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Virtual Manufacturing Supports Digital Product Development ? Better Corrosion Protection by E-Coat Simulation in STAR-CCM+



With the recent progress in simulation methods for product development, the need for expensive test hardware, and therefore their availability, has been significantly reduced. This requires additional development and application of manufacturing simulation methods for virtual testing purposes. Early feedback based on manufacturing simulation results to the product design team will help ensure that manufacturing quality and cost requirements are met.

STAR-CCM+ 8.02 provides an improved simulation process chain from CAD-data meshing to E-coat deposition including fill and drain behavior in automotive paint shop. Simulations give answers like 'is there enough paint thickness in all cavities' or 'is there a corrosion risk based on air bubbles or paint ponds' in the E-coat dipping process. An outlook to future manufacturing simulation developments will be given.

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Industries:

Products:

Conference:

[STAR Global Conference 2013](#)^[2]

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial strength engineering simulation.

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