



BM Prefab Engineering

Structural engineering
outsourcing partner in Ukraine

Our specialization

Multistorey “Scandinavian” type buildings

HQ/WQ-beam or precast frames with hollow core slabs

Pre-engineered buildings (halls)

Classical steel/precast concrete low-rise buildings

Precast frames and structures

Prestressed and ordinary reinforced concrete elements

SIN-beams

Special lightweight steel structures using corrugated web beams



SIN-beams and hybrid frames design



Why us?

Eurocodes

5+ years of experience in calculation according to Eurocodes and own database of standards

Experience

Lead specialists in each discipline with 10+ years of experience in structural engineering

Tools

Professional design tools, templates, spreadsheets, databases of in-cast details and standard joints

Technologies

Practical experience with hybrid and composite frames, LGS and SIN-beam technologies

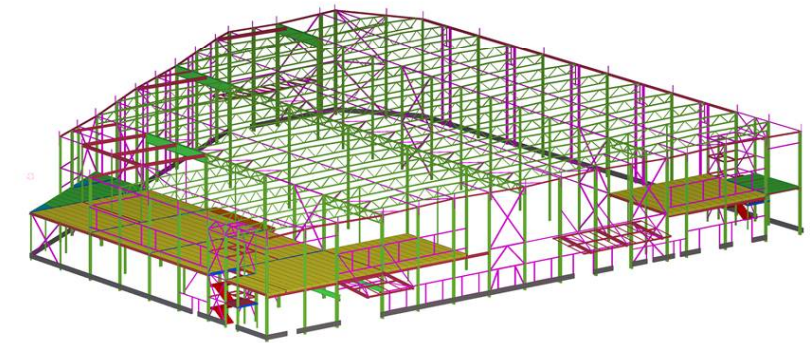
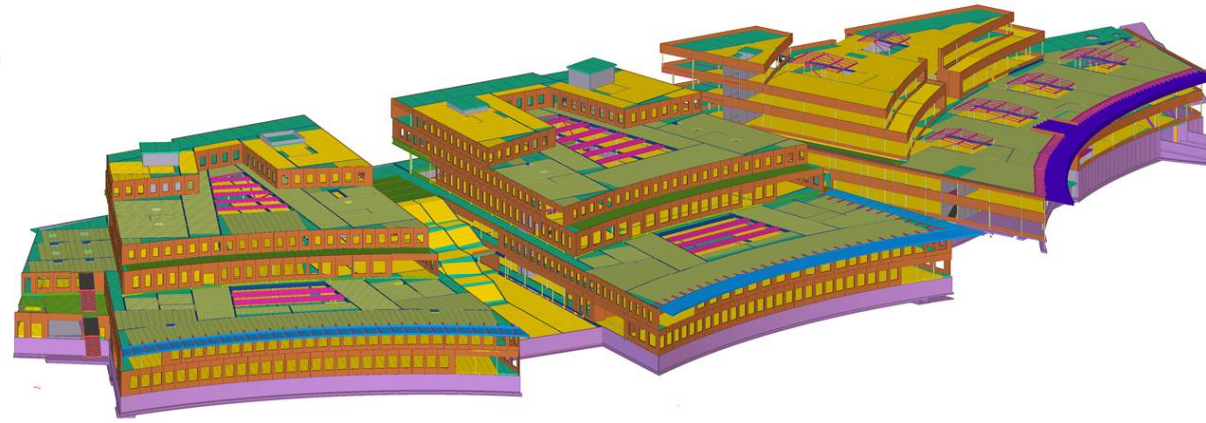
National annexes

Own library of Eurocodes national annexes with specialization in Swedish, Norway, Denmark and Latvian NA's

Rates

Competitive Ukrainian rates for markets with expensive labour

Estimation



Estimation includes:

- ▶ IFC structural concept
- ▶ Precast concrete specification
- ▶ Steel structures specification
- ▶ Calculation reports for typical elements

