

Development of microcapsules as additives for advanced composites

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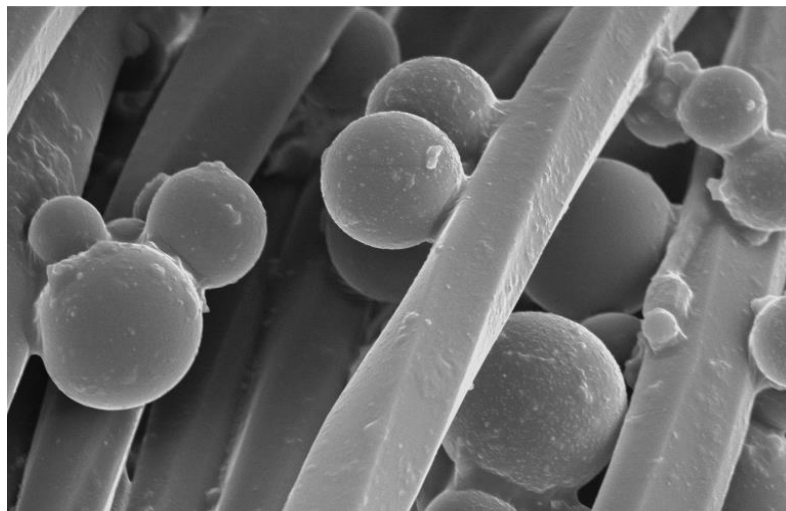
Abstract:

Over the last thirty years composite materials, plastics and ceramics have grown steadily, penetrating and changing markets relentlessly but also creating new opportunities. Nowadays composite materials represent a significant proportion of the engineered material markets ranging from everyday products to high-end niche applications.

One of the successful strategies to deliver advanced composites is to develop stimuli responsive additives that are integrated into existing commodity products to deliver new and/or previously unmet performances.

Devan chemicals is an SME that develops specialty chemicals for textile industry. This European sector suffered from globalization and the remaining companies are sustaining by developing high added value products.

In this context Devan, with an open innovation mindset, is currently working on the development of microcapsules as additives. As successful examples phase changing microcapsules are currently sold in the bedding industry and microcapsules loaded with highly reactive components are under development for Self-healing composites. We will demonstrate that step by step moving from a vision to an attitude and finally to action, working microcapsules prototypes can be developed and integrated to deliver new advanced products.



Microcapsules bounded to textile fibers (Devan chemicals ©).