

## **REFERENCES**

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1. IS 11384: "Code of Practice for Composite Construction in Structural Steel and Concrete", Bureau of Indian Standards, New Delhi, 1985.
2. Nethercoat D. A.: "Composite Construction", Spon Press of the Taylor & Francis Group, London, 2004.
3. Knowles P. R.: "Composite Steel and Concrete Construction", Butterworth and Co. Publishers, 1973.
4. Newmark N. M., Siess C. P. and Viest I. M.: "Test and Analysis of Composite Beams with Incomplete Interaction", Proc. Soc. Experimental Stress Analysis, Vol. 9, pp. 75-92, 1951.
5. Slutter R. G. and Driscoll G. C.: "Flexural Strength of Steel-Concrete Composite Beams", Journal of Structural Engineering", ASCE, Vol. 91, pp. 71-99, 1965.
6. Narayanan R., Kalyanaraman V., Santhakumar A. R., Seetharaman S., Satishkumar S. R., Arul S. and Senthil R.: "Teaching Resource of Structural Steel Design", Vol. 2, Institute for Steel Development and Growth (INSDAG), Kolkata, 2001.
7. EN 1994 Eurocode 4: "Design of Composite Steel and Concrete Structure", European Committee, 2004.
8. EN 1993 Eurocode 3: "Design of Steel Structures", European Committee, 2003.
9. Goldberg D. E.: "Genetic Algorithms in Search, Optimization and Machine Learning", Pearson Education Asia Limited, 2000.
10. Deb K.: "Optimization for Engineering Design-Algorithm and Examples", Prentice Hall of India Private Limited, New Delhi, 1998.
11. Bandyopadhyay T. K.: "Current Trend and Future Scope of Steel Concrete Composite Construction in India", Journal of Steel in Construction, INSDAG, Vol. 2, No. 1, pp. 17-32, January 2001.
12. Templeman J. and Vitter D.: "Visual Studio .NET", The .NET Framework Black Book, The Coriolis Group Publication, USA, 2005.

13. Rajeev S. and Krishnamoorthy C. S.: "Discrete Optimization of Structures using Genetic Algorithms", Journal of Structural Engineering, ASCE, Vol. 118, No.5, pp. 1233-1250, May 1992.
14. Koumousis V. K. and Georgiou P. G.: "Genetic Algorithms in Discrete Optimization of Steel Truss Roofs", Journal of Computing in Civil Engineering, ASCE, Vol. 8, No.3, pp. 309-325, July 1994.
15. Yang J. and Soh C. K.: "Structural Optimization by Genetic Algorithms with Tournament Selection", Journal of Computing in Civil engineering, ASCE, Vol. 11, No.3, pp. 195-200, July 1997.
16. Kanwalpreet and Ramkrishnan C. V.: "Topology and Discrete Optimal Design of Trusses using Genetic Algorithm and Object Oriented Methodology", Proceedings of Structural Engineering Convention, IIT- Bombay, pp. 535-544, 2000.
17. Krishnamoorthy C. S., Venkatesh P. P. and Sudarshan R.: "Object-Oriented Framework for Genetic Algorithms with Application to Space Truss Optimization", Journal of Computing in Civil Engineering, ASCE, Vol. 16, No. 1, pp. 66-75, January 2002.
18. Patodi S. C., Solanki N. K. and Panchal D. N.: "Optimum Design of RCC Structures via Genetic Algorithm", Proceedings of National Symposium on Futuristics of Concrete Technology and Optimal Design of RCC Structures, Coimbatore, pp. 197-203, 2002.
19. Sabhahit N. and Hegde C.: "GA based Optimum Design of Prestressed Concrete Beam", Journal of Structural Engineering, Vol. 31, No.3, pp. 167-174, 2004.
20. Balling R. J., Briggs R. R. and Gillman K.: "Multiple Optimum Size/Shape/Topology Designs for Skeletal Structures using a Genetic Algorithm", Journal of Structural engineering, ASCE, Vol. 132, No.7, pp. 1158-1165, 2006.
21. Chapman J. C.: "Composite Construction in Steel and Concrete- The Behaviour of Composite Beams", The Structural Engineer, Vol. 42, No. 4, pp. 115-125, 1964.
22. Chapman J. C. and Balakrishnan S.: "Experiments on Composite Beams", The Structural Engineer, Vol. 42, No. 11, pp. 369-383, 1964.
23. Vallenilla C. R. and Bjorhovde R.: "Effective Width Criteria for Composite Beams", Journal of American Institute of Steel Construction, Fourth Quarter, pp. 169-175, 1985.

