



PROLAY[®] SYSTEM & SOLUTIONS

PROLAY.
BECAUSE DIFFERENT
PROBLEMS DEMAND
DIFFERENT SOLUTIONS

A MEMBER OF
 **HOLCIM**



AGGREGATE
INDUSTRIES

INTRODUCTION

Our ProLay® System is a manufacture, supply and installation service offering for bespoke, new generation, ProLay asphalts (specially designed asphalt for your projects). Our ProLay System and Solutions will provide you with extended pavement life, offers an increased level of warranty up to 10 years*, supports efficiencies and whole life costing.

Through a consultative approach and early involvement in a project's design stage, our Surfacing Solutions & Contracting team is able to carry out site investigations to identify and deliver tailored whole-life solutions through the ProLay System.

The ProLay system assists clients in identifying the right first time pavement design solution, whilst state-of-the-art smart surfacing technology captures the pavement data required to support asset management. Our ProLay System comes complete with as-built digital data records and an end of warranty report (as applicable).

Our ProLay System offers a new range of exclusive products that contain high grade bitumen that can be mixed at low temperatures to reduce CO₂.

The range includes an innovative carbon efficient solutions:

- ▶ **ProLay Ultra cl.942**
A specially designed asphalt that, in combination with rolling resistance technology, leads to customer fuel efficiency.
- ▶ **ProLay Curve**
For high stress applications.
- ▶ **ProLay Single**
For thick lifts and self regulating
- ▶ **ProLay Silent**
An environmentally friendly ultra-low noise solution
- ▶ **ProLay Grip**
An alternative to high friction surfacing
- ▶ **ProLay Light**
Which contains Lytag - a low density aggregate with a dense asphalt mix, making it an ultra lightweight solution that's suitable for applications where weight restrictions apply.

*Subject to Terms & Conditions







Our ProLay Asphalt range has been developed to align with both National Highways levers and Local Authority objectives. We have specially designed asphalts to manage a wide range of applications to help drive both efficiencies and whole life costing.

Our ProLay asphalt solutions are bespoke products, that provide the customer with an increased level of warranty and have been designed to help with an ever changing environment.

BENEFITS

- ▶ Technical support throughout all stages of design/ construction (ECI-completion)
- ▶ High Grade PMB Bond Coat Sealant between layers and at joints to give a fully sealed pavement
- ▶ Pavement design expertise and tailored PMB Bitumen specific to the scheme/application
- ▶ Extended Warranty up to 10 years (dependent on the application)

PROLAY & WARM MIX ASPHALT

ProLay comes with a variety of aggregate size options (depending on location and application) and are available either as hot mix or Warm Mix Asphalt. WMA brings the following benefits:

- ▶ Require less energy to manufacture than conventional asphalt
- ▶ Reduced carbon emissions in the mixing and laying process (a lower carbon footprint)
- ▶ Lower temperatures during production resulting in: reduced binder ageing; enhanced in-service life expectancy; and whole lifecycle cost benefits
- ▶ Earlier trafficking enabling: earlier re-opening of carriageways; reduced traffic disruption; and reduced risk of early life deformation on thick lift pavements
- ▶ Safer application
- ▶ Gives reduced fuming throughout paving operation



CURVE SOLUTION

Our 'Curve' solution is a specially designed asphalt for high stress applications. With a low void content matrix and high Polymer Modified Binder (PMB) content, it's a highly durable solution.

