS are impressive e.g., the carbon footprint of OPC (CEM II) is 0.803 tonnes CO₂/tonne (based on CEMBureau EPD for CEMIIIs and National Cement data for EPA license), whereas the carbon footprint for GGBS is 25 x smaller at 0.032 tonnes CO₂/tonne (based on Ecocem Third Party verified EPD).

If a percentage of OPC is replaced with GGBS, we can use the average CO₂ generated per mile emitted by a car (0.00031 tonnes, ICCT EU Pocketbook 2014) or the number of trees growing for ten years absorbing 1 tonne CO₂ (25 trees) to contextualise the CO₂ emissions saved e.g., if 1 tonne of product containing 25% OPC was produced and 20% of the OPC is replaced with GGBS, this would be the same as 1 tree growing for 10 years or 124 miles not driven.

The Larsen Streetscape team will calculate the CO₂ saving for your paving project in terms of carbon absorbed by number of trees growing for 10 years, miles not driven in a car or tonnes/CO₂ saved.

RIBA APPROVED CPD SEMINAR

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ECO BS7533 PAVING MORTAR SYSTEM



AN IN-DEPTH GUIDE ON HOW SPECIFYING REDUCED CARBON MORTAR CAN HAVE A POSITIVE ENVIRONMENTAL IMPACT ON YOUR PAVING PROJECT

Areas Covered

BS 7533 part 101
Replacing cement with waste material
Types of bedding mortar
Bedding mortar permeability
Bonding mortar
Types of jointing mortar
The pavement build up
Traffic categories
Success stories

For more information
or to book your seminar,

email:
CPD@larsenbuildingproducts.com
or telephone 028 9053 5430

Duration of course: 40 mins

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Burnley Public Realm
Photograph courtesy of Hardscape, hardscape.co.uk

STREETSCAPE BEDDING



FINE BEDDING CONCRETE



Larsen Streetscape FBC Eco permeable bedding mortar is specifically formulated to exceed performance characteristics as set out in BS 7533 part 101 (Code of practice for the structural design of pavements using modular paving units), clause 5.4, table 9. FBC Eco permeable is ideal for pavements constructed with clay, concrete or natural stone paving units.

Pre-blended in 25kg bags and 1.2t bulk bags, Larsen's FBC Eco permeable requires only the addition of water, removing the risks associated with multi component systems.

Manufactured in an advanced computerised plant that's controlled under an integrated management system, third party certified to BS EN ISO 9001 and BS EN ISO 14001.

Bed depth	30mm-75mm (one pass) Greater depths can be achieved with more layers
Working time	60 mins approx at 20°C
Traffic time	12 hours - light foot traffic 24-48 hours - vehicular traffic depending on site conditions
Shelf life	6 mths in unopened bags from date of manufacture

Test	BS 7533	FBC Eco Permeable	Complies
Compressive	>35 MPa	>35 MPa	Yes
Flexural	>4.5 MPa	>4.5 MPa	Yes
Modulus	18,000 +/- 3,500 MPa	14,500 - 21,500 MPa	Yes
Shrinkage	<0.09%	0.03%	Yes
Permeability	>5 x 10 ⁻⁵	>5 x 10 ⁻⁵	Yes



Eco: Reduced Carbon
FBC Eco Permeable is the equivalent to carbon absorbed by growing two trees for 10 years or not driving a car for 313 miles per tonne of product used.

Contractor friendly 25kg bags
Bag Weight 25kg
Pallet Quantity 48
Yield 13.2 litres approx

1.2 tonne bags
Dry powder delivered in 1.2 tonne weather resistant bulk bags for larger projects when site access is restricted and when 25kg bags are not practical.





FINE BEDDING CONCRETE



Larsen Streetscape FBC Eco bedding mortar is specifically formulated to exceed performance characteristics as set out in BS 7533. FBC Eco is ideal for pavements constructed with clay, concrete or natural stone paving units.

Pre-blended in 25kg bags, 1.2t bulk bags and bulk silos, Larsen's FBC Eco requires only the addition of water,

removing the risks associated with multi component systems.

