



IN COOPERATION WITH



COATING AGRICULTURAL MACHINERY

Attractive finishes using
waterborne polyurethane systems

VisionWorks in

POLYISOCYANATES

PREPOLYMERS

DISPERSIONS

UV SYSTEMS



Waterborne 2K-PUR coatings – as good as solventborne systems

The project: system changeover on a coating line

A coating line designed to apply a solventborne one-component system on tractors was to be converted to use an environmentally friendly waterborne coating. The goal was to achieve compliance with local environmental legislation in the Emilia-Romagna region of Italy.

The challenge: matching the quality of solventborne 2K-PUR systems

The changeover from an established solventborne coating to a waterborne formulation represents an enormous challenge, especially if – as here – such an innovative waterborne two-component polyurethane system is to be used on a coating line that was designed for a solventborne system. The aim was to continue using the same coating line without any significant modification. A very important aspect was, however, that the finished coating had to satisfy the requirements specified by the customer – Landini – in every respect.

Raw materials from Bayer:

Bayhydrol® polyacrylate dispersion

Desmodur® or Bayhydur® isocyanate crosslinker

	The coating
Manufacturer	Inver S.p.A.
Topcoat	Inverpur/A
Dry film thickness	approx. 60 µm
Substrate	Sand blasted steel
Primer	Waterborne 2K epoxy (30-40 µm)
Baking of topcoat	30 min at 80-90 °C
Gloss	88-90 at 60°
Cross-hatch	GT 0
Gasoline resistance	No variation after 24 h
Oil resistance	No variation after 24 h (SAE 20W at 80 °C)
Salt spray test	< 2 mm after 200 h
UV condenser	Glossreduction < 10% after 500 h (QUV-B)



The solution: a waterborne 2K-PUR coating

Waterborne two-component polyurethane coatings formulated using Bayhydrol® and Bayhydur® raw materials are the ideal choice. A coating based on these products has the required weather stability and yields the optical properties expected.

Bayhydrol®/Bayhydur® – coating raw materials for customized problem-solving

Legislative requirements are forcing the users of coatings to adopt more environmentally friendly technologies. For this reason, waterborne coatings are of considerable interest. Customers who require very high-grade coatings can choose from a wide range of aqueous polyols and polyisocyanates to tailor two-component polyurethane formulations that meet their individual requirements. The end user retains the familiar benefits of polyurethane coatings: outstanding optical properties, good weather stability, excellent mechanical properties and chemical resistance. At the same time, he profits from an innovative and environmentally compatible technology.





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