

Figure 5. Unit-strip FE model of the pinned joint.



Professor Adrian P. Mouritz

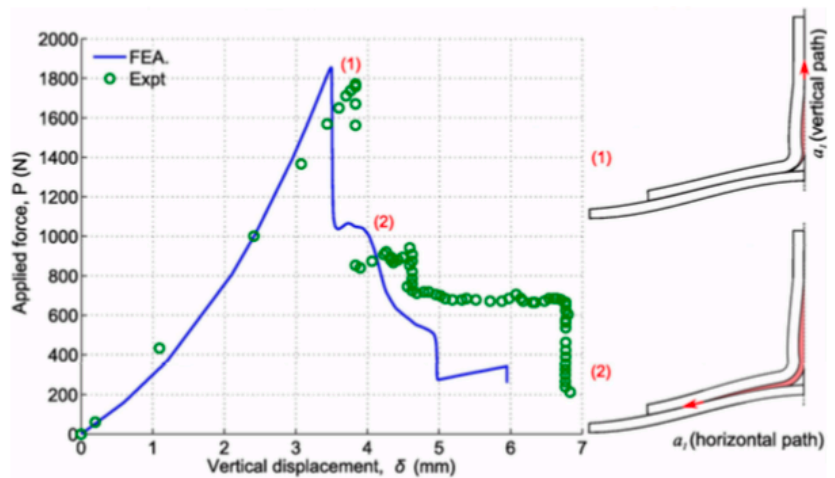


Fig 6. Comparison of the calculated and measured applied force-displacement curves for the unpinned joint. The diagrams on the right-side indicate the onset of vertical cracking along the centre-line of the stiffener at point 1 and horizontal cracking along the skin-flange interface at point 2.

From: F. Bianchi, T.M. Koh, X. Zhang, I.K. Partridge and A.P. Mouritz, "Finite element modeling of Z-pinned composite T-Joints", Composites Science and Technology, November 2012, DOI: 10.1016/j.compscitech.2012.09.008

See:

<https://www.rmit.edu.au/contact/staff-contacts/academic-staff/m/mouritz-distinguished-professor-adrian>
<https://scholar.google.com/citations?user=EuHtIk0AAAAJ&hl=en>
https://www.researchgate.net/scientific-contributions/2073399973_Adrian_P_Mouritz
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Overview:

Adrian performs research into fibre reinforced polymer composites and other engineering materials used in aircraft. Distinguished Professor Mouritz has performed research which has led to significant discoveries on various topics associated with composite materials, including their mechanical, fracture and fatigue properties; impact and explosive blast properties; fire structural properties; non-destructive inspection and smart health monitoring; and damage tolerance using through-thickness reinforcement (orthogonal weaving, stitching, pinning). He has published nearly 200 research articles on composites; which include 3 books, 3 edited books, 15 book chapters, and over 120 journal papers. Distinguished Professor Mouritz has received over \$5 million in research funds over the past 10 years from various sources, including the Australian Research Council, United States Office of Naval Research and the Composites CRC.

Selected Publications:

- Mouritz, A.P., Saunders, D.S., Buckley, S., 1994. The damage and failure of GRP laminates by underwater explosion shock loading. *Composites* 25, 431–437
- Mouritz, A.P., “The effect of underwater explosion shock loading on the fatigue behaviour of GRP laminates,” *Composites*, vol. 26, 1995, pp.3–9.
- A.P. Mouritz, “The damage to stitched GRP laminates by underwater explosion shock loading”, *Compos Sci Technol*, 55 (1995), pp. 365-374
- Mouritz AP, Thomson RS. Compression, flexure and shear properties of a sandwich composite containing defects. *Compos Struct.* 1999;44:263–278
- A. Mouritz, M. Bannister, P. Falzon, and K. Leong, Review of applications for advanced three-dimensional fibre textile composites, *Comp. Part A.* 30 (1999), pp. 1445–1461
- Mouritz, A.P., Gellert, E., Burchill, P., Challis, K., “Review of Advanced Composite Structures for Naval Ships and Submarines”, *Composite Structures*, 53, 2001, 21–41
- A.P. Mouritz and Z. Mathys Z., ‘Post-fire mechanical properties of glass-reinforced polyester composites’, *Composites Science and Technology*, 61, (2001), 475-490.
- Tong L., Mouritz A. P., Bannister M. K., *3D Fibre Reinforced Polymer Composites*, Elsevier Science Ltd., Oxford 2002
- Mouritz AP, Gardiner CP. Compression properties of fire-damaged polymer sandwich composites. *Composites Part A* 2002;33:609–20.
- A.G. Gibson, A.P. Mouritz and Z. Mathys Z, ‘The integrity of polymer composites during and after fire’, *Journal of Composite Materials*, 38, (2004), 1283-1306
- A. P. Mouritz et al., “Review of fire structural modelling of polymer composites,” *Compos. Part A: Appl. Sci. Manuf.*, vol. 40, no. 12, pp. 1800–1814, 2009
- F. Bianchi, T.M. Koh, X. Zhang, I.K. Partridge and A.P. Mouritz, “Finite element modeling of Z-pinned composite T-Joints”, *Composites Science and Technology*, November 2012, DOI: 10.1016/j.compscitech.2012.09.008
- A.P. Herman, A.C. Orifici and A.P. Mouritz, “Vibration modal analysis of defects in composite T-stiffened panels”, *Composite Structures*, Vol. 104, pp 34-42, October 2013
- Huon Bornstein, Shannon Ryan and Adrian P. Mouritz, “Evaluation of blast protection using novel-shaped water-filled containers: Experiments and simulations”, *International Journal of Impact Engineering*, Vol. 127, pp 41-61, May 2019
- Joel Galos, Akbar Afaghi Khatibi and Adrian P. Mouritz, “Vibration and acoustic properties of composites with embedded lithium-ion polymer batteries”, *Composite Structures*, Vol. 220, pp 677-686, 15 July 2019
- A. Gargano, R. Das and A.P. Mouritz, “Finite element modelling of the explosive blast response of carbon fibre-polymer laminates”, *Composites Part B: Engineering*, Vol. 177, Article 107412, 15 November 2019