Manufactured in an advanced computerised plant that's controlled under an integrated management system, third party certified to BS EN ISO 9001 and BS EN ISO 14001.

Bed depth	30mm-75mm (one pass) Greater depths can be achieved with more layers
Working time	60 mins approx at 20°C
Traffic time	12 hours - light foot traffic 24-48 hours - vehicular traffic depending on site conditions
Shelf life	6 mths in unopened bags from date of manufacture

Test	BS 7533	FBC Eco	Complies
Compressive	>35 MPa	>35 MPa	Yes
Adhesive/Bond	>2 MPa	>2 MPa	Yes
Flexural	>4.5 MPa	>4.5 MPa	Yes
Modulus	18,000 +/- 3,500 MPa	14,500 - 21,500 MPa	Yes
Shrinkage	<0.09%	0.03%	Yes
Permeability	Allows the passage of water	Allows the passage of water	Yes



Eco: Reduced Carbon
FBC Eco is the equivalent to carbon absorbed by growing two trees for 10 years or not driving a car for 313 miles per tonne of product used.

Contractor friendly 25kg bags
Bag Weight 25kg
Pallet Quantity 48
Yield 13.2 litres

1.2 tonne bags
Dry powder delivered in 1.2 tonne weather resistant bulk bags for larger projects when site access is restricted and when 25kg bags are not practical.

Bulk silo
Bulk dry mortar silos hold 30 tonnes of pre-blended BS 7533 FBC Eco bedding mortar that's instantly mixed at the touch of a button. Bulk silos offer a cost saving compared to bagged material, eliminating the need for additional mixing equipment and disposal of packaging.





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STREETSCAPE PRIMING



PRIMING SLURRY



Larsen Streetscape PS is a priming slurry and bonding mortar specifically formulated to exceed the adhesion bond strength necessary for bound system B as set out in BS 7533 part 101 when measured in combination with Larsen Streetscape FBC Eco or FBC Eco permeable bedding mortar.

Larsen Streetscape PS bonding mortar should be applied to the base and

underside of the paving element in order to provide an adhesion bond strength of >2.0 MPa; this is from the base to the bedding mortar and paving element to the bedding mortar.

Manufactured in an advanced computerised plant that's controlled under an integrated management system, third party certified to BS EN ISO 9001 and BS EN ISO 14001.

Working time	60 mins approx at 20°C
Shelf life	6 mths in unopened bags from date of manufacture

Test	BS 7533	PS	Complies
Adhesive bond	>2 MPa	>2 MPa	Yes

Contractor friendly 25kg bags

Bag Weight	25kg
Pallet Quantity	48
Coverage / bag	19m ²



Eco: Reduced Carbon
PS Eco is the equivalent to carbon absorbed by growing one tree for 10 years or not driving a car for 107 miles per tonne of product used.





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STREETSCAPE JOINTING



FLOWABLE JOINTING MORTAR



Larsen Streetscape FJM slurry grout jointing mortar is specifically formulated to exceed performance characteristics as set out in BS 7533 part 101 (Code of practice for the structural design of pavements using modular paving units), clause 5.6, table 12. It is fast and efficient to apply, allowing the contractor to grout large areas of paving quickly.

Joint size	4-50mm width and up to 200mm depth in one pour
Working time	15 mins approx at 20°C
Traffic time	1-2 hours - light foot traffic 4-6 hours - vehicular traffic depending on site conditions
Shelf life	6 mths in unopened bags from date of manufacture



Eco: Reduced Carbon
FJM Eco is the equivalent to carbon absorbed by growing one tree for 10 years or not driving a car for 149 miles per tonne of product used.

Contractor friendly 25kg bags
Bag Weight 25kg
Pallet Quantity 48
Yield 13.6 litres

Colours
Natural, Mid Grey, Charcoal and Buff.

Special colours available, minimum order quantities apply.



Note: Although every effort has been made to reproduce the colour of the swatches shown on this page, there will be slight variations in actual colours due to printing limitations.