BENEFITS

Selecting ProLay Curve will:

- ▶ Provide high resistance against potholing and fretting
- ▶ Improve pavement durability and flexibility - providing a longer lasting pavement

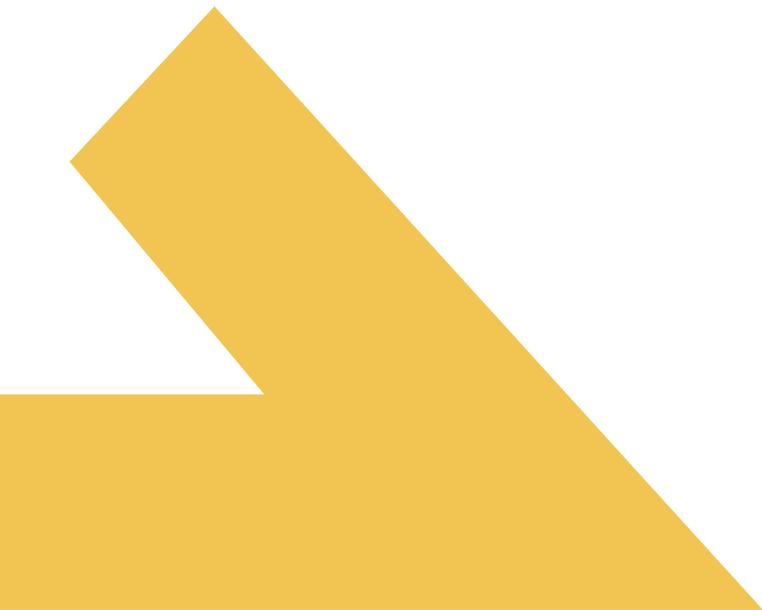
APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none"> ▶ High speed roads ▶ High-stress areas (roundabouts/bends) ▶ Large car parks ▶ Concrete overlay ▶ As an alternative to micro-surfacing ▶ HGV yards/hard standings** 	ProLay Curve 6mm ProLay Curve 10mm**

Our ProLay Curve is suitable for application at the following thicknesses:

Thickness Range	Product to select
15mm - 25mm	ProLay Curve 6mm
25mm - 50mm	ProLay Curve 10mm

NB: ProLay Curve contains PMB bitumen & PMB bond coat for improved interlayer bonding.





SINGLE LAYER SOLUTION

Our 'Single Layer' solution is a single lift asphalt solution with increased nominal aggregate size, laid in a single paver pass - removing the requirement for a regulating course layer.

Our ProLay asphalt solutions are bespoke products, that provide the customer with an increased level of warranty and have been designed to help with an ever changing environment.

BENEFITS

ProLay Single has the following benefits:

- ▶ Suitable for colder weather working due to its increased heat retention
- ▶ Its low void content matrix provides increased pavement durability/longevity
- ▶ Efficiency savings through greater outputs
- ▶ Single application = quicker application, enabling earlier re-opening of carriageways and reduced traffic disruption
- ▶ Environmental benefit: conserves nominal sized aggregates and reduces quarry waste

APPLICATION

Proposed application	Product to select
▶ Housing estates	ProLay Single 14mm
▶ Deeper construction	ProLay Single 20mm
▶ 100mm inlay alternative	
▶ High speed roads	

Our ProLay Single is suitable for application at the following thicknesses:

Thickness Range	Product to select
50mm - 75mm	ProLay Single 14mm
75mm - 100mm**	ProLay Single 20mm

**Thickness can be increased but caution should be taken regarding ride quality

NB: ProLay Single is available with PMB bitumen & PMB bond coat for improved interlayer bonding.



SILENT SOLUTION

Our environmentally friendly 'Silent' solution is a Clause 942 approved, ultra-low noise offering that has the potential to reduce traffic noise levels by up to **-7.8dB(A)**** when compared to traditional Hot Rolled Asphalt & Pre-coated Chippings (PCC)

**in accordance with SHW Cl.942 Table 9/17

BENEFITS

The benefits of selecting ProLay Silent:

- ▶ Provides a reduction in noise that is comparable to over 75% reduction in traffic volume (Source: Ellebjerg 2008a: 11, Table 2.1)
- ▶ Reduces the height of potential noise barrier required
- ▶ Reduces the requirement for noise barriers
- ▶ Benefit to local residents

