



Industrial Member Report Summary – Key Findings for Industry

A Review and Evaluation of the Durability of Low Surface Energy Coatings

TWI Core Research Programme

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Introduction

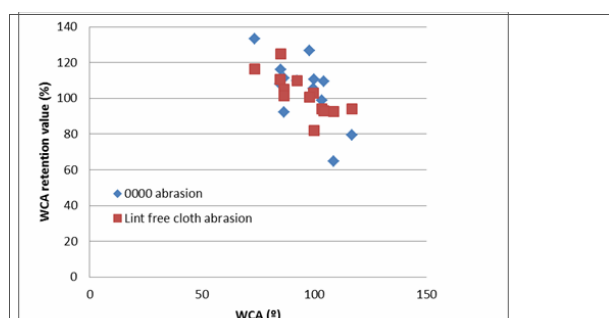
Durable, foul resistant coatings are sought for many reasons, specifically for the desirable attribute of maintaining a surface finish by not allowing foreign materials to adhere to the surface. Such surface contamination can lead to an increase in weight, reduced aerodynamic or hydrodynamic efficiency or act as a source of corrosion. There are few coatings that have achieved significant industrial adoption to address this issue.

Industrial Challenge.

Industrial adoption of low energy coatings is in part limited by the availability of coatings with all the required properties, awareness of current products and a widely adopted comparative test methodology.

Key Findings

- An overview of the low surface energy coating market is provided and the key drivers described
- Candidate hybrid low surface energy products were identified and evaluated
- A novel test routine which compares the hydrophobic behaviour after abrasion was developed
- An inverse linear relationship between the surface energy and the degree of abrasion value has determined, which may allow more appropriate selection of products as fit-for-purpose for applications which may experience abrasive wear
- Directions for next generation low energy coatings are identified



Relationship between the initial WCA and the retained value after linear abrasion for 500 double rubs for coated steel Q-panels.

How to benefit from this work:

- As an Industrial Member of TWI, you have free access to the [full report](#)
- If you are not an Industrial Member of TWI, find out how your company could benefit from Membership www.twi.co.uk/membership
- Contact alan.taylor@twi.co.uk to learn more



Water droplets on surfaces that are, a) Superhydrophilic; b) Hydrophobic; c) Superhydrophobic

Images a) and c) are courtesy of Lotus Leaf Coatings, NM, USA.