

Introducing MQP's vision for a Low Carbon future using LEA[®] process technology



"We will give our customers what they want when we promise it, have valued employees striving to succeed in a safe workplace and minimise our impact on the environment"

Simon Wills, Managing Director



**Midland
Quarry
Products**

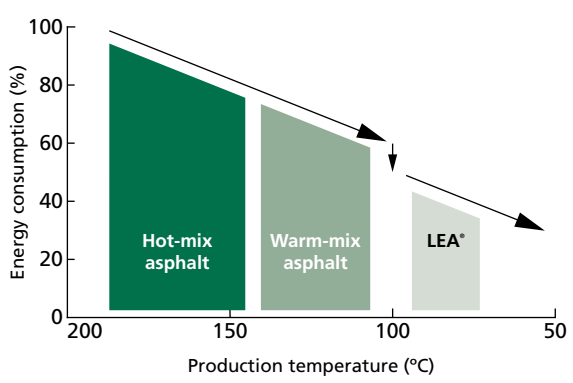




Sustainable

...vision to reality

Dramatically reducing energy consumption and green house gases by up to 50%.



Proven Process

- Proven LEA® low energy process technology.
- Over 0.5 million tonnes laid since 2005 on major contracts across Europe and USA including motorways e.g.



- A41 in Chambéry, France (1,000 tonnes including PMB surface course)



- RD612 in Montpellier, France. (33,000 tonnes including EME base & binder course)



- Route 96B, New York State DoT, USA (17,500 tonnes).



Roads



**Proven
award winning
technology for
innovation.**

Benefits

- Dramatically reducing energy consumption and green house gases by up to 50%
- Reduced application temperatures mean improved health & safety for laying crew & general public
- Material properties that are equivalent to those of hot-mix asphalt
- Reduced binder ageing compared to hot-mix asphalt
- Majority of standard & proprietary materials can be made using LEA® process technology
- Can be used in all road layers from base to surface course & on all categories of highway including motorways
- Laid through standard paving equipment & rolled using conventional rollers
- Rapid stability of laid & compacted pavement for early trafficking
- Zero price premium over standard hot mix asphalt.

MQP delivering green innovations to their clients



“With 63% of asphalt production costs related to oil price, MQP are determined not just to minimise the environmental impacts but also minimise the rising costs that clients are having to bear in today’s market. Low Energy Asphalt will help us to achieve this”.

Martin White, Commercial Manager, MQP.

MQP can help their clients deliver on their targets to reduce fossil fuel usage and greenhouse gases as we move towards a low carbon economy. Highlighted below are some examples of various materials laid on recent surfacing contracts in the Midlands.

Case Study 1 - Enterprise Staffordshire Highways, A444, Burton-on-Trent

A very busy, heavily trafficked main road leading to the town was surfaced using 1,673 tonnes of AC 32 Dense Base 100/150 LEA and AC 20 Dense Bin 100/150 LEA. Binder course was left open to traffic for two weeks prior to surface course installation.

Enterprise Staffordshire Highways have been impressed by LEA saying:

“Correctly laid, the material represents no significant risks above that of comparative hot laid materials”.

Carbon saved 17t

Case Study 2 - Enterprise Staffordshire Highways, Cold Meece, Stafford

This very fast rural road was surfaced with 1,530 tonnes of AC 32 HDM Base 40/60 LEA and AC 20 HDM Bin 40/60 LEA.

Enterprise Staffordshire contracting staff have commented on LEA:

“It’s just like using our conventional material but with improved visibility and without the smell”.

Carbon saved 15t

Case Study 3 - Amey / Birmingham PFI, Birmingham

Two busy arterial roads have been surfaced by Tarmac National Contracting with 1,546 tonnes of AC 32 HDM Bin 40/60 LEA.

Carbon saved 16t

Case Study 4 - Leicestershire County Council, Main Street, Broughton Astley, Leicester

A typical village high street was selected to lay 110 tonnes of AC 32 HDM Base 40/60 LEA.

Carbon Saved 1t

Technical Data

Typical results for materials tested to the Specification for Highways Works clause 929:

Property	Units	Method	AC 32 HDM bin (40/60) LEA	SHW Specification
Air Voids	%	EN12697-8	5.6	0.5-7.0
Indirect Tensile Stiffness Modulus	GPa	EN12697-26	2.3	>1.8
Resistance to permanent deformation Mean WTSAIR (60°C)	mm/1000 cycles	EN12697-22 (B)	0.74	1.0*

* example spec. in PD6691

Property	Units	Method	AC 32 dens base (100/150) LEA	AC 20 dens bin (100/150) LEA	AC 20 dens bin (70/100) LEA	SHW Specification
Air Voids	%	EN12697-8	3.4	4.0	1.9	0.5-7.0
Indirect Tensile Stiffness Modulus	GPa	EN12697-26	1.7	1.1	1.9	N/A
Resistance to permanent deformation Wheel Tracking Rate @ 60°C	mm/hr	B5598-110	3.1	0.9	1.4	5 max
Resistance to permanent deformation Wheel Tracking Rut Depth @ 60°C	mm	B5598-110	5.2	3.7	4	7 max

With production temperatures reduced to 95°C, MQP have already calculated significant savings to clients in the Midlands area which are destined to rise ever further as hot mix asphalt transitions to LEA. For a regular update on carbon savings generated please visit the Midland Quarry Products website on www.mqp.co.uk



**Midland
Quarry
Products**

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