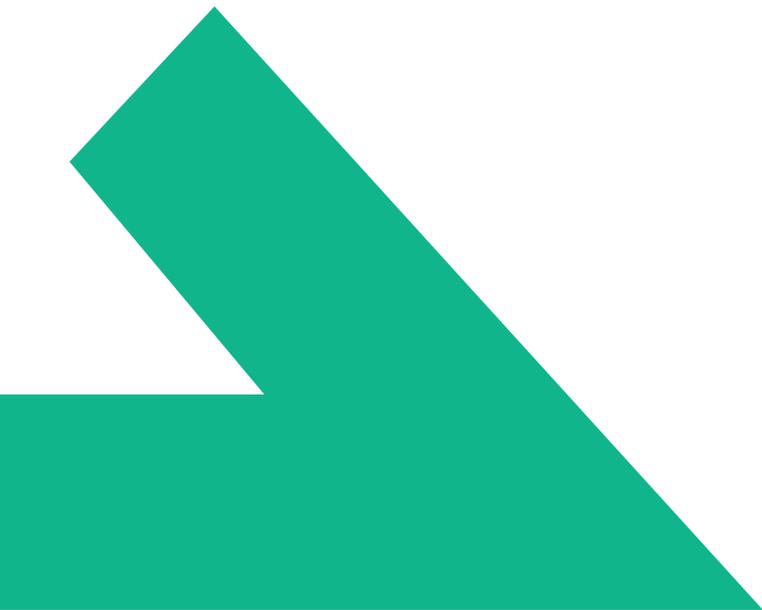
APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none"> ▶ Densely populated areas ▶ Noise sensitive areas ▶ High speed roads ▶ Concrete overlays ▶ All other road types 	ProLay Silent 6mm ProLay Silent 10mm

Our ProLay Curve is suitable for application at the following thicknesses:

Thickness Range	Product to select
15mm - 25mm	ProLay Silent 6mm
25mm - 50mm	ProLay Silent 10mm

NB: ProLay Silent contains PMB bitumen & PMB bond coat for improved interlayer bonding.





GRIP SOLUTION

Our full depth, thin surfacing 'Grip' solution is an alternative to screed applied High Friction Surfacing (HFS). Encompassing Lytag® - high grade aggregate with an increased Polished Stone Value (PSV) >70 and high grade PMB bitumen, our Grip solution combines a thin surface course and HFS - improving whole life performance of the pavement by removing the requirement for HFS overlay.

BENEFITS

Selecting ProLay Grip will:

- ▶ Increase pavement durability - leading to fewer interventions/rework and reduced risk to roadworkers
- ▶ Increase road safety through longer lasting SCRIM
- ▶ SCRIM value >0.55 (over 5 year warranty life)

APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none"> ▶ Areas requiring HFS ▶ Level/pedestrian crossings ▶ Roundabout/junction approaches ▶ Traffic lights 	ProLay Grip 10mm

Our Prolay Grip is suitable for application at the following thicknesses:

Thickness Range	Product to select
30mm - 50mm	ProLay Grip 10mm

NB: ProLay Grip is available with PMB bitumen & PMB bond coat for improved interlayer bonding.



LIGHT SOLUTION

Our 'Light' solution contains Lytag® - a low density aggregate within a dense asphalt mix, making it the ultimate lightweight asphalt. To be used as a base, binder or surfacing layer; our Light solution has an improved spread-rate, requiring less material than conventional mixes.

BENEFITS

The benefits of selecting ProLay Light are:

- ▶ Up to 20% lighter than conventional asphalt
- ▶ Able to be used where weight restrictions are in place
- ▶ Reduced fatigue on structures
- ▶ Reduced vehicle haulage movements

