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and



## Environmental Protection with 2-Component Waterborne Polyurethane Coatings

2K-PUR waterborne topcoat for construction cranes

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Comansa offers one of the widest ranges of modern flat-top cranes in the world. Customers in five continents have bought more than 15.000 cranes over nearly 40 years.

In order to meet demands for solvent emissions legislation, the project set out to switch a paint line with a fully-automated continuous coating process of sub-assemblies of construction cranes to a new waterborne system. The coating, comprising of primer and topcoat had to reach the performance levels of the former solventborne system with respect to corrosion protection, retention of gloss and colour as well as workability and curing time.

Euroclor, a manufacturer of special paints for industrial applications was founded in 1982, having its roots in a family-run business since 1880, is the

supplier of the new system based on an waterborne epoxy primer and a 2-component polyurethane (2K-PUR) waterborne topcoat. The requirements of the topcoat are achieved by using a secondary acrylic dispersion Bayhydrol® and Bayhydur®, a hydrophilic-modified polyisocyanate from Bayer Material Science. Only minor modifications of the existing coating line were necessary to switch to the new system.

Waterborne systems, formulated upon a broad range of Bayhydrol® and Bayhydur® contribute to a significant reduction of solvent emissions and allow the formulator to tailor 1- or 2-component coating systems to the specific requirements of the applicator and customer.



<b>Substrate:</b> Shot-blasted steel	
<b>Primer:</b> Epoxy WAE-238-I	<b>Supplier:</b> Euroclor
<b>Dry film thickness primer:</b> 60 micron	
<b>Topcoat:</b> 2K-PUR waterborne WAP-5101	<b>Supplier:</b> Euroclor
<b>Dry film thickness topcoat:</b> 60 micron	
<b>Gloss:</b> 85-90 at 60°	
<b>UV Resistance (QUV-B):</b> 500 h, gloss reduction <10%	
<b>Salt spray:</b> < 1mm after 500 h	



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