

## Tarmac

**Rigorous assessment has proven the performance of the first thin surfacing systems to be awarded HAPAS certificates: Tarmac's Masterflex and Masterphalt-P.**

# Thin surfacing: First HAPAS certificates awarded

**T**armac's Masterflex and Masterphalt-P became the first thin wearing course systems to be formally certified for use on roads in England, Scotland, Wales and Northern Ireland when they received HAPAS approval in February this year. Specifiers can now be sure of the highest performance from these products which have satisfied the most stringent of independent assessment.

HAPAS – or the Highway Authorities Product Approval Scheme, to provide its full name – is being administered by the British Board of Agrément which also developed the assessment criteria. Meeting the necessary standards is a formidable task, which is just how it should be according to Tarmac's technical services manager Colin Loveday.

"Examination of product performance for approval purposes is the BBA's business and the organisation has proven to be very professional and demanding in its assessment of Masterflex and Masterphalt-P," he says.

"I believe that performance claims should be

backed up by hard facts. Having convinced the BBA of the quality and durability of our products means we have gained valuable accreditation and we are very pleased to have gained our certificates."

HAPAS is being managed by the BBA in conjunction with the governmental overseeing organisations for England, Scotland and Wales, industry, TAG and the CSS, formerly the County Surveyors Society.

It has been developed to replace the HA's approval system which is gradually being phased out of use; and provides endorsement of a wide range of proprietary highway products including high friction surfacing, waterproofing and crack repair systems.

Importantly, HAPAS thin surfacing approval covers the laying system as well as the material. This led Tarmac to put forward two products: Masterflex, which is laid by Tarmac National Contracting to its internal quality systems, and Masterphalt-P applied by others in accordance with an 'Approved Contractor' scheme.

Both materials are gap graded asphalts incorporating elastomeric polymer modified bitumen. They are laid at thicknesses from 20mm to 35mm and are included in Tarmac's Masters in Asphalt range.

The Masterflex and Masterphalt-P HAPAS certificates stipulate a number of conditions that apply to the approval, including use of Tarmac's product "Quality Plans". These have proven vital for the company's success in gaining HAPAS approval.

"Having quality assurance plans in place at the outset for both production and laying was a big advantage for approval of Masterflex and Masterphalt-P," says Loveday. "And being the first to go through the process it felt at times as if we were helping the assessors set benchmarks for others following on behind."

Tarmac has been working towards gaining HAPAS approval of Masterflex and Masterphalt-P since 1998, although the BBA began working on HAPAS three years earlier. Thin surfacing was one of four product approval categories originally established. This number has since risen to nine and specialist groups set up by the BBA's Highways Technical Advisory Committee have been developing assessment guidelines for each category.

The HAPAS Guidelines Document for Assessment and Certification of Thin Surfacing requires an extensive range of performance measurement with levels appropriate to several different traffic categories.

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Colin Loveday

HAPAS applicants also have to show evidence of the thin surfacing system's satisfactory performance in service for two years to mandatory requirements stipulated in the guidelines document, such as texture retention.

"Even after we handed over enormous amounts of test data the BBA wanted more proof of performance," says Loveday. "It asked for six solicited testimonials from our customers. We were able to put them in touch with satisfied clients for local B class roads as well motorways and trunk roads.

"The BBA developed an extensive questionnaire to back up our claims and this user survey is now standard procedure within the approval guidelines."

HAPAS requirements are comprehensive, but assessment has been developed with flexibility in mind. The BBA has included a mechanism allowing suppliers to introduce additional evidence of performance as materials are developed. Applicants can also prove performance in non-mandatory areas by volunteering test results, which are then shown on the HAPAS certificate.

Tarmac was able to submit data from a site on the M6 in Lancashire which showed a reduction in traffic noise of over 5dB(A) when compared to standard hot rolled asphalt.

Loveday says the thin surfacing approval process has been fairly arduous and has taken longer than anticipated. "Clients should take comfort from this as it shows how rigorously the assessment has been carried out. Also, assessment and approval should be more straightforward now that the ground rules and formats have been sorted out.

"We were unsure of what lay ahead when we started out, but the HAPAS experience has been a good one due to the BBA's approach. HAPAS now presents a very robust system to take over from existing arrangements when the HA ends its own approval procedures later this year."

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**1** The Highways Agency can be confident that Masterflex will perform as required on the M5 following HAPAS approval.

**2** HAPAS assesses and approves laying methods, production and performance of the thin surfacing material in service.

**3** Tarmac's Masterflex and Masterphalt-P products underwent stringent assessment during the course of gaining HAPAS approval.

**TARMAC** is currently applying its Masterflex thin surfacing system as part of a major pavement reconstruction project on the M5. North and southbound carriageways are being rebuilt between junctions two and three of the motorway by Tarmac National Contracting (Central) for main contractor Tilbury Douglas.

Lanes one and two are being fully reconstructed with a 125mm layer of Hot Rolled Asphalt roadbase, two 90mm layers of 28mm nominal size dense roadbase and a 70mm layer of 20mm heavy duty base course. The high specification pavement design is completed with a 30mm application of Masterflex.

Partial reconstruction is being carried out to fast lanes and hard shoulders using the same materials from base course upwards. The Masterflex material presents considerable value: for Tilbury Douglas due to its thin layer application and comparable price with alternatives; and for overall client the Highways Agency which, backed up by HAPAS, can be confident that Masterflex will perform as required.