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Fibre-bridged fatigue delamination in multidirectional composite laminates

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**Abstract:**

The influence of fibre bridging on delamination failure in multidirectional composite laminates with different thickness scales is characterized, and the dependence of fibre bridging significance on laminate thickness as well as loading regime is investigated in this paper. Both quasi-static and fatigue resistance curves (*R*-curve) are experimentally determined to quantify the significance of fibre bridging in delamination growth. The results clearly demonstrate that thickness has effect on the amount of fibre bridging in quasi-static delamination. And the significance of fibre bridging decreases with the increase in laminate thickness. However, the situation for fatigue delamination growth (FDG) is much more complicated. The difference in fibre

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