24. Leon R. T., Ammerman D., Lin J. and Robert D. M.: "Semi-rigid Composite Steel Frames", Journal of American Institute of Steel Construction, Fourth Quarter, pp. 147-155, 1987.
25. Vinnakota S., Foley C. M. and Vinnakota M. R.: "Design of Partially or Fully Composite Beams with Ribbed Metal Deck, using LRFD Specifications", Journal of American Institute of Steel Construction, Second Quarter, pp. 60-78, 1988.
26. Razaqpur A. G. and Nofal M.: "A Finite Element for Modelling the Nonlinear Behaviour of Shear Connectors in Composite Structures", International Journal of Computers & Structures, Vol. 32, No.1. pp. 169-174, 1989.
27. Lloyd R. M. and Wright H. D.: "Shear Connection between Composite Slabs and Steel Beams", Journal of Constructional Steel Research, Vol. 15, pp. 255-285, 1990.
28. Hillman J. R. and Murrey T. M.: "Innovative floor systems" Proceedings of National Steel Construction Conference, Kansas City, Missouri, American Institute of Steel Constructors, pp. 1-12, 1990.
29. Chien E. Y. and Ritchie J. K.: "Composite Floor Systems - A Mature Design Option", Journal of Constructional Steel Research, Vol. 25, pp. 107-139, 1993.
30. Daniels B. J. and Crisinel M.: "Composite Slab Behaviour and Strength Analysis. Part I Calculation Procedure", Journal of Structural Engineering, Vol. 119, No. 1, Paper No. 2293, 1993.
31. Daniels B. J. and Crisinel M.: "Composite Slab Behaviour and Strength Analysis. Part II: Comparisons with Test Results and Parametric Analysis", Journal of Structural Engineering, Vol. 119, No. 1, Paper No. 4112, 1993.
32. Xiao Y., Choo B. S. and Nethercot D. A.: "Composite Connections in Steel and Concrete - Experimental Behaviour of Composite Beam - Column Connections", Journal of Constructional Steel Research, Vol. 31, pp. 3-30, 1994.
33. Krige G. J. and Mahachi J.: "Dynamic Behaviour of Composite Floors", Journal of Constructional Steel Research, Vol. 34, Issues 2-3, pp. 249-269, 1995.
34. Hanswille G.: "Cracking of Concrete Mechanical Models of the Design Rules in Eurocode 4", Composite Construction in Steel and Concrete III, pp. 420-433, 1996.