FLOWABLE JOINTING MORTAR SMOOTH



Larsen Streetscape FJM Smooth slurry grout jointing mortar is specifically formulated to exceed performance characteristics as set out in BS 7533 part 101 (Code of practice for the structural design of pavements using modular paving units), clause 5.6, table 12. It is fast and efficient to apply, allowing the contractor to grout large areas of paving quickly.

Larsen Streetscape FJM Smooth is manufactured in an advanced computerised plant that's controlled under an integrated management system, third party certified to BS EN ISO 9001 and BS EN ISO 14001.

Joint size	3-50mm width and up to 200mm depth in one pour
Working time	15 mins approx at 20°C
Traffic time	1-2 hours - light foot traffic 4-6 hours - vehicular traffic depending on site conditions
Shelf life	6 mths in unopened bags from date of manufacture

Test	BS 7533	FJM	FJM Smooth
Compressive	>40 MPa	>40 MPa	Yes
Adhesive/Bond	>1.5 MPa	>1.5 MPa	Yes
Flexural	>6 MPa	>6 MPa	Yes
Modulus	20,000+/- 4,000 MPa	16,000 - 24,000 MPa	Yes
Shrinkage	<0.15%	<0.15%	Yes
Frost/salt resist.	<1.500g/m²	<1.500g/m²	Yes



Eco: Reduced Carbon
FJM Eco smooth is the equivalent to carbon absorbed by growing one tree for 10 years or not driving a car for 149 miles per tonne of product used.

Contractor friendly 25kg bags
Bag Weight 25kg
Pallet Quantity 48
Yield 13.6 litres

Colours
Natural, Mid Grey, Charcoal and Buff.

Special colours available, minimum order quantities apply.



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GUN POINTABLE MORTAR



Larsen Streetscape GPM Eco is a cementitious gun injected mortar, suitable for all your pointing requirements, steps, water features, paving and the repointing or pointing of stone walling and brickwork. GPM has been used in a variety of locations ranging from city centres to projects exposed to harsh coastal conditions.

Larsen Streetscape GPM is pre-blended only requiring the addition of water on site producing mortar that's economical, fast and easy to apply.

Larsen Streetscape GPM is manufactured in an advanced computerised plant that's controlled under an integrated management system, third party certified to BS EN ISO 9001 and BS EN ISO 14001.

Fills joint widths	5mm-25mm and joint depths up to 150mm
Working time	30-40 mins approx depending on temperature
Setting time	ca. 4 hours depending on temperature
Shelf life	6 mths in unopened bags from date of manufacture

Test	GPM
Compressive	15 MPa
Flexural	4 MPa
Shrinkage	Low Shrinkage



Eco: Reduced Carbon
A percentage of cement has been replaced with GGBS, a waste product generated in huge quantities through the manufacture of iron. The carbon footprint of GGBS is 25 x less than Ordinary Portland Cement.

Contractor friendly 25kg bags
Bag Weight 25kg
Pallet Quantity 48
Yield 14.5 litres

Colours
White, Natural, Buff, Charcoal and Black.

Special colours available, minimum order quantities apply.



Note: Although every effort has been made to reproduce the colour of the swatches shown on this page, there will be slight variations in actual colours due to printing limitations.



BRUSH JOINT 360



All weather jointing compound, Larsen Brush Joint 360 can be used externally in all weathers. Providing a granular finish and available in grey, black and buff, this ready mixed jointing compound is suitable for pedestrian use areas only.

Perfect for porcelain and stone paving, fast and easy to apply, Brush Joint 360 saves time and money and takes the hassle out of your landscaping project.

Suitable for use with: porcelain, stone, concrete and ceramic.

Fills joint widths	Joint width 3-20mm Joint depth min 20mm
Curing time	24-48 hours depending on site conditions
Walk on time	Walk on time 24 hours
Shelf life	Up to 2 years in unopened manufacturers packaging



Contractor friendly 15kg tubs

Tub Weight	15kg
Pallet Quantity	35
Yield	Approx 15m ² per tub based on 600 x 600 x 20mm paving with 10mm joints.

