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Selected Publications:

Guggenberger, W., 1991. Buckling of cylindrical shells under local axial loads. In: *Buckling of Shell Structures, on Land, in the Sea and in the Air*, J. F. Jullien (Ed.), Elsevier Applied Science, London and New York, p. 323–333

Guggenberger W. Nichtlineares beulverhalten von kreiszylinderschalen unter lokaler axialbelastung. Dr. techn. thesis, Tech. University Graz, 1992.

J M Rotter, R Greiner, W Guggenberger and H Y Li. (1993). Proposed Design Rule for Buckling Strength Assessment of Cylindrical Shells under Local Axial Loads”, Submission to ECCS TWG8.4 Buckling of Shells

W. Guggenberger, “Collapse design of large steel digester tanks”, *Thin-Walled Structures*, Vol. 20, Nos. 1-4, 1994, pp. 109-128

Guggenberger W (1995) Buckling and postbuckling of imperfect cylindrical shells under external pressure. *Thin-Walled Struct* 23:351–366

Greiner, R., Guggenberger, W., 1996. Stability of column-supported steel cylinders, Proc., IASS Asia-Pacific Conf. on Shell and Special Structures, Beijing.

Guggenberger, W., 1996. Patch Loads and Their Use in Metal Silo Design-Strand 3: Effect of Patch Loads on Stiffened Circular Cylindrical Silos. Under the auspices of WG3 of CA-Silo, Institute for Steel, Timber and Shell Structures, Technical University Graz, Austria.

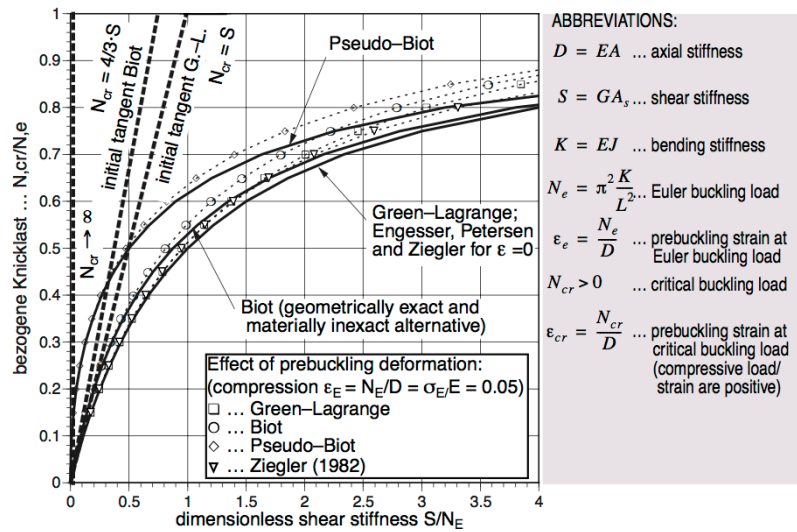


Figure 3. Shear buckling loads for various analysis approaches in dependence of shear buckling stiffness S and axial pre-buckling stiffness D : 1. Green-Lagrange basic concept (geometrically and materially exact approach), 2. Biot strain (geometrically exact; materially inexact approach), 3. Pseudo-Biot stress and strain (geometrically and materially inexact approach) and 4. Engesser (1891), Petersen (1982) and Ziegler (1982).

From: Werner Guggenberger, “Nonlinear analysis of space frame structures – Large rotation formulations and their consistent approximations for moderate rotations”, European Congress on Computational Methods in Applied Science and Engineering, ECCOMAS 2000, Barcelona, 11-14 September 2000

Guggenberger, W., 1997. Collapse, failure analysis and repair of a high-tensile steel digester tank. Proc., Int. Conf. on Carrying Capacity of Steel Shell Structures, V. Krupka and P. Schneider (Eds.), Oct. 1–3, Brno, Czech Republic.

Guggenberger, W., 1998. Proposal for design rules of axially loaded steel cylinders on local supports. *Thin-Walled Structures*, 31: 169–185.

Pircher M., Guggenberger W., Greiner R., Bridge R. (1998), “Stresses in elastic cylindrical shells under wind load”. University of Western Sydney, Nepean, pp. 663-669.

R Greiner and W Guggenberger, “Buckling behaviour of axially loaded steel cylinders on local supports— with and without internal pressure”, *Thin-Walled Structures*, Vol. 31, Nos. 1-3, May 1998, pp. 159-167

Guggenberger W, Greiner R. Axialbelastete kreiszylinderschalen auf einzelstutzen— numerische tragverhaltensstudie, versuchsergebnisse und bemessungsvorschlag. *Stahlbau* 1998;67(6):415–24.

Guggenberger, W., Greiner, R., Rotter, J. M., 2000. The behavior of locally-supported cylindrical shells: Unstiffened shells. *J. Construct. Steel. Res.*, 56: 175–197.

Werner Guggenberger, “Nonlinear analysis of space frame structures – Large rotation formulations and their consistent approximations for moderate rotations”, European Congress on Computational Methods in Applied Science and Engineering, ECCOMAS 2000, Barcelona, 11-14 September 2000

M. Pircher, W. Guggenberger, R. Greiner, “Stresses in Elastically Supported Cylindrical Shells under Wind Load and Foundation Settlement”, *Advances in Structural Engineering*, Vol. 4, No. 3, July 2001, pp. 159-167

Werner Guggenberger, W., Linder, C. (2003). *Elastic Stress Analysis Of Axisymmetric Discontinuities In Shells Of Revolution By An Effective Ring Analogy Model*, Institute for Steel, Timber and Shell Structures, Graz University of Technology, Lessingstr. 25, 8010 Graz, Austria Berkeley, University of California, Dept. of Civil and Environmental Engineering, USA.

W. Guggenberger, R. Greiner and J.M. Rotter, “Cylindrical shells above local supports”, Chapter 3 in *Buckling of thin metal shells*, edited by J. G. Teng, J. Michael Rotter, Spon Press, London, 2004.

Greiner, R. and Guggenberger, W. (2004) “Tall cylindrical shells under wind pressure”, in *Buckling of Thin Metal Shells*, eds J.G. Teng & J.M. Rotter, Spon, London, pp 198-206.

W. Guggenberger, “Elastic stability and imperfection sensitivity of axially loaded cylindrical shells on narrow supports”, *Computational Mechanics*; June 2006, Vol. 37 Issue 6, p537

Greiner, R., Guggenberger, W. and Schneider, W. (2008) “Cylindrical shells and Wind loading”, Chapter 12 in *Stability of Steel Shells: European Design Recommendations: Fifth Edition*, eds J.M. Rotter and H. Schmidt, Publication P125, European Convention for Constructional Steelwork, Brussels.