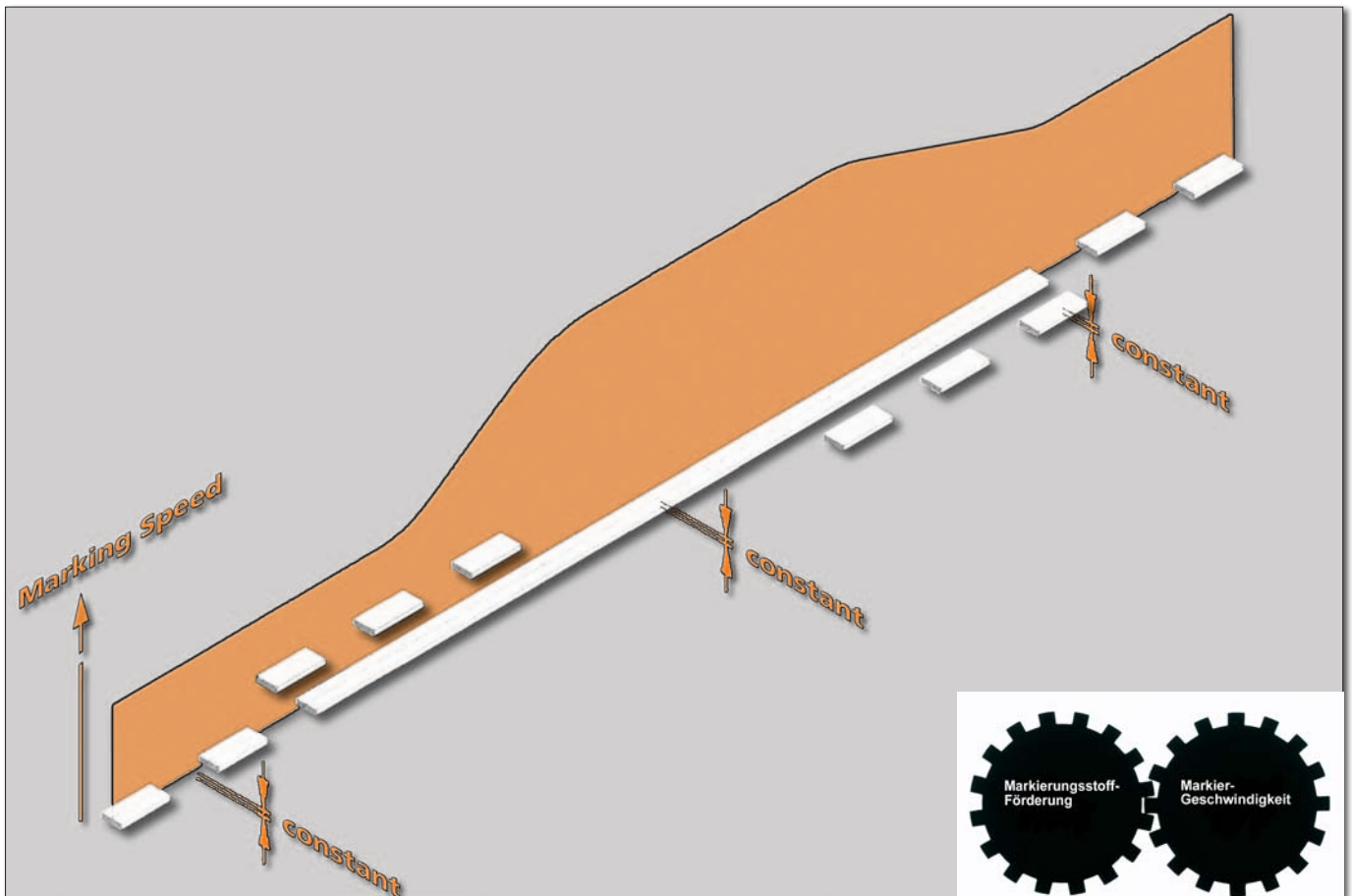




Metering Technology



HOFMANN- Metering technology for marking according to specifications –

... just like the principal asks for!

- Only by complying with the spray-thickness values and bead volumes used in acceptance testing is it possible to guarantee that those test figures will also be obtained in everyday marking operations. In view of the fact that it is not possible to measure the spray thickness in an economical manner after the material has been applied, public works authorities who commission roadmarking were for a longtime on the lookout for a system that allows the spray thickness to be predetermined with a simple setting and ensures that it automatically remains at a constant level – irrespective of marking speed and regardless of changes in material viscosity.
- A key factor in this concept are metering pumps, which have to meet the special applicational requirements of roadmarking technology:
 1. Constant delivery volume irrespective of the number of rotations per minute, as well as regardless of pressure and material viscosity.
 2. No pulsations (without pulsation dampers).
 3. No progressive wear and tear that would reduce delivery volume and make it necessary to calibrate and readjust at regular intervals.
- The technique became known under the name AMAKOS® since 1980.

AMAKOS® means

Application of
Marking materials with
Automatic
Constant maintenance of
Spray thickness

Metering Technology



ROAD MARKING SYSTEMS

Most of the HOFMANN systems with pumps are suitable for the AMAKOS®-mode of operation as well as the Non-AMAKOS®-mode.