35. Wang Y. C.: "Deflection of Steel-Concrete Composite Beams with Partial Shear Interaction", *Journal of Structural Engg.*, Vol. 124, Issue 10, pp. 1159-1165, 1998.
36. Chung K. F. and Narayanan R.: "Composite Column Design to Eurocode 4", *Steel Construction Institute*, 2004.
37. Dissanayake U. I., Davison J. B. and Burgess I. W.: "Composite Beam Behaviour in Braced Frames", *Journal of Constructional Steel Research*, Vol. 49, pp. 271-289, 1999.
38. Gattesco N.: "Analytical Modeling of Nonlinear Behaviour of Composite Beams with Deformable Connection", *Journal of Constructional Steel Research*, Vol. 52, pp. 195-218, 1999.
39. Jasim N.: "Deflections of Partially Composite Beams with Linear Connector Density", *Journal of Constructional Steel Research*, Vol. 49, pp. 241-254, 1999.
40. Dissanayake U. I., Burgess I. W. and Davison J. B.: "Modelling of Plane Composite Frames in Unpropped Construction", *Engineering Structures*, Vol. 22, pp. 287-303, 2000.
41. Galambos T. V.: "Recent Research and Design Developments in Steel and Composite Steel-Concrete Structures in USA", *Journal of Constructional Steel Research*, Vol. 55, pp. 289-303, 2000.
42. Chiew S. P., Lie S. T. and Dai C. W.: "Moment Resistance of Steel I-Beam to CFT Column Connections", *Journal of Structural Engineering*, pp. 1164-1172, October 2001.
43. Fabbrocino G., Manfredi G. and Cosenza E.: "Ductility of Composite Beams under Negative Bending: An Equivalence Index for Reinforcing Steel Classification", *Journal of Constructional Steel Research*, Vol. 57, pp. 185-202, 2001.
44. Liew J. Y., Chen H. and Shanmugam N. E.: "Inelastic Analysis of Steel Frames with Composite Beams", *Journal of Structural Engineering*, Vol. 127, No. 2, pp. 194-202, February, 2001.
45. Tryland T., Hopperstad O. S. and Langseth M.: "Finite-Element Modeling of Beams under Concentrated Loading", *Journal of Structural Engineering*, pp. 176-185, February 2001.
46. Amadio C. and Fragiacomo M.: "Effective Width Evaluation for Steel-Concrete Composite Beams", *Journal of Constructional Steel Research*, Vol. 58, pp. 378-388, 2002.

47. Campione G. and Scibilia N.: "Beam-Column Behaviour of Concrete Filled Steel Tubes", *Steel and Composite Structure*, Vol. 2, No. 4, pp. 259-276, 2002.
48. Hajjar J. F.: "Composite Steel and Concrete Structural Systems for Seismic Engineering", *Journal of Constructional Steel Research*, Vol. 58, pp. 703-723, 2002.
49. Mediratta S.: "Design of Composite Truss for Building", Institute for Steel Development and Growth (INSDAG), Kolkata, 2002.
50. Foutch D. A. and Yun S. Y.: "Modeling of Steel Moment Frames for Seismic Loads", *Journal of Constructional Steel Research*, Vol. 58, pp. 529-564, 2002.
51. Chen S.: "Load Carrying Capacity of Composite Slabs with Various End Constraints", *Journal of Constructional Steel Research*, Vol. 59, No. 3, pp. 385-403, March 2003.
52. Miranda E. and Ruiz-Garcia J.: "Seismic Design Criteria for Composite Steel-Concrete Building Structures", NASCC Proceedings, Baltimore, 2003.
53. Sabelli R., Mahin S. and Chang C.: "Seismic Demands on Steel Braced Frame Buildings with Buckling-Restrained Braces", EERC Library, Pacific Earthquake Engineering Research center, University of California, Berkeley.
54. Viest I. M. and Ivan M.: "Development of Design Rules for Composite Construction", *Engineering Journal*, Fourth Quarter, pp. 181-188, 2003.
55. Amadio C., Fedrigo C., Fragiocomo M. and Macorini L.: "Experimental Evaluation of Effective Width in Steel-Concrete Composite Beams", *Journal of Constructional Steel Research*, Vol. 60, pp. 199-220, 2004.
56. Gopal S. R. and Manoharan P. D.: "Tests on Fiber Reinforced Concrete Filled Steel Tubular Columns", *Journal of Steel and Composite Structures*, Vol. 4, No. 1, pp. 37-48, 2004.
57. Liang Q. Q., Uy B., Bradford M. A. and Ronagh H. R.: "Strength Analysis of Steel-Concrete Composite Beams in Combined Bending and Shear", *Journal of Constructional Steel Research*, Vol. 60, pp. 1109-1128, 2004.
58. Loh H.Y., Uy B. and Bradford M.A.: "The Effects of Partial Shear Connection in the Hogging Moment Regions of Composite Beams Part II—Analytical Study", *Journal of Constructional Steel Research*, Vol. 60, pp. 921-962, 2004.
59. Neal S. and Johnson R.: "Design of Composite Truss", The Steel Construction Institute, Silwood Park, Ascot, Vol. 83, 2004.

