

STRUCTURAL / FAÇADE ENGINEERING CHECK LIST

Structural Engineering Service		Please select	Calculations/Reports	Est. hrs	Price (75 - 150%) ¹	Required Information <i>(Please tick available documents/drawings)</i>
1.0 Document Review						
1.1	Facade performance specs.	<input type="checkbox"/>	Structural requirements only	2	CHF 140	<input type="checkbox"/> Architect or facade consultant's facade specification
1.2		<input type="checkbox"/>	Façade system requirements	4	CHF 280	
1.3	Wind tunnel test	<input type="checkbox"/>		1	CHF 70	<input type="checkbox"/> Wind tunnel test report
1.4	Structure movement and tolerance	<input type="checkbox"/>		2	CHF 140	<input type="checkbox"/> Structure movement and tolerance report
1.5	Facade access and maintenance	<input type="checkbox"/>		2	CHF 140	<input type="checkbox"/> Facade access and maintenance strategy report
1.6	Peer review of structural calcs	<input type="checkbox"/>		-	20%(Price) ²	<input type="checkbox"/> Structural calculation report
2.0 Loads Assessment						
2.1	Wind load (short calculation)	<input type="checkbox"/>	One cladding component	2	CHF 140	<input type="checkbox"/> Site location (including site level AOD)
2.2		<input type="checkbox"/>	Entire building ⁴	6	CHF 420	<input type="checkbox"/> GA Elevation (building height) and plans (geometry)
2.3	Loads and load combination report ³	<input type="checkbox"/>	One cladding component	4	CHF 280	<input type="checkbox"/> Detail drawings of façade features (fin, balustrade, etc.)
2.4		<input type="checkbox"/>	Entire building ⁴	8	CHF 560	<input type="checkbox"/> Façade specification (performance requirements)
3.0 Glass Calculations						
3.1	General thickness inquiry	<input type="checkbox"/>	No structural report	1	CHF 70	<input type="checkbox"/> Glass size
3.2	Vertical glass	<input type="checkbox"/>	First glass type	2	CHF 140	<input type="checkbox"/> Indication of glass build-up
3.3	- Infill single glass or DGU	<input type="checkbox"/>	Succeeding glass types	1	CHF 70	<input type="checkbox"/> General arrangements showing glass location and use
3.4	Vertical glass	<input type="checkbox"/>	First glass type	3	CHF 210	<input type="checkbox"/> Detail drawings showing edge/framing supports
3.5	- Infill TGU or point-fixed	<input type="checkbox"/>	Succeeding glass types	1.5	CHF 105	<input type="checkbox"/> Façade specification (performance requirements)
3.6		<input type="checkbox"/>	Without handrail ⁵	4	CHF 280	
3.7	Balustrade (free-standing)	<input type="checkbox"/>	With handrail ⁶	5	CHF 350	
3.8		<input type="checkbox"/>	"U" clamping bracket	6	CHF 420	
3.9	Roof glass	<input type="checkbox"/>	Overhead or inclined façade	4	CHF 280	
3.10	Glass fin	<input type="checkbox"/>	Fin size	4	CHF 280	
3.11		<input type="checkbox"/>	Fin bracket or splice joint	6	CHF 420	
4.0 Architectural steel structure⁷						
4.1	Prelim. required sections	<input type="checkbox"/>	No structural report	10	CHF 700	<input type="checkbox"/> General arrangements (elevations, plans, and sections)
4.2	Structural framing members	<input type="checkbox"/>	Detailed calculations	20	CHF 1,400	<input type="checkbox"/> System design drawings
4.3	Cables and tension rods	<input type="checkbox"/>	Detailed calculations	24	CHF 1,680	<input type="checkbox"/> Concept drawings or sketches
4.4	Brackets	<input type="checkbox"/>	Detailed calculations	20	CHF 1,400	<input type="checkbox"/> Façade specification (performance requirements)
5.0 Stick system curtain wall⁸ incl. lightweight steel framing system (SFS)						
5.1	Prelim. required sections	<input type="checkbox"/>	No structural report	4	CHF 280	<input type="checkbox"/> General arrangements (elevations, plans, and sections)
5.2	Framing	<input type="checkbox"/>	Framing profiles only	8	CHF 560	<input type="checkbox"/> System design drawings
5.3		<input type="checkbox"/>	Comprehensive system check ⁹	16	CHF 1,120	<input type="checkbox"/> Concept drawings or sketches
5.4	Brackets	<input type="checkbox"/>	Detailed calculations	8	CHF 560	<input type="checkbox"/> Façade specification (performance requirements)
6.0 Unitised system curtain wall⁸						
6.1	Framing required section properties	<input type="checkbox"/>	No structural report	4	CHF 280	<input type="checkbox"/> General arrangements (elevations, plans, and sections)
6.2	Framing	<input type="checkbox"/>	Detailed calculations	8	CHF 560	<input type="checkbox"/> System design drawings
6.3		<input type="checkbox"/>	Comprehensive system check ⁹	16	CHF 1,120	<input type="checkbox"/> Concept drawings or sketches
6.4	Brackets	<input type="checkbox"/>	Detailed calculations	6	CHF 420	<input type="checkbox"/> Façade specification (performance requirements)
7.0 Rainscreen cladding⁸						
7.1		<input type="checkbox"/>	Aluminium panel	4	CHF 280	<input type="checkbox"/> General arrangements (elevations, plans, and sections)
7.2	Cladding panel	<input type="checkbox"/>	Alu. panel with reinforcement	8	CHF 560	<input type="checkbox"/> System design drawings
7.3		<input type="checkbox"/>	Stone / Terracotta / GRC	8	CHF 560	<input type="checkbox"/> Concept drawings or sketches
7.4	Rialing supports	<input type="checkbox"/>	Propriety or bespoke system	16	CHF 1,120	<input type="checkbox"/> Façade specification (performance requirements)
7.5	Brackets	<input type="checkbox"/>	Detailed calculations	8	CHF 560	
8.0 Special calculations/services						
8.1	Bomb blast engineering	<input type="checkbox"/>	Façade system and brackets	-	200%(Price)	<input type="checkbox"/> Blast specialist's equivalent static loads to façade
8.2	Fatigue analysis	<input type="checkbox"/>	Joints, connections or brackets	-	200%(Price)	<input type="checkbox"/> Detail drawings
8.3	Engineering assistance/consultator	<input type="checkbox"/>	Architect/consultant comments	-	For inquiry	<input type="checkbox"/> Structural calculation report

Notes:¹ Indicative price for normal structural calculations with report, unless otherwise indicated. It varies between minimum of 75% to maximum of 150% of the indicative price depending on the complexity of the façade and/or building and the level of information available at the time of inquiry. Cost covers full and comprehensive professional indemnity insurance.

² Approximately 20% of the indicative prices above.

³ All static loads to facades including imposed, occupancy, maintenance, snow and their load combinations

⁴ All façade components of the building including curtain wall, balustrades, parapets, fin features, canopies, rainscreen, etc

⁵ Includes redundancy check for free-standing balustrade without handrail in acc. to BS 6180 clause 8.1.2

⁶ Includes handrail check and glass redundancy check for free-standing balustrade with handrail in acc. to BS 6180 clause 8.5.2

⁷ Indicative unit price for glass wall, skylight, pavilion or the like with an area of 6m×6m

⁸ Indicative price for each system type. Any façade or cladding component that has different framing member, structural arrangement and/or support system (boundary conditions) is considered a new system type

⁹ Calculations include profile local buckling check, performance of thermally broken profile, transom-mullion connections, glass support, capping, swords, t-hook, capping, etc