

Dürr Builds Green Paint Shop in China

Bietigheim-Bissingen, Germany, May 11, 2011 – Dürr is building the prototype of the Green Paint Shop for BMW Brilliance Automotive Ltd. (BBA) in Shenyang, China. All of the technological innovations that Dürr has to offer in terms of environmentally friendly, sustainable automotive painting will be used in this paint shop.

The customer has clear visions for its paint shop in Shenyang: the goal is to create nothing short of the world's most environmentally friendly plant. The general contractor Dürr, with its diverse approaches to resource-saving painting, is the ideal partner for this.

RoDip M rotational dip coating is used in the PT/ED area. The rotational movement of the car bodies thus allows inclined sections at the entrance and exit of the dip tank to be eliminated. This fact leads not only to a significant savings of space, but also to a reduced consumption of energy and chemicals due to smaller bath volumes.

Other technical features that highlight this "green" attribute are the fully automatic IPP (Integrated Paint Process), which eliminates the need for primer and thus a drying phase as well. The spray booths are equipped with [EcoDryScrubber](#) technology, the innovative dry separation method from Dürr which requires no water or chemicals. In this way air recirculation allows a 60% savings in energy. The saturated binding material – a hazardous waste in conventional processes – can be re-used without any further treatment. Dürr's dry separation systems are already in use or under construction in 40 paint lines on four continents.

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Paint will be applied with 32 type *EcoRP* E033 and *EcoRP* L133 painting robots from Dürr. These are equipped with the latest generation of atomizer, the *EcoBell3*, which is characterized by its significantly higher atomizer performance. Due to the *EcoBell3*'s compact design, both exterior and interior painting can be done with the same rotating atomizer. In conjunction with the *EcoLCC* color changer, the *EcoBell3* offers a highly efficient and compact, but also easy, application system for all applications. This leads to minimal paint loss during color changes and this process is considerably shortened.

A further measure for protecting the environment, the use of heat wheels for heat recovery from supply and exhaust air. Even the waste heat from the dryers is recovered through a waste heat boiler. The exhaust air stream from the clear coat booth is purified over and above the regulatory requirements before leaving the facility. Through the use of membrane technology in the pretreatment, electro dipping and waste water system, both water consumption and the amount of waste water are reduced.

With its layout philosophy, Dürr creates favorable conditions for this prototype of a green paint shop. The framework constitutes a simple, inexpensive industrial building with no intermediate levels. This concept is supported by multi-functional car body stacks in the form of high-rise storage facilities to ensure an optimum flow of materials.

Along with the environment, this project features another winner: the customer can lay claim to operating the most sustainable "green" paint shop in the world. The specific energy consumption that BMW reaches with this new paint shop sets new standards worldwide, as less than 500 kilowatt hours of energy are needed per painted car body. This is only a third of what was common just ten years ago.

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At the same time much emphasis is placed on having a worker-friendly work environment: ergonomic working conditions are just as standard as ease of communication and maintenance. That BMW's quality standards will in this way be guaranteed goes without saying.

Dürr is a mechanical and plant engineering group that holds leading positions in the world market in its areas of operation. It generates a good 80% of its sales in business with the automotive industry. It furthermore supplies the aircraft, machinery, chemical, and pharmaceutical industries with innovative production and environmental technologies. The Dürr Group operates in the market with three divisions. The Paint and Assembly Systems division supplies production and painting technology, especially for car bodies. Machinery and systems from the Measuring and Process Systems division are used in engine and transmission manufacturing and in final vehicle assembly, among other areas. The third division, Clean Technology Systems, is focused on processes to improve energy efficiency and on exhaust air purification. Dürr has 48 business locations in 21 countries worldwide. The Group achieved sales of € 1.26 billion with approximately 5,900 employees in 2010.

Photo: The EcoDryScrubber from Dürr – in use here at BMW in Regensburg, Germany – saves up to 60% energy in the paint booth.

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