60. Nie J., Fan J. and Cai C. S.: "Stiffness and Deflection of Steel-Concrete Composite Beams under Negative Bending", *Journal of Structural Engineering*, ASCE, Vol. 130, No. 1842, 2004.
61. Sapountzakis E.J.: "Dynamic Analysis of Composite Steel-Concrete Structures with Deformable Connection", *Computers and Structures*, Vol. 82, pp. 717–729, 2004.
62. Spacone E. and El-Tawil S.: "Nonlinear Analysis of Steel-Concrete Composite Structures", *American Society of Civil Engineers*, Vol. 130, No. 2, pp. 159-168, 2004.
63. Thermou G. E., Elnashai A. S., Plumiere A. and Doneux C.: "Seismic Design and Performance of Composite Frames", *Journal of Constructional Steel Research*, Vol. 60, pp. 31-57, 2004.
64. Cheng C. T. and Chen C. C.: "Seismic Behaviour of Steel Beam and Reinforced Concrete Column Connections", *Journal of Constructional Steel Research*, Vol. 61, pp. 587-606, 2005.
65. Castro J. M., Elghazouli A. Y. and Izzuddin B. A.: "Modeling of the Panel Zone in Steel and Composite Moment Frames", *Engineering Structures*, Vol. 27, pp. 129-144, 2005.
66. El-Dardiry E. and Ji T.: "Modelling of the Dynamic Behaviour of Profiled Composite Floors", *Engineering Structures*, Vol. 28, pp. 567-579, 2006.
67. Han L. H., Yao G., Chen Z. and Yu Q.: "Experimental Behaviour of Steel Tube Confined Concrete Columns", *Steel and Composite structures*, Vol. 5, pp. 459-484, 2005.
68. Jurkiewicz B. and Hottier J. M.: "Static Behaviour of a Steel-Concrete Composite Beam with an Innovative Horizontal Connection", *Journal of Constructional Steel Research*, pp. 1286-1300, 2005.
69. Lam D. and El-Lobdy E.: "Behaviour of Headed Stud Shear Connectors in Composite Beam", *Journal of Structural Engineering*, Vol. 131, No. 7, pp. 96-107, 2005.
70. Lee P. G., Shim C. S. and Chang S. P.: "Static and Fatigue Behaviour of Large Stud Shear Connectors for Steel-Concrete Composite Bridges", *Journal of Constructional Steel Research*, pp. 1270–1285, September 2005.
71. Vesey D. G., Kwan K. K. and Xu L.: "Case Studies in Steel and Composite Design", *Steel and Composite Structures*, Vol. 5, No. 2-3, pp. 247-258, 2005.

72. Yao L. H., Chen Z. and Yu Q.: "Experimental Behaviours of Steel Tube Confined Concrete Columns", *Journal Steel and Composite Structures*, Vol. 5, No. 6, 2005.
73. Zeghichea J. and Chaouib K.: "An Experimental Behaviour of Concrete-Filled Steel Tubular Columns", *Journal of Constructional Steel Research*, Vol. 61, pp. 53–66, 2005.
74. El-lobdy E. and Young B.: "Performance of Shear Connection in Composite Beams with Profiled Steel Sheetings", *Journal of Constructional Steel Research*, Vol. 62, No. 1, pp. 682-694, 2006.
75. Marciukaitis G., Jonaitis B. and Valivonis J.: "Analysis of Deflections of Composite Slabs with Profiled Sheetings up to the Ultimate Moment", *Journal of Constructional Steel Research*, Vol. 62, pp. 820–830, 2006.
76. Ranzi G., Gara F. and Ansourian P.: "General Method of Analysis for Composite Beams with Longitudinal and Transverse Partial Interaction", *Computers and Structures*, Vol. 84, Issue 31-32, pp. 2373-2384, 2006.
77. Ranzi G., Gara F., Leoni G. and Bradford M. A.: "Analysis of Composite Beams with Partial Shear Interaction using Available Modelling Techniques: A Comparative Study", *Computers and Structures*, Vol. 84, pp. 930–941, May 2006.
78. Vellasco S., Andrade S. A. , Silva J. G., Lima L. R. and Brito O.: "A Parametric Analysis of Steel and Composite Portal Frames with Semi-Rigid Connections", *Engineering Structures*, Vol. 28, pp. 543–556, March 2006.
79. Marimuthu V., Seetharaman S., Arul Jayachandran S., Chellappan A., Bandyopadhyay T. K. and Datta D.: "Experimental Studies on Composite Deck Slabs to Determine the Hear-Bond Characteristic (m-k) Values of the Embossed Profiled Sheet", *Journal of Constructional Steel Research*, Vol. 63, pp. 791-803, 2007.
80. Queiroz F. D., Vellasco P. C. and Nethercot D. A.: "Finite Element Modelling of Composite Beams with Full and Partial Shear Connection", *Journal of Constructional Steel Research*, Vol. 63, No. 4, pp. 505-521, 2007.
81. Yu Z., Ding F. and Cai C. S.: "Experimental Behaviour of Circular Concrete-Filled Steel Tube Stub Columns", *Journal of Constructional Steel Research*, Vol. 63, pp. 165–174, 2007.

