

EUROMAT 2019 / Area B: Structural Materials

SYMPOSIUM: B5

Title: Hybrid composites with fiber metal laminates		
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Abstract		
<p>Fiber metal laminate (FML) consist of several thin metal layers bonded with layers of fibre reinforced polymer composite. This allows the material to behave much as a simple metal structure, but with considerable specific advantages regarding properties such as metal fatigue, impact, corrosion resistance, fire resistance, weight savings, and specialized strength properties.</p> <p>Prominent examples is Glare consisting of Aluminum sheets with glass fibre thermoset composites. However, there are more combination of different glass-carbon-, or aramid fibre reinforced layers with steel, aluminum or titanium sheets are under research focus to tailor the mechanical properties by takin the advantages of both material classes. The good adhesion between metal and polymer is of key importance to the resulting mechanical properties.</p> <p>Being mixtures of monolithic or permeable (e.g. fabric) metal sheets and fibre composite materials. There manufacturing methods including surface treatments as well as the resulting mechanical properties (e.g. impact, load bearing capability) are the topic of this symposium.</p>		