

Professor Raphael H. Grzebieta



Fig. 5 Elliptical post buckling patterns of a thin shell (t=0.11, d=127) under pure bending

From: Raphael Grzebieta, Mohamed Elchalakani and Xiao-Ling Zhao, "Plastic collapse analysis of slender circular tubes subjected to large deformation pure bending", Advances in Structural Engineering, Vol. 5, No. 4, January 2002

See:

https://theconversation.com/profiles/raphael-grzebieta-2746 http://acrs.org.au/rrsp/raphael-grzebieta/ http://www.chalmers.se/safer/EN/news/events/overview-roadsafety/downloadFile/attachment/Prof.\_Raphael\_Grzebieta\_short\_biography?nocache=1427286651.82 https://www.researchgate.net/profile/Raphael\_Grzebieta/publications https://scholar.google.com/citations?user=f7Q0mFYAAAAJ&hl=en

Transport and Road Safety (TARS) Research University of New South Wales, Sydney, Australia

## **Research Interests:**

Raphael Grzebieta is Chair of Road Safety at the TARS research centre at UNSW. He has around 28 years of research and practical experience in road safety, road and vehicle crashworthiness and forensic engineering investigations. Research teams he has led and been involved with have carried out numerous vehicle, truck and road infrastructure crash tests, impact and blast load laboratory testing, road injury biomechanics studies, computer modelling and theoretical studies. He has published over 200 papers and supervised numerous PhD and Masters students. His current research focus areas are: road infrastructure crashworthiness, rollover crashworthiness; motorcycle safety; truck safety; cycling and pedestrian safety; ambulance crashworthiness; and fatigue.

## **Education:**

1991 Ph.D Monash University M.Eng.Sci Krakow, Poland B.E. (Honors)

Selected Publications: Book: X.L. Zhao and R.H. Grzebieta (Editors), Structural Failure and Plasticity: IMPLAST 2000, Proceedings of conference, 4-6 October 2000, Melbourne, Australia, Pergamon, 916 pages

## **Journal Articles:**

Grzebieta RH, Murray NW. The static behaviour of struts with initial kinks at their center points. Int J Impact Engng 1985;3(3):155–65.

Grzebieta RH, Murray NW. Energy absorption of an initially imperfect strut subjected to an impact load. Int J Impact Engng 1986;4(3):147–59.

Grzebieta RH. Research into failure mechanisms of some thin-walled round tubes. In: Gupta NK, editor. Plasticity and impact mechanics. New Age International (P) Ltd; 1998.

L. Sironic, N.W. Murray and Raphael Grzebieta, "Buckling of wide struts/plates resting on isotropic foundations", Thin-Walled Structures, Vol. 35, No. 3, pp 153-166, November 1999

Zhao XL, Grzebieta RH. Strength and ductility of concrete filled double skin square hollow sections. In: Zhao XL, Grzebieta RH, editors. Structural failure and plasticity. Rolla, MO, USA: University of Missouri-Rolla; 2000.

Guillow SR, Lu G, Grzebieta RH. Quasi-static axial compression of thin-walled circular aluminium tubes Int J Mech Sci 2001;43:2103-2123.

Mohamed Elchalakani, Xiao-Ling Zhao and Raphael Grzebieta, "A closed-form solution for elastic buckling of thin-walled unstiffened circular cylinders under pure flexure", (publisher and date not given in the pdf file. Most recent citation is dated 2000), <u>https://www.researchgate.net/publication/239328062</u>

Raphael Grzebieta, Mohamed Elchalakani and Xiao-Ling Zhao, "Plastic collapse analysis of slender circular tubes subjected to large deformation pure bending", Advances in Structural Engineering, Vol. 5, No. 4, January 2002

Elchalakani, M., Zhao, X.L. and Grzebieta, R.(2002) "Bending tests to determine slenderness limits for cold-formed circular hollow sections", Journal of Constructional Steel Research 58, 1407–1430.

Elchalakani M, Zhao XL, Grzebieta RH (2002) Plastic slenderness limits for cold—formed circular hollow sections. Aust J Struct Eng 3:127–141

Haedir J, Bambach MR, Zhao XL, Grzebieta R. Bending strength of CFRP-strengthened circular hollow steel section. In: Third international conference on FRP composites in civil engineering (CICE) Miami, FL, USA, 2006.

Haedir J, Bambach MR, Zhao XL, Grzebieta R. Behavior of thin-walled CHS beams reinforced by CFRP sheets. Proceeding of the fourth international structural engineering and construction conference (ISEC4), Melbourne, Australia, 2007.

Haedir, J., Bambach, M.R., Zhao, X.L. and Grzebieta, R.H. (2009), "Strength of circular hollow steel sections (CHS) tubular beams externally reinforced by carbon fibre sheets in pure bending", Thin-Walled Structures, Vol. 47, issue 10, 1136-1147.

H. H. Jama, G. N. Nurick, M. R. Bambach, R. H. Grzebieta, and X. L. Zhao, "Steel square hollow sections subjected to transverse blast loads," Thin-Walled Structures, vol. 53, pp. 109–122, 2012.