AMAKOS®

Operating mode for the application in proportion to travel speed. In this mode of operation you may vary your travel speed within a wide range. The spray thickness will nevertheless remain at a constant level. Maintaining a specified spray thickness is no longer dependent on specialist skill and reliability. AMAKOS®: advantages like you have with Non-AMAKOS® but in addition no more need to supervise speed.

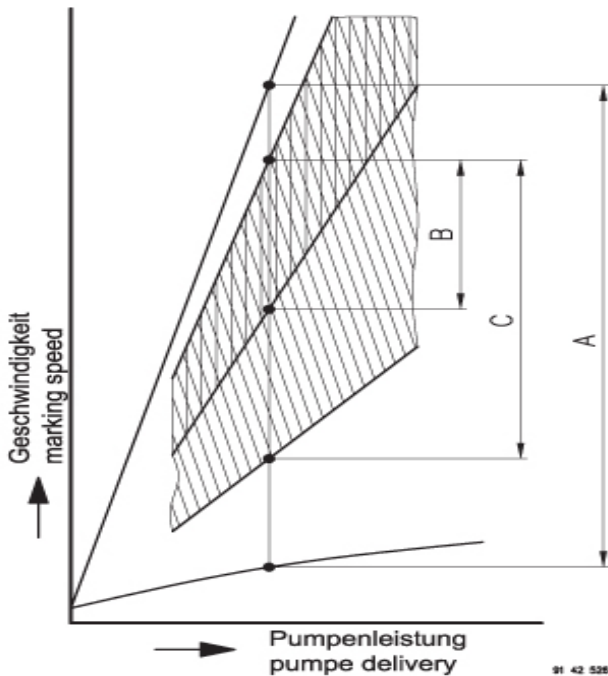
Non-AMAKOS®

Operating mode enabling you to set a delivery volume that remains constant irrespective of travel speed. Whenever you alter your travel speed in this mode of operation, also the spray thickness changes. No more need to supervise constantly pressure and viscosity.

In comparison: **Conventional (pressure controlled pumps):** Spray thickness depends on pressure, viscosity and speed. High work load for operating personnel.

HOFMANN now offers the AMAKOS® technology for the following methods and marking materials:

	AIRSPRAY	AIRLESS	EXTRUSION
COLD PAINTS	•	•	
2-COMPONENT COLD PLASTICS			•
SPRAY, 2-COMP. COLD PLASTICS	•	•	
THERMOPLASTICS			•
SPRAYABLE THERMOPLASTICS	•		



The diagram shows the speed ranges within which it is possible to vary the marking speed.

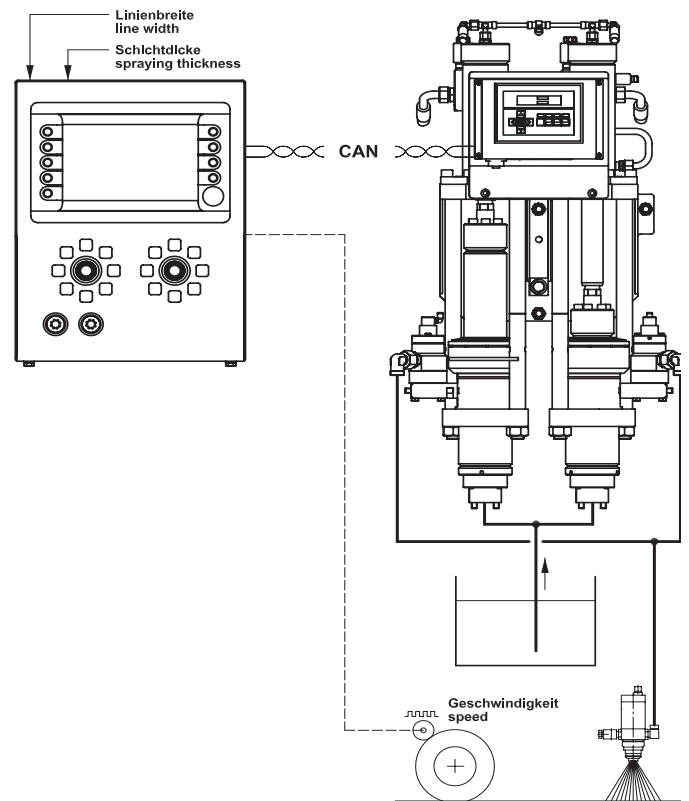
- A Atomizing air spraying method
- B Airless spraying method
- C Airless spraying method with line width stabilizer

The range of speed variation available with the airless spray method is restricted in comparison with the atomizing air method. The practicable maximum speed is generally equivalent to 1.5 times of the practicable minimum speed. When using the line width stabilizer factor 3 is here possible.

No problem with line combinations with up to three spray guns (does not apply to 2-component materials). Whenever a second or third spray gun is opened, the pump switches over to the corresponding delivery volume of material.



Malcon



MALCON4: Control unit that allows to enter marking line values for width and spray thickness.

The necessary material quantity in accordance with the speed is transmitted via CAN bus to the pump which supplies the controlled quantity of material. The spray thickness resulting from the feedback is logged with GPS coordinates in compliance to ZTV-M (German Additional Technical Contractual Conditions and Directives for Marking on Streets). By entering other specification data you can create logs which are often required by contractors.