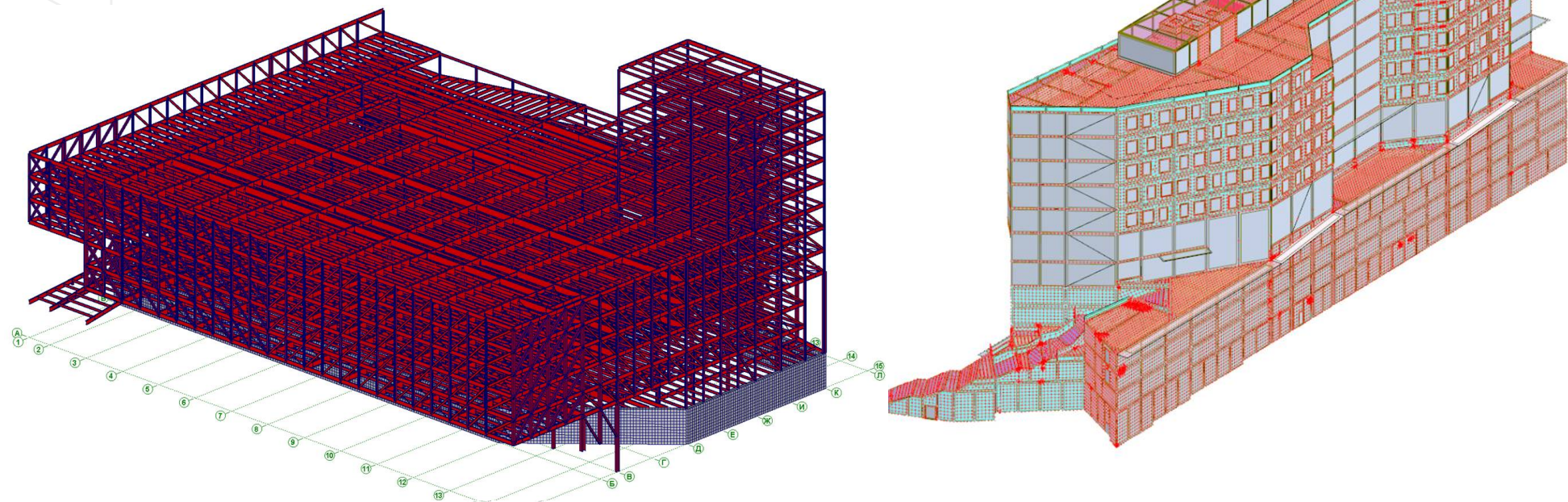
Specification of steel elements by assembly elements									
		Project name							
		Project location							
		Date							
		Created by							
Elements	Quantity (pcs)	Element weight (kg)	Corrosion classes, kg				Drill %	Drill weight (kg)	Total weight (kg)

ROLLED PROFILES									
Beam	13600	34	18.785	18.		Specification of concrete elements by assembly elements Project name: Project location: Date: Created by:			
	13600.17500	0	0						
	17500.25000	0	0						
Bracing	13600	0	0	0					
	13600.17500	0	0						
	17500.25000	0	0						
L-profile	Total = 153.300 m	51	5.178	0					
	13600.17500	0	0						
	17500.25000	0	0						
Sec.steel (brake)	13600	31	910	0					
	13600.17500	0	0						
	17500.25000	0	0						
Sec.steel (inter walls)	13600	0	0	0					
	13600.17500	0	0						
	17500.25000	0	0						
WELDED PROFILES / PLATES									
HQ	13600	58	11.413	12.					
	13600.17500	0	0						
	17500.25000	0	0						
WQ	13600	75	21.597	23.					
	13600.17500	0	0						
	17500.25000	0	0						
BOX	13600	22	13.782	14.					
	13600.17500	0	0						
	17500.25000	0	0						
PLATE1	25	1.405	1.5	71.					

Element	Size	Quantity (pc)	Total area (m2)	Concrete volume (m3)	Total weight (t)
Hollow cored slabs					
HCS 220	13600	2,255	12,261	3,825	
HCS 500	13600	85	1,166	777	
	13600.14500	36	580	386	
Massive slabs					
MS 200	2450	6	28	6	14
MS 220	2450	411	2,583	569	1,421
	2450.3090	1	7	1	4
Balcony slabs					
BS 200	2450	233	1,283	297	642
Beams					
BEAM	13600	30	78	194	
One layer walls					
IW 200	3090	1,822	13,491	2,516	6,290
	3090.3350	88	1,018	190	474
	3350.3800	5	80	16	40
Sandwich walls					
SW	150 / O / O	3,090	1,021	8,558	2,410
	3090.3350	109	1,333	333	
	3350.3800	34	524	146	
	3800.4150	5	85	19	
	4150..	1	20	3	
Columns					
Column - RECT/SQUA > 400x400x3500	3500	-	-	-	-
Column - RECT/SQUA ≤ 400x400x3500	13600	24	31	28	
Column, D = 450	13600	15	9	23	
	13600.14500	-	-	-	-
	14500.16000	-	-	-	-
Column, D = 500	13600	11	8	21	
	13600.14500	-	-	-	-
	14500.16000	-	-	-	-
Stairs					
Stairs-STR		17	22	55	
Stairs-CURVED U		47	70	176	
					17,284

