

## Dielectric nonwoven material to prevent galvanic corrosion



Technical Fibre Products has developed dielectric nonwoven material which can be used to prevent galvanic corrosion, a serious problem when aluminium or other metals come into contact with carbon fibre in a composite structure.

Galvanic corrosion, also known as dissimilar metal corrosion, occurs when two dissimilar conductive materials come into contact in the presence of an electrolyte such as water, leading to creation of a pathway for electron transfer.

Carbon fibre is a good electrical conductor and can produce a large galvanic potential with aluminium. Galvanic potential may also result during contact between carbon composite and aluminium components or between a carbon reinforcement and aluminium honeycomb. The result of this could be surface corrosion and extensive pitting which may be very serious, particularly in instances where it occurs out of sight. In such cases, it may cause structural failure.

The solution for galvanic corrosion lies in preventing moisture coming into contact with carbon and aluminium simultaneously. This can be achieved by separating the two materials. The nonwoven material does this by providing an extremely uniform, lightweight barrier between the two materials and therefore stopping an electrochemical reaction, a company release said.

The issue of galvanic corrosion is not limited to aluminium and can occur with other metals and alloys, such as steel or stainless steel, in certain environmental conditions.

Nonwovens can also be used to improve surface finish, inter-laminar fracture toughness and abrasion resistance of composite structures. (SV)

***Provided by Fibre2fashion News Desk – India***

**No. 183 May 2015**