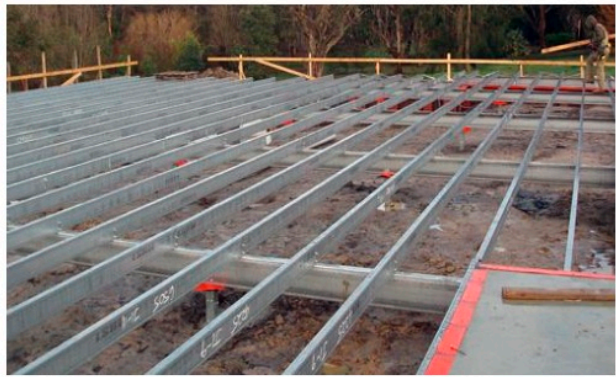


(a) LSB



(b) LSBs as floor joists and bearers



Professor Poologanathan Keerthan

See:

<http://staff.qut.edu.au/staff/keerthan/>

https://eprints.qut.edu.au/view/person/Poologanathan,_Keerthan.html

<https://research.qut.edu.au/wafel/people/keerthan-poologanathan/>

https://www.researchgate.net/profile/Poologanathan_Keerthan

https://www.researchgate.net/profile/Poologanathan_Keerthan

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Biography:

Dr Poologanathan Keerthan is a lecturer and an active researcher in fire safety and steel structures. He is part of a productive research team (structural, fire and wind and engineering) at QUT, along with Professor Mahen Mahendran, Dr Anthony Ariyanayagam, Dr Kesawan Sivakumar, Dr Mayooran Sivapathasundaram and 10

Figure 1: LiteSteel beams

From: Poologanathan, Keerthan, Mahendran, Mahen and Steau, Edward, "Web crippling tests of hollow flange channel beams – ETF and ITF load cases", Australasian Structural Engineering Conference (ASEC 2014), Sky City, Auckland, 9-11 July 2014

PhD students, who have been working on a variety of research projects funded by the Australian Research Council, QUT and industry. His research team uses full-scale structural, wind and fire testing facilities at QUT's Banyo Pilot Plant Precinct and Central Analytical Research Facility (CARF) in their experimental investigations of buildings subjected to wind and fire, and QUT's high performance computing facilities for advanced numerical simulations of the tested building components.

Research Interests:

Steel structures (cold-formed and hot-rolled): Thin-walled structures; Hollow flange beams; Innovative steel products and systems; Fire safety of buildings; LSF wall and floor system; Fire resistance materials (enhanced plasterboard); Fibre composites for retrofitting and rehabilitation of structures; Modular building system; Energy efficiency (building materials)

Selected Publications:

- Poologanathan Keerthan and Mahen Mahendran, "Suitable stiffening systems for LiteSteel beams with web openings subjected to shear", *Journal of Constructional Steel Research*, Vol. 80, pp 412-428, January 2013
- Mahen Mahendran and Poologanathan Keerthan, "Experimental studies of the shear behavior and strength of LiteSteel beams with stiffened web openings", *Engineering Structures*, Vol. 49, pp 840-854, April 2013
- Poologanathan Keerthan and Mahen Mahendran, "New design rules for the shear strength of LiteSteel beams with web openings", *ASCE Journal of Structural Engineering*, Vol. 139, No. 5, May 2013
- Poologanathan Keerthan and Mahen Mahendran, "Shear buckling characteristics of cold-form steel channel beams", *International Journal of Steel Structures*, Vol. 13, No. 3, pp 385-399, September 2013
- Poologanathan Keerthan and Mahen Mahendran, "Experimental studies of the shear behaviour and strength of lipped channel beams with web openings", *Thin-Walled Structures*, Vol. 73, pp 131-144, December 2013
- Poologanathan Keerthan, David Hughes and Mahen Mahendran, "Experimental studies of hollow flange channel beams subject to combined bending and shear actions", *Thin-Walled Structures*, Vol. 77, pp 120-140, April 2014
- Poologanathan Keerthan and Mahen Mahendran (Science and Engineering Faculty, Queensland University of Technology, Brisbane, QLD 4000, Australia), "Improved shear design rules for lipped channel beams with web openings", *Journal of Constructional Steel Research*, Vol. 97, pp 127-142, June 2014
- Poologanathan, Keerthan, Mahendran, Mahen and Steau, Edward, "Web crippling tests of hollow flange channel beams – ETF and ITF load cases", *Australasian Structural Engineering Conference (ASEC 2014)*, Sky City, Auckland, 9-11 July 2014
- Poologanathan Keerthan, Mahen Mahendran and David Hughes, "Numerical studies and design of hollow flange channel beams subject to combined bending and shear actions", *Engineering Structures*, Vol. 75, pp 197-212, September 2014
- Poologanathan Keerthan and Mahen Mahendran (Science and Engineering Faculty, Queensland Univ. of Technology Brisbane, Brisbane, QLD 4000, Australia.), "Improving the shear capacities of lipped channel beams with web openings using plate stiffeners", *ASCE Journal of Structural Engineering*, Vol. 141, No. 11, November 2015
- Poologanathan Keerthan, Mahen Mahendran and Edward Steau (Science and Engineering Faculty, Queensland University of Technology, Brisbane, Australia), "Experimental study of web crippling behaviour of hollow flange channel beams under two flange load cases", *Thin-Walled Structures*, Vol. 85, pp 207-209, December 2014
- Poologanathan Keerthan and Mahen Mahendran (Science and Engineering Faculty, Queensland University of Technology, Brisbane, QLD 4000, Australia), "Experimental investigation and design of lipped channel beams in shear", *Thin-Walled Structures*, Vol. 86, pp 174-184, January 2015

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Poologanathan Keerthan and Mahen Mahendran, "Shear tests of rivet fastened rectangular hollow flange channel beams", Journal of Constructional Steel Research, Vol. 121, pp 330-340, June 2016

Lavan Sundararajah, Mahen Mahendran and Poologanathan Keerthan, "Experimental studies of lipped channel beams subject to web crippling under two-flange load cases", ASCE Journal of Structural Engineering, Vol. 142, No. 9, September 2016

Ropalin Siahaan, Poologanathan Keerthan and Mahen Mahendran, "Finite element modeling of rivet fastened rectangular hollow flange channel beams subject to local buckling", Engineering Structures, Vol. 126, pp 311-327, November 2016

Lavan Sundararajah, Mahen Mahendran and Poologanathan Keerthan, "New design rules for lipped channel beams subject to web crippling under two-flange load cases", Thin-Walled Structures, Vol. 119, pp 421-437, October 2017