

STEEL CONNECTION ANALYSIS

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Contents

Preface xv

1 Introduction 1

- 1.1 An Unsolved Problem 1
- 1.2 Limits of Traditional Approaches 2
 - 1.2.1 Generality 2
 - 1.2.2 Member Stress State Oversimplification 3
 - 1.2.3 Single Constituent Internal Combined Effects Linearization 4
 - 1.2.4 Single Constituent External Combined-Effects Neglect 7
 - 1.2.5 Neglecting Eccentricities 8
 - 1.2.6 Use of Envelopes 9
 - 1.2.7 Oversimplification of Plastic Mechanisms Evaluation 11
 - 1.2.8 Evaluation of Buckling Phenomena 13
- 1.3 Some Limits of the Codes of Practice 14
 - 1.3.1 Problem of Coded Standards 14
 - 1.3.2 T-Stub in Eurocode 3 15
 - 1.3.3 Eurocode 3 Component Model 17
 - 1.3.4 Distribution of Internal Forces 20
 - 1.3.5 Prying Forces 20
 - 1.3.6 Block Tearing 21
- 1.4 Scope of This Book 21
- 1.5 Automatic Modeling and Analysis of 3D Connections 23
- 1.6 Acknowledgments 24
- References 24

2 Jnodes 27

- 2.1 BFEM 27
- 2.2 From the BFEM to the Member Model 29
 - 2.2.1 Physical Model and the Analytical Model 29
 - 2.2.2 Member Detection: Connection Codes 31
 - 2.2.3 An Automatic Algorithm for Straight Prismatic Member Detection 34
 - 2.2.4 Member Data Structure 36
 - 2.2.5 Member Classification at a Node 36
 - 2.2.6 Member Mutual Alignment Coding 37

2.3	Inodes	40
2.3.1	Need for the Inode Concept	40
2.3.2	Inode Definition	41
2.4	Inode Analytics	42
2.4.1	Classification of Inodes	42
2.4.2	Simple Inodes	42
2.4.3	Hierarchical Inodes	42
2.4.4	Central Inodes	43
2.4.5	Cuspidal Inodes	43
2.4.6	Tangent Inodes	44
2.4.7	Constraints	45
2.4.8	Summary of Inode Classification	46
2.4.9	Setting Connection Codes: Examples	46
2.5	Equal Inodes Detection	49
2.5.1	Toponode	49
2.5.2	Inode Data Structure	49
2.5.3	Superimposable Member Couples	50
2.5.4	Criteria to Assess Inodes Equality	51
2.5.5	Algorithm to Find Equal Inodes	52
2.5.6	Examples	55
2.6	Structural Connectivity Indices	56
2.7	Particular Issues	59
2.7.1	Symmetries	59
2.7.2	Splitting of Inodes	60
2.7.3	Mutual Interaction of Different Inodes, Inode Clusters	61
2.7.4	Tolerances	63
2.8	Iclasses	63
	References	64
3	A Model for Connection	65
3.1	Terminology	65
3.2	Graphs of Connections	66
3.3	Subconstituents vs Layouts	69
3.4	Classification of Connections	70
	Reference	72
4	Renodes	73
4.1	From Inode to Renode Concept	73
4.2	BREP Geometrical Description of 3D Objects	73
4.3	The Scene	75
4.3.1	Generality	75
4.3.2	Members	77
4.3.3	Typical Fittings	78
4.3.4	Connectors	79
4.4	Dual Geometry	83
4.5	Automatic Connection Detection	85

4.5.1	Faces in Contact	85
4.5.2	Bolt Layouts	86
4.5.3	Weld Layouts	89
4.6	Elementary Operations	91
4.7	Renode Logic and the Chains	93
4.7.1	Minimum Compliance Criteria for Renode Good Design	93
4.7.2	Chains	94
4.7.3	Finding Chains	96
4.8	Prenodes	102
4.9	After Scene Creation	103
5	Pillars of Connection Analysis	105
5.1	Equilibrium	105
5.1.1	Generality	105
5.1.2	Statics of Free Rigid Bodies	108
5.2	Action Reaction Principle	111
5.3	Statics of Connections	115
5.3.1	Equilibrium of Members in Renodes: Proper and Dual Models	115
5.3.2	Force Packets for Compound Members	119
5.3.3	Primary Unknowns: Iso-, Hypo-, and Hyperconnectivity	124
5.4	Static Theorem of Limit Analysis	127
5.5	The Unsaid of the Engineering Simplified Methods	130
5.6	Missing Pillars of Connection Analysis	130
5.6.1	Buckling	131
5.6.2	Fracture	147
5.6.3	Slip	150
5.6.4	Fatigue	152
5.7	Analysis of Connections: General Path	153
	References	154
6	Connectors: Weld Layouts	155
6.1	Introduction	155
6.2	Considerations of Stiffness Matrix of Connectors	156
6.3	Introduction to Weld Layouts	160
6.4	Reference Systems and Stresses for Welds	162
6.5	Geometrical Limitations	165
6.5.1	Penetration Weld Layouts	165
6.5.2	Fillet Weld Layouts	166
6.6	Penetration-Weld Layouts (Groove Welds)	167
6.6.1	Generality	167
6.6.2	Simple Methods to Evaluate the Stresses	168
6.6.3	Weld Layout Cross-Section Data	170
6.6.4	Stiffness Matrix	172
6.6.5	Special Models	185
6.6.6	Example	188
6.7	Fillet-Welds Weld Layouts	196

