

## Working in the 'wet' – New technology to make road maintenance easier?

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Ireland's dark skies and rain are no deterrent to a new shot-blasting technology that is designed to work in the 'wet'.

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The Dutch retexturing specialist, bv Klaruw Tilburg, has developed a prototype machine for 'wet application' shot blasting, i.e. it's suitable for 'soft' Irish weather. The Macrotex (MAT) shot-blasting plant is designed to improve the macro-texture and micro-texture of roads to safe levels.

Fully computer-controlled, the machine offers advantages in process control, treatment flexibility and rate of coverage over conventional shot-blasting plant. 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.

### Preventing aqua-planing

The MAT process has been developed to improve the macro-texture – the texture depth that allows surface water to escape to prevent aqua-planing – 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.

The process is carried out by two linked vehicles, each carried on a six axle tractor-trailer, making a 36m long working unit overall.

The main MAT shot-blast vehicle incorporates a steel shot storage and recycling unit, a rear tank for wastewater and debris, with the shot-blasting mechanism housed in between.

Used shot is reprocessed in the shot storage unit while the remaining water-borne detritus is conveyed, via the rear tank, to a closely coupled, dedicated water cleaning machine (WCM) behind the MAT unit. This cleans and recycles water for re-use in the shot-blasting treatment, while processing residues to an almost dry condition for disposal.

The machine can treat widths ranging from 24cm to a maximum 190cm. Working speed is also variable, ranging from 3m per minute for heavy duty, deep retexturing, up to 100m per minute for light cleaning. Depending on pavement type and condition, and application requirements, the machine will generally treat around 1300 to 3000sq/m of pavement per hour (between 3 to 7 lane kilometres a day).



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## Longer service life

Klaruw believes that by reworking existing surfaces, this technology extends the service life of structurally sound roads by several years before more costly, disruptive overlay or inlay is needed.

The machine shot blasts and cleans the road surface as one integral unit in one pass, simplifying traffic management and leaving treated sections ready for use immediately. The technique requires no after-treatment or curing time, and leaves no residual deposits.

MAT retexturing also has significant environmental benefits.