

## Klaruw improves skid resistance on roads

*A prototype machine for 'wet application' shot blasting, designed to improve the macro-texture and micro-texture of highway, airport and racetrack pavements to safe levels, has just been trialled on UK roads.*



Developed by the Dutch retexturing specialist Klaruw Tilburg, the fully computer-controlled Macrotex (MAT) shot-blasting plant offers advantages in process control, treatment flexibility and rate of coverage over conventional shot-blasting machines. Most significantly, it innovates the use of 'wet' steel shot, allowing retexturing to be carried out in wet weather, even in heavy rain, unlike traditional 'dry' shot-blasting methods.

The MAT process has been developed to improve the macro-texture – the texture depth that allows surface water to escape to prevent aquaplaning – of most natural aggregate surfaces. Although it primarily works on macro-texture, improvement in micro-texture – the surface friction which provides wet weather skid resistance – is a secondary benefit of the process. Klaruw's MAT prototype machine arrived in the UK recently for evaluation in two separate night-time trials. Area 10 Managing Agent Contractor, A-one+, has just undertaken trials on sections of concrete, HRA (hot rolled asphalt) and

thin surfacing on the M56 near Chester. North Wales Trunk Road Agency (NWRTA) is also looking at results from HRA (hot rolled asphalt) and thin surfacing after trials on the A55 North Wales Coast Road.

A-one+ and NWRTA already use Klaruw's bush hammering process, Klaruwtx190 (K190), as part of procedures for maintaining road surface skid-resistance on trunk roads and motorways in the region. Hefin Lloyd Jones, A55 Route Manager for NWRTA, said: "The MAT shot blasting process has provided a rapid, single pass and non-weather dependent process for the improvement of the macro-texture of surface courses which require rejuvenation to return to an acceptable, serviceable condition. The process achieves this with minimal disruption to the road network and thereby being more acceptable to the road user."

Phil Reynolds, Roads Renewals Manager with A-one+, said: "Improving the macro-texture of surfacing via shot-blasting has many potential benefits to the road user with regard to

reducing levels of spray and the risk of aquaplaning. This trial has shown that the process both delivers the benefits and mitigates the risk of the weather impacting on scheduled work. With the current economic climate and the demands of maintaining the road network to provide safe roads, reliable journeys and reduce the amount of disruption to the user, this machine is a welcome development to the market for any organisation involved in pavement maintenance."

Both agencies are currently assessing the results of tests to evaluate the macro-texture and micro-texture gains made on the surface types treated. The early indications are that both trials saw promising improvements in both. Klaruw is confident that results will back up the findings of trials in Holland where significant improvements in macro-texture have been observed on asphaltic concrete (marshall asphalt) runways. The MAT shot-blasting process has also been proven effective for removing bitumen residues left on newly laid porous asphalt to prevent so-called 'bitu-planing', and for cleaning the cementitious film off new concrete.

The machine will be undergoing further intensive trialling on HRA, a surfacing system more prevalent in the UK than on the continent. Klaruw believes that macro-texture rejuvenation using the MAT machine is set to provide a versatile, cost-effective and highly sustainable solution for addressing aqua-planing and wet skid issues. By reworking existing surfaces, it extends service life of structurally sound roads by several years before more costly, disruptive overlay or inlay is needed.