6.7.1	The Behavior of Fillet Welds	196
6.7.2	Numerical Tests of Fillet Welds in the Linear Range	207
6.7.3	The Stiffness Matrix of a Single Fillet Weld	212
6.7.4	Instantaneous Center of Rotation Method in 3D	214
6.7.5	Computing the Stresses in Fillet Welds from the Forces Applied to the Layout	231
6.7.6	Fillet Welds Using Contact and Friction	233
6.8	Mixed Penetration and Fillet Weld Layouts	235
	References	235
7	Connectors: Bolt Layouts and Contact	237
7.1	Introduction to Bolt Layouts	237
7.2	Bolt Sizes and Classes	238
7.3	Reference System and Stresses for Bolt Layouts	240
7.4	Geometrical Limitations	243
7.4.1	Eurocode 3	244
7.4.2	AISC 360-10	244
7.5	Not Preloaded Bolt Layouts (Bearing Bolt Layouts)	244
7.5.1	Shear and Torque	244
7.5.2	Axial Force and Bending	249
7.6	Preloaded Bolt Layouts (Slip Resistant Bolt Layouts)	266
7.6.1	Preloading Effects	266
7.6.2	Shear and Torque	274
7.6.3	Axial Force and Bending	275
7.7	Anchors	277
7.8	Stiffness Matrix of Bolt Layouts and of Single Bolts	282
7.8.1	Generality	282
7.8.2	Not Preloaded Bolts	283
7.8.3	Preloaded Bolts	292
7.8.4	Non-Linear Analysis of Bolts	293
7.9	Internal Force Distribution	296
7.9.1	General Method	296
7.9.2	Bearing Surface Method to Compute Forces in Bolts	302
7.9.3	Instantaneous Center of Rotation Method	306
7.9.4	Examples	307
7.10	Contact	316
	References	317
8	Failure Modes	319
8.1	Introduction	319
8.2	Utilization Factor Concept	320
8.3	About the Specifications	326
8.4	Weld Layouts	328
8.4.1	Generality	328
8.4.2	Penetration Weld Layouts	328
8.4.3	Fillet Weld Layouts	332

- 8.5 Bolt Layouts 337
 - 8.5.1 Resistance of Bolt Shaft 337
 - 8.5.2 Sliding and Resistance of No-Slip Connections 342
 - 8.5.3 Pull-Out of Anchors, or Failure of the Anchor Block 345
- 8.6 Pins 346
 - 8.6.1 Eurocode 3 346
 - 8.6.2 AISC 360-10 347
- 8.7 Members and Force Transferrers 347
 - 8.7.1 Generality 347
 - 8.7.2 Local Failure Modes 350
 - 8.7.3 Fracture Failure Modes 358
 - 8.7.4 Global Failure Modes 373
- References 382

- 9 Analysis: Hybrid Approach 385**
 - 9.1 Introduction 385
 - 9.2 Some Basic Reminders About FEM Analysis of Plated-Structures 386
 - 9.2.1 FEM Analysis as an Engineering Tool 386
 - 9.2.2 Linear Models 387
 - 9.2.3 Linear Buckling Analysis 388
 - 9.2.4 Material Non-Linearity 390
 - 9.2.5 Geometrical Non-Linearity 392
 - 9.2.6 Contact Non-Linearity 394
 - 9.2.7 Non-Linear Analysis Control 396
 - 9.3 IRFEM 400
 - 9.3.1 Goal 400
 - 9.3.2 Hypotheses 401
 - 9.3.3 Construction 402
 - 9.3.4 Examples 408
 - 9.3.5 Results 411
 - 9.3.6 Remarks on the Use of IRFEM 413
 - 9.4 Connector Checks 418
 - 9.4.1 Weld Checks 418
 - 9.4.2 Bolt Resistance Checks 419
 - 9.4.3 Pull-Out Checks 419
 - 9.4.4 Slip Checks 419
 - 9.4.5 Prying Forces 419
 - 9.5 Cleats and Members Non-FEM Checks 426
 - 9.5.1 Action Reaction Principle 426
 - 9.5.2 Bolt Bearing 428
 - 9.5.3 Punching Shear 428
 - 9.5.4 Block Tearing 428
 - 9.5.5 Simplified Resistance Checks 429
 - 9.6 Single Constituent Finite Element Models 430
 - 9.6.1 Remarks on the Finite Element Models of Single Constituents (SCOFEM) 430