82. Yahya S. and Kasim A.: "Effects of Concrete Nonlinear Modelling on the Analysis of Push-out Test by Finite Element Method", *Journal of Applied Sciences*, Vol. 7, No. 5, pp. 743-747, 2007.
83. Yassin A. Y. and Nethercot D. A.: "Cross-Sectional Properties of Complex Composite Beams", *Engineering Structures*, Vol. 29, pp. 195–212, 2007.
84. Wang J. F. and Li G. Q.: "A Practical Design Method for Semi-Rigid Composite Frames under Vertical Loads", *Journal of Constructional Steel Research*, Vol. 64, pp. 176-189, 2008.
85. Cheng L. and Chan C.: "Optimal Lateral Stiffness Design of Composite Steel and Concrete Tall Frameworks", *Engineering Structures*, Vol. 31, pp. 523-533, 2009.
86. Ernst S., Bridge R. Q. and Wheeler A.: "Push-Out Tests and a New Approach for the Design of Secondary Composite Beam Shear Connections", *Journal of Constructional Steel Research*, Vol. 65, pp. 44-53, 2009.
87. Fan H., Lia Q. S., Tuanc A. Y. and Lihua X.: "Seismic Analysis of the World's Tallest Building", *Journal of Constructional Steel Research*, Vol. 65, pp. 1206-1215, 2009.
88. Jia Z. and Zhou X.: "Experimental Study on Vibration Behaviour of Cold-Form Steel Concrete Composite Floor", *Journal of Computational Structural Engineering*, pp. 715-724, 2009.
89. Vasdravellis G., Valente M. and Castiglioni C.A.: "Dynamic Response of Composite Frames with Different Shear Connection Degree", *Journal of Constructional Steel Research*, Vol. 65, pp. 2050-2061, 2009.
90. Johnson R. P.: "Composite Structure of Steel and Concrete", Blackwell Scientific Publication (Third Edition), U.K., 2004.
91. Porter M. L. and Ekberg C. E.: "Design Recommendations for Steel Deck Floor Slabs", *Journal of the Structural Division, American Society of Civil Engineers*, Vol. 102, No. ST11, pp. 2121- 2136, 1976.
92. EN 1991 Eurocode 1: Basis of Design and Actions on Structures, Part 1.1: Actions on Structures - Densities, Self-weight and Imposed Loads, European Committee, 2002.
93. BS 5950: Structural Use of Steel work in Building, British Standards Institution, London, 2000.