Colours

Grey, Buff, and Black.

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EPOXY MORTAR

Larsen Streetscape EM is a three-part pack solvent free epoxy resin mortar perfectly suited for areas where exceptional strength and bond are required.

Larsen Streetscape EM is the perfect solution for bonding paving in recess covers, fixing all types of stone to

metal, concrete repairs, fixing coping stones, tree grids, water features as well as areas subjected to intense forces that will benefit from the exceptional performance gained when using an epoxy mortar.

Bed depth	from 4-50mm
Working time	60 mins approx at 20°C
Traffic time	24 hrs - light foot traffic 48 hrs - vehicular traffic approx depending on site conditions
Shelf life	minimum 12 months

Test	EM
Compressive strength	60 MPa at 7 days
Flexural strength	20 MPa
Tensile bond strength	>concrete surface

Pack size: 10kg
Yield 5 litres
Pallet Quantity 48 tubs

Colours
Light grey

- WATERPROOF
- CHEMICALLY RESISTANT
- SOLVENT FREE





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STREETSCAPE SEALING



PROTECT

Larsen Streetscape Protect is an advanced, water-based, impregnating surface protector and stain repellent suitable for all types of natural stone.

Protector: Manufactured from advanced fluoropolymers, Larsen Streetscape Protect provides a protective barrier, therefore reducing staining from oil, grease and foodstuff. Larsen Streetscape Protect will not prevent chewing gum from sticking. It is intended to ease the effort required for its removal.

Unlike other products, the appearance of the impregnated surface remains almost totally unchanged.

Coverage
25L - 125m² approx



larsenbuildingproducts.com



SEAL PLUS 3in1

Larsen Streetscape Seal Plus 3in1 is a water-based paving sealer, sand stabiliser and protector suitable for all flexible paving and absorbant surfaces.

Sand stabilisation: Accelerated joint stabilisation prevents erosion of sand filled joints through vacuum sweeping, pressure washing and heavy rainfall.

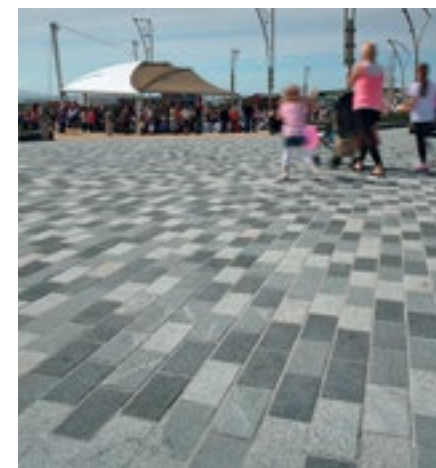
Protector: Seal Plus 3in1 aids chewing gum removal by reducing adhesion to many surfaces.

Sealer: Seal Plus 3in1 provides excellent stain resistance to the surface of the paver ensuring ongoing cleaning regimes are quick, easy and cost effective.

Coverage (guide only)
Sand Stabiliser 2m² per litre
Protector / Sealer 6m² per litre

Coverage can be affected dramatically by the following: application method / porosity of paving / joint size and frequency.

larsenbuildingproducts.com





EQUIPMENT

Point joint mortar gun: Suitable for the application of Larsen Streetscape GPM, it features a high thrust trigger action, hardened rod and drive parts. The barrel is standard rainwater downpipe for an inexpensive replacement.

Squeegee: The Larsen squeegee is designed to move flowable jointing mortar over the surface of the pavers into the joints and easily remove residue before the final wash off.



Note: The information and recommendations contained in this brochure are given in good faith based on our current knowledge and experience of the products when properly stored, handled and applied in accordance with current best practice, national standards and our recommendations.





UK
T 028 9077 4000
F 028 9077 6945

IRELAND
T 01 8348255
F 01 8348277

www.larsenbuildingproducts.com
enquiries@larsenbuildingproducts.com