9.6.2	Stiffeners	432
9.6.3	Meshing	433
9.6.4	Constraints	437
9.6.5	Loading	439
9.6.6	Members: Deciding Member-Stump-Length	443
9.6.7	Compatibility Issues	444
9.7	Multiple Constituents Finite Element Models (MCOFEM)	445
9.7.1	Goal and Use	445
9.7.2	Mesh Compatibility Between Constituents and Connector Elements	446
9.7.3	Saturated Internal Bolt Layouts and Contact Non-Linearity	447
9.7.4	Constraints	448
9.7.5	Stabilizing Springs and Buckling of Members	448
9.7.6	Need for Rechecks	449
9.8	A Path for Hybrid Approach	449
	References	450
10	Analysis: Pure FEM Approach	451
10.1	Losing the Subconnector Organization	451
10.2	Finite Elements for Welds	455
10.2.1	Introduction	455
10.2.2	Penetration Welds	457
10.2.3	Fillet Welds	460
10.3	Finite Elements for Bolts	463
10.3.1	Introduction	463
10.3.2	Bolts in Bearing: No Explicit Bolt-Hole Modeling	464
10.3.3	Bolts in Bearing: Explicit Bolt-Hole Modeling	465
10.3.4	Preloaded Bolts: No Explicit Bolt-Hole Modeling	468
10.3.5	Preloaded Bolts: Explicit Bolt-Hole Modeling	468
10.3.6	Effect of the Bending Moments in Bolt Shafts	469
10.3.7	Example: A Bolted Splice Joint Using PFEM	469
10.4	Loads	478
10.4.1	PFEM	478
10.4.2	MCOFEM	479
10.5	Constraints	480
10.5.1	PFEM	480
10.5.2	MCOFEM	480
10.6	Checking of Welds and Bolts	480
10.7	Checking of Components	481
10.8	Stiffness Evaluation	482
10.9	Analysis Strategies	484
	Reference	484
11	Conclusions and Future Developments	485
11.1	Conclusions	485
11.2	Final Acknowledgments	486
11.2.1	Reasons of This Project	486

- 11.3 Future Developments 487
- References 488

Appendix 1: Conventions and Recalls 489

- A1.1 Recalls of Matrix Algebra, Notation 489
- A1.2 Cross-Sections 490
- A1.3 Orientation Matrix 492
- A1.4 Change of Reference System 493
- A1.5 Pseudocode Symbol Meaning 493

Appendix 2: Tangent Stiffness Matrix of Fillet-Welds 495

- A2.1 Tangent Stiffness Matrix of a Weld Segment 495
- A2.2 Modifications for Weld Segments Using Contact 499
- A2.3 Tangent Stiffness Matrix of a Weld Layout for the Instantaneous Center of Rotation Method 500

Appendix 3: Tangent Stiffness Matrix of Bolts in Shear 503

- A3.1 Tangent Stiffness Matrix of a Bolt 503
- A3.2 Tangent Stiffness Matrix of a Bolt Layout for the Instantaneous Center of Rotation Method 505

Symbols and Abbreviations 507

Index 513

FIRST BOOK TO DISCUSS THE ANALYSIS OF STRUCTURAL STEEL CONNECTIONS BY FINITE ELEMENT ANALYSIS—WHICH PROVIDES FAST, EFFICIENT, AND FLEXIBLE CHECKING OF THESE VITAL STRUCTURAL COMPONENTS

The analysis of steel structures is complex—much more so than the analysis of similar concrete structures. There are no universally accepted rules for the analysis of connections in steel structures or the analysis of the stresses transferred from one connection to another. This book presents a general approach to steel connection analysis and check, which is the result of independent research that began more than fifteen years ago. It discusses the problems of connection analysis and describes a generally applicable methodology, based on Finite Element Analysis, for analyzing the connections in steel structures. That methodology has been implemented in software successfully, providing a fast, automatic, and flexible route to the design and analysis of the connections in steel structures.

Steel Connection Analysis explains several general methods which have been researched and programmed over many years, and that can be used to tackle the problem of connection analysis in a very general way, with a limited and automated computational effort. It also covers several problems related to steel connection analysis automation.

- Uses Finite Element Analysis to discuss the analysis of structural steel connections
- Analysis is applicable to all connections in steel structures
- The methodology is the basis of the commercially successful CSE connection analysis software
- Analysis is fast and flexible


Structural engineers, fabricators, software developing firms, university researchers, and advanced students of civil and structural engineering will all benefit from *Steel Connection Analysis*.

PAOLO RUGARLI is a structural engineer and the principal of Castalia S.r.l., a software developer and structural engineering consultancy founded in 1991. He has developed, among others, the Sargon and CSE software packages, both of which have been used in the commercial design and analysis of steel structures for many years. He also wrote several books related to structural engineering, finite element analysis and validation of software structural models.

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