94. EN 1992 Eurocode 2: Design of Concrete Structures, Part 1-1: General Rules and Rules for Buildings, European Committee, 2004.
95. Oehlers D. J. and Braford M. A.: "Composite Steel and Concrete Structural Members Fundamental Behaviour", Oxford Pergamon Press, 1995.
96. IS: 456: "Code of Practice for Plain and Reinforced Concrete", Bureau of Indian Standards, New Delhi, 2000.
97. \_\_\_\_\_ ETABS, Integrated Building Design Software - Users Guide, Computers and Structures Inc., Berkeley, California, USA, 2005.
98. Nakasone Y. and Yoshimoto S. (Elsevier Butterworth-Heinemann Pub.): "Engineering Analysis with ANSYS Software", Tokyo, Japan, 2006.
99. Bourg D. M.: "Excel Scientific and Engineering Cookbook", O'Reilly Publishers, pp. 442, 2006.
100. IS: 800: "Code of Practice for General Construction in Steel", Limit State Method (LSM), Bureau of Indian Standards New Delhi, 2007.
101. SP 6: Part I: Handbook for Structural Engineers - Structural Steel Sections, Bureau of Indian Standards New Delhi, 1964.
102. Arul M. S. and Shoba A.: "Load and Resistance Factor Design [LFRD] Format for the Design of Steel Structures for Indian Conditions", Journal of Steel in Construction, Kolkata, Vol. 5, No. 2, July 2004.
103. Woldegiorgis B. and Kennedy L.: "Some Behavioural Aspects of Composite Trusses", Alberta, Canada, 1994.
104. Li A. and Krister C.: "Push-out Tests on Studs in High Strength and Normal Strength Concrete." Journal of Constructional Steel Research, Vol. 36, No. 1, pp. 15-29, January 1996.
105. Lam D., Elliot K. S. and Nethercot D. A.: "Push-off Tests on Studs with Hollow-cored Floor Slabs", Journal of Structural Engineer, Vol. 76, No. 9, pp. 167-174, 1998.
106. Krishnamoorthy C. S.: "Finite Element Analysis: Theory and Programming", Tata McGraw-Hill, 1995.
107. \_\_\_\_\_ ANSYS Manual 10 and Theory Reference, 10<sup>th</sup> Edition, Swanson Analysis Systems inc., Johnson Rd, Houston, Pennsylvania, 1996.

108. Kim B., Wright H. D. and Cairns R.: "The Behaviour of Through-Deck Welded Shear Connectors: An Experimental and Numerical Study", Journal of Constructional Steel Research, Vol. 57, pp. 1359-1380, 2001.
109. Jayas B. S. and Hosian M. U.: "Behaviour of Headed Studs in Composite Beams: Full-size Tests", Canadian Journal of Civil Engineering, Vol. 16, pp. 712-724, 1989.
110. AISC 325-05: Steel Construction Manual-13, American Institute of Steel Construction, Chicago, 2001.
111. Salari M., Spacone E., ASCE A. M., Benson P. S. and Frangopol D. M.: "Nonlinear FE Analysis of Composite Beams with Deformable Shear Connectors", Journal of Structural Engineering, Vol. 124, No. 10, pp. 1148-1158, 1998.
112. Ayoub A. and Filippou F.: "Mixed Formulation of Nonlinear Steel-Concrete Composite Beam Element", Journal of Structural Engineering, Vol. 126, No. 3, pp. 371-381, March 2000.
113. Teraskiewicz J. S.: "Static and Fatigue Loading Behaviour of Simply Supported and Continuous Composite Beams of Steel and Concrete", Ph.D. Thesis, University of London, 1967.
114. IS: 1893 Part I: "Criteria for Earthquake Resistant Design of Structures - General Provisions and Buildings", Bureau of Indian Standards, New Delhi, 2002.
115. IS: 1786: High Strength Deformed Steel Bars and Wires for Concrete Reinforcement-Specification, Bureau of Indian Standards, New Delhi, 2008.
116. IS: 875 Part I: Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Dead Loads - Unit Weights of Building Material and Stored Materials, Bureau of Indian Standards, New Delhi, 1987.
117. \_\_\_\_\_ "Handbook on Composite Construction of Multi-Storey Building- Design of A G+3 Storied Residential Building", Institute for Steel Development and Growth (INSDAG) Publication, Kolkata.
118. Ronald O. H. "Facts for Steel Buildings - Earthquakes and Seismic Design", American Institute of Steel Construction, 2009.
119. IS: 13920: "Ductile Detailing of Reinforced Concrete Structures Subjected to Seismic Forces", Bureau of Indian Standards, New Delhi, 1993.