

Summary of NZS 3404 Part 1 and Part 2

	Title	Key updates
1	Scope, Structure, and General Requirements	- Modified scope and general requirements - Scope increased to cover steels with maximum yield strength of 690 MPa - Modified general design requirements - Reorganisation of clauses for ease and clarity of use - Extensive modification and expansion - Performance requirements added - Modified and new appendices
2	Alignment with Other Standards and Documents	- Alignment with AS/NZS 5131:2016 - Alignment with AS/NZS 5100.6:2017 - Alignment with Waka Kotahi NZ Transport Agency Bridge Manual and KiwiRail publication - Referencing NZS 3404.3:2026 for the corrosion protection of steel structures - Alignment to reflect revisions to AS/NZS 1554.1, AS/NZS 1554.4 and AS/NZS 1554.5 - Alignment with AS/NZS 1252.1:2016 (bolt assemblies) - Referencing and alignment with AS/NZS 2327:2016 and AS/NZS 5100.6:2017 - Referencing of AS/NZS 5131:2016 for fabrication and erection - Referencing of AS/NZS 5131:2016 for modification of existing structures
3	Roles, Construction Category, and AEES	- Introduction of the definition of “construction category” and informative appendix (consistent with AS/NZS 5131) - Definition of roles - Definition and description of “architecturally exposed structural steelwork” (AEES)
4	Materials and Brittle Fracture	- New and modified materials and brittle fracture provisions - Seismic and non-seismic material requirements combined into one section (Section 2) - Range of prequalified structural steel standards increased - Process for approving alternative steels for use with NZS 3404 defined - Temperature range for material selection tables increased - Upper material thickness limits introduced to avoid brittle fracture - Definition and treatment of “lamellar tearing” consistent with AS/NZS 1554.1 - Introduction of conforming steel types for seismic applications
5	Structural Analysis and Stability	- Modified structural analysis - New advanced analysis method - Added structural stability of frames verification - Inclusion of section properties for analysis and deflection calculation - Added rigidity of column bases in simple construction
6	Member Design	- Modified member design requirements - Modified plastic hinge rotation limits for square and rectangular cold-formed hollow sections - Stiffness requirements for elements restraining lateral and torsional buckling - Expanded and modified shear lag k_{te} table

7	Connections and Fasteners	- Modified connection design requirements - New block shear provisions - Requirement for complete penetration butt welds to be SP weld quality - New equivalent complete penetration butt weld provisions - Changes to weld metal consumables (via AS/NZS 1554 alignment) - Introduction of alternative and additional bolt assembly types (AS/NZS 1252.1)
8	Seismic Design	- Modified seismic design requirements - Modification to seismic category 3-member material requirements - Consideration of dissipative connections in moment-resisting frame seismic systems - Modified overstrength factors table - Seismic material requirements moved to Section 2 - Modification to eccentrically braced frame requirements - Added requirements for moment-resisting frames using dissipative connections - Added requirements for moment-resisting frames with reduced beam sections - Added requirements for buckling-restrained braced-frame seismic-resisting systems
9	Fatigue Design	Modified fatigue design requirements
10	Structural Fire Design	- Modified structural fire design requirements - Expanded requirements for fire resistance assessment using standard fire tests, simple calculations, or advanced calculations - Expanded simple-analysis fire resistance assessment across time, temperature, or strength domains
11	Composite and Hybrid Structures	- Modified composite design requirements - Additional requirements for composite steel–concrete elements - Additional requirements for structural steel sections supporting reinforced concrete slabs - Requirements for transfer of forces at interfaces between concrete and steel in hybrid structures
12	Fabrication, Erection, and Tolerances	- Modified fabrication and erection requirements - New specification of geometrical tolerances for fabrication and erection aligned with AS/NZS 5131
13	Existing Structures	Referencing of AS/NZS 5131:2016 for modification of existing structures (Section 16)