Water-Based Paint

Ideal for Welding

As part of a welding project, the behaviour of a water-based coating in response to welding and the impact on the weld seam were evaluated.

The welding tests were carried out in a welding lab at Helsinki Metropolia University of Applied Sciences. The quality of the weld seams was investigated in collaboration with the Finnish lab Rautaruukki Raahe and the results were compared with the conventional solvent-based coatings Korro E Epoxy and Korro SS Zinc Silicate.

In addition to the welding-related properties of the coating, the project also examined the quality and appearance of the weld seams, the formation of combustion gases and the overcoat-ability of the paint. The extent to which the weld area could be cleaned with a wire brush was also investigated.

The coating can be welded without the paint being removed.

Properties	Benefits
Water-based	<ul style="list-style-type: none"> – Low solvent emissions – No incinerator required (VOC directive) – Health and safety in the work place – Fire prevention
Single component	<ul style="list-style-type: none"> – Easy to use – Simple equipment – Low levels of paint wastage
Drying times	<ul style="list-style-type: none"> – Ideally suited for use with automated systems – Dust-free in 1 to 3 minutes – Touch-dry in 5 minutes – Short delivery cycles during the surface treatment process
Weldability	<ul style="list-style-type: none"> – The substrate can be welded without removing the paint. – No gas pores are formed – No additional weld spatter. – Easy to clean with a wire brush.
Overcoatability	<ul style="list-style-type: none"> – Can be overcoated with a wide range of common types of paint. – No maximum overcoating interval.
Gas formation	<ul style="list-style-type: none"> – The amount of combustion gases that form is typical of organic paints. – Countermeasures: Local extraction and good ventilation.

Properties and benefits of the Korro Aqua 2471 production coating

The test results show that the Korro Aqua 2471 production coating is ideally suited to welding. Only a small amount of weld spatter was produced and the weld seam had a low level of porosity. The quantity of combustion gases that formed was similar to that of other organic paints and this can be managed by local extraction and good overall ventilation. ■

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