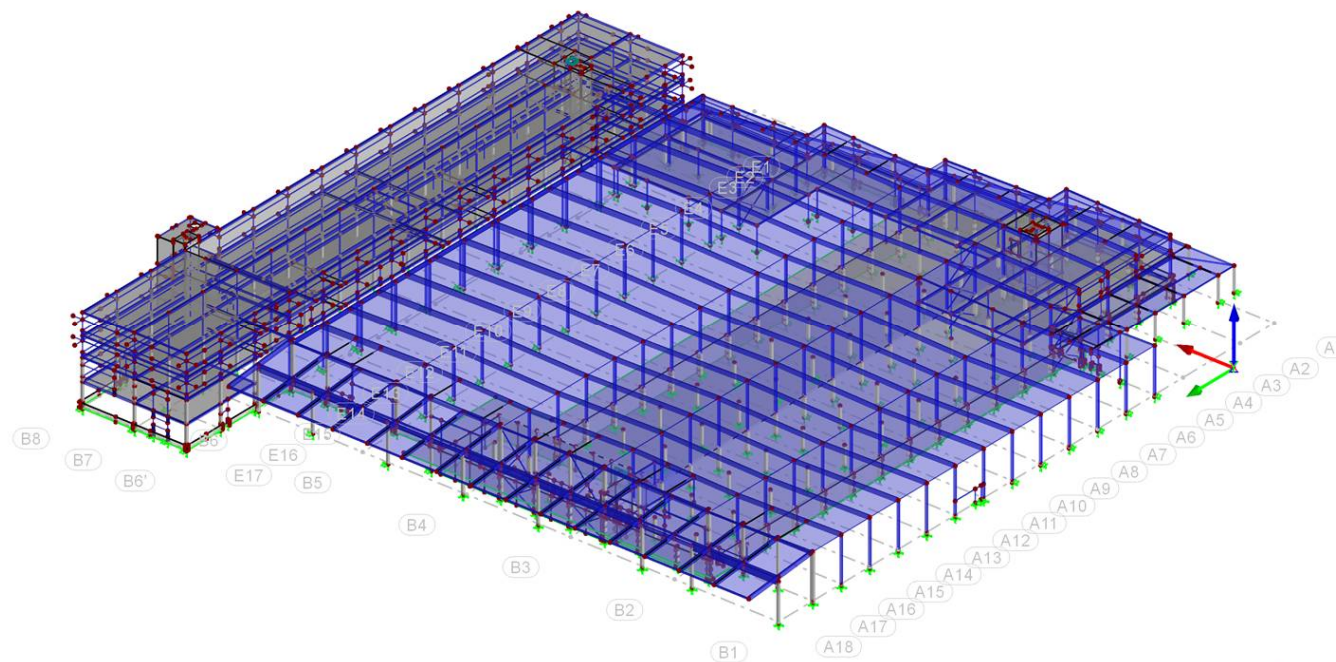
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Static analysis

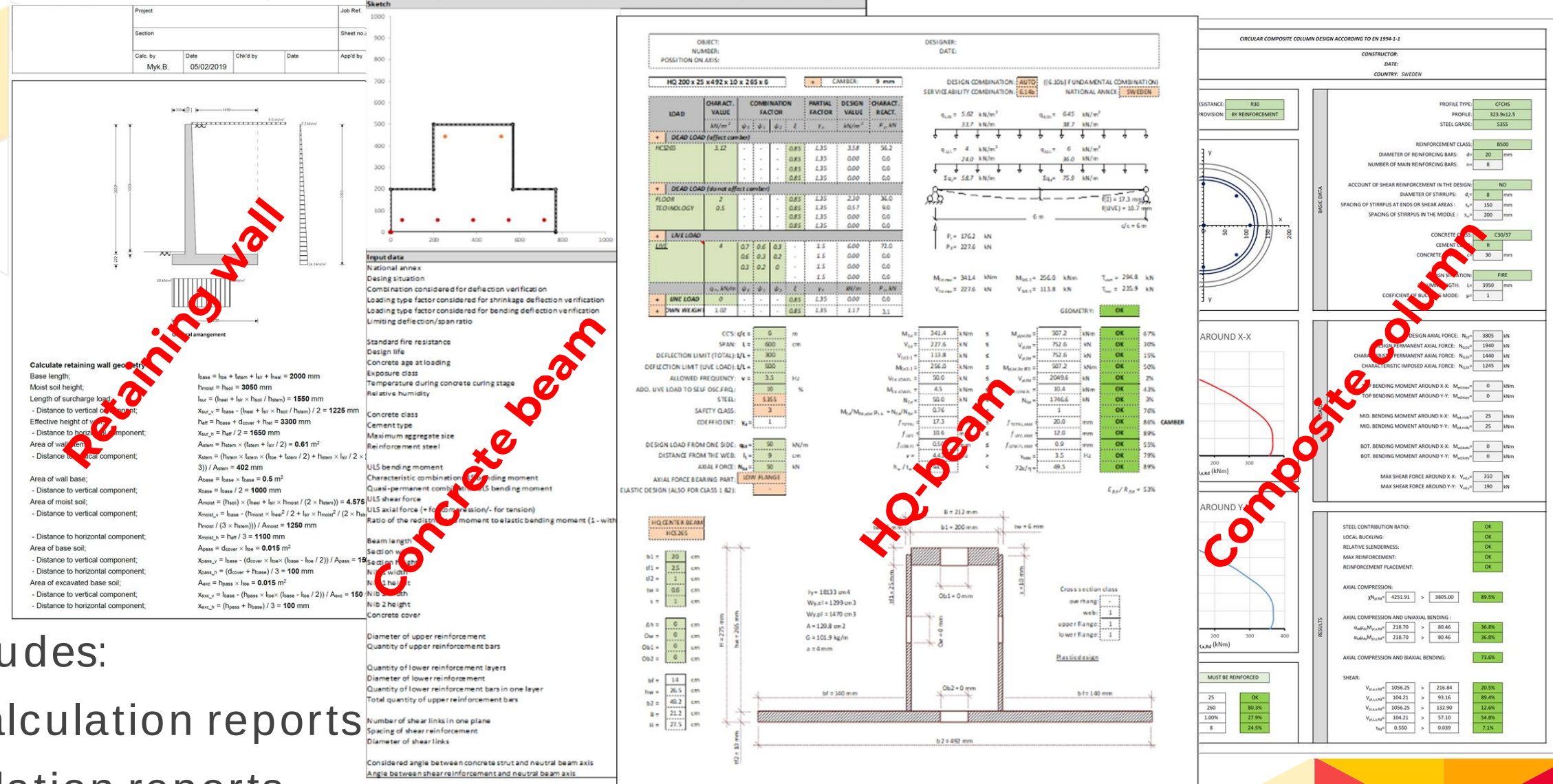


Static analysis includes:

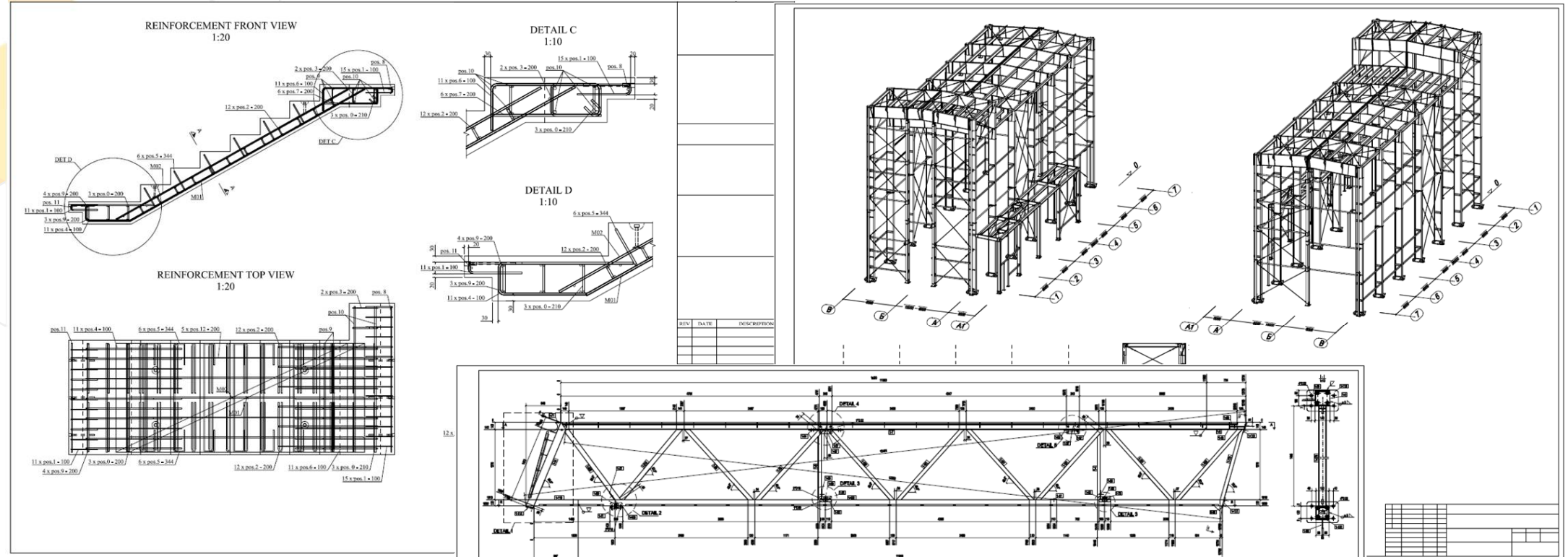
- ▶ Load description
- ▶