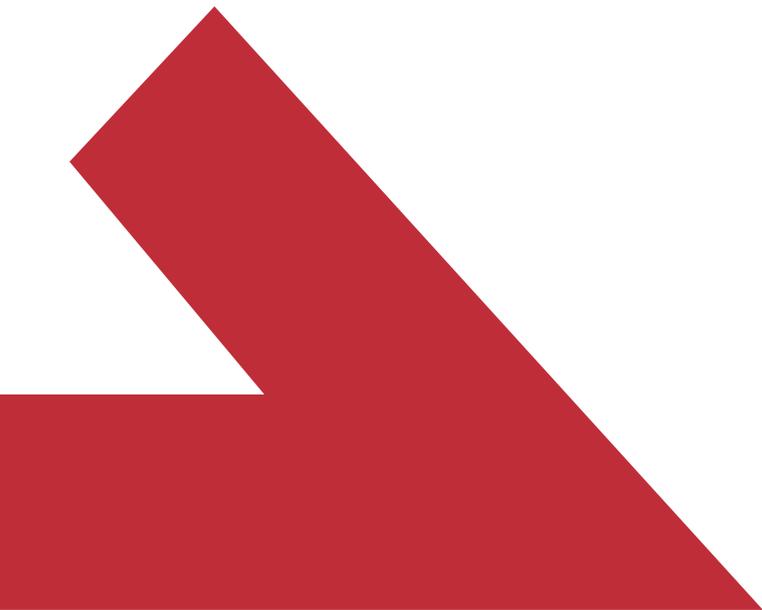
APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none"> ▶ Weight restricted areas ▶ Bridge Decks ▶ To reduce weight of overall pavement ▶ Areas subject to excessive pavement build-up (on weakground formation) 	ProLay Light

Our ProLay Light is suitable for application at the following thicknesses:

Thickness Range	Product to select
25mm - 50mm	ProLay Light SURF
50mm - 100mm	ProLay Light BASE/BIN

NB: ProLay Light SURF is available with PMB bitumen & PMB bond coat for improved interlayer bonding.





FLEX SOLUTION

Our 'Flex' solution is a highly flexible asphalt with low in-situ void content (typically <5%), providing superb extended durability. Available in Base, Binder and Surface course options**, our Flex solution can be tailored to suit the needs of the pavement condition/trafficking type.

**in accordance with SHW Cl.942 Table 9/17

BENEFITS

Selecting ProLay Flex will:

- ▶ Improve pavement fatigue values
- ▶ Provide improved crack resistance
- ▶ Keep out unwanted action of trapped water (Impermeable)

APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none"> ▶ Low speed roads (<30mph) ▶ Heavily trafficked roads ▶ Residential roads 	ProLay Flex 10mm (SURF) ProLay Flex 14mm (SURF)
<ul style="list-style-type: none"> ▶ Heavily trafficked roads ▶ All pavement applications 	ProLay Flex 14mm (BIN) ProLay Flex 20mm (BASE)

Our Prolay Flex is suitable for application at the following thicknesses:

Thickness Range	Product to select
25mm - 40mm	ProLay Flex 10mm (SURF)
35mm - 50mm	ProLay Flex 14mm (SURF)
50mm -150mm	ProLay Flex 14/20mm (BASE/BIN)

NB: ProLay Flex contains PMB bitumen & PMB bond coat for improved interlayer bonding.



ULTRA SOLUTION

Our 'Ultra' solution is Clause 942 approved specially designed to improve whole life pavement performance/costing. With a low void content matrix and high Polymer Modified Binder (PMB) content, our Ultra solution can be tailored to suit the needs of the pavement condition/trafficking type.

BENEFITS

Selecting ProLay Ultra will:

- ▶ Provide high resistance against potholing and fretting
- ▶ Improve pavement durability and flexibility - providing a longer lasting pavement
- ▶ Deliver a highly durable asphalt with extended warranties

APPLICATION

Proposed application	Product to select
<ul style="list-style-type: none">▶ High speed roads▶ Roads with high traffic volumes▶ Concrete overlay	ProLay Ultra 6mm** ProLay Ultra 10mm
**As an alternative to micro-surfacing	

Our ProLay Light is suitable for application at the following thicknesses:

Thickness Range	Product to select
15mm - 25mm	ProLay Ultra 6mm
25mm - 50mm	ProLay Ultra 10mm

NB: ProLay Ultra contains PMB bitumen & PMB bond coat for improved interlayer bonding.



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