

## Path-dependent Airless – The benefit

**The goal is not only the automatic stabilising of the thickness of the spray paint but also higher output and faster completion of contracts**

In non-path-dependent operating mode, each change in the marking speed means a reverse change in the layer thickness of the marking material application. To avoid changes, the speed must be kept constant here. On marking sections with changing degrees of difficulty (tight bends, approaching obstacles, junctions, areas with a poor road surface, special traffic conditions), the maximum possible, usually very low speed in the most difficult section of the route must be adhered to over the entire route. This is then also the average speed.

In contrast, in path-dependent operating mode the marking speed can be adjusted to alternating degrees of difficulty in the road and traffic conditions. One example of this is the marking of a windy stretch of road with many tight bends and straight sections of road. If the bends account proportionally for instance for 20 % of the total section and only permit a marking speed of 3 km/h, whereas the 80 % of straight sections of road permit 9 km/h, this gives an average speed of

$$X = \frac{20\% \times 3 \text{ km/h} + 80\% \times 9 \text{ km/h}}{100\%} = 7.8 \text{ km/h}$$



Whereas in this example with the non-path-dependent method the entire route has to be travelled with the maximum speed of 3 km/h possible for bends, i.e. with an average speed of 3 km/h, with the path-dependent method, this gives an average speed of 7.8 km/h; this is a factor of 2.6. And it is not so boring and tiring for the driver.

## Why is the line width stabiliser needed?

As is known, during path-dependent marking the marking material is produced proportionately to speed (volume control) so that the layer thickness of the marking remains constant in the event of changes in speed.

When the speed is increased, the spray quantity pressed through the nozzle per minute is increased accordingly. This causes the spray pressure to increase. The pressure is therefore a reaction to the volume produced, the characteristic of volume control.

With the Airless spraying method, the spray angle and thus the line width are enlarged to varying degrees in a large speed and thus pressure range. At high speeds, it then remains virtually constant over a smaller range and when the speed is increased further, the spray angle and thus line width often become slightly smaller again.

In order to keep the line width changes in a large range of speed (currently up to 3 from max to min are possible, e.g. from 2 to 6 km/h, 4 to 12 km/h)

With a correctly programmed MALCON4, the gun height necessary to obtain the required constant line width is then continuously calculated and set based on a test line during marking with speed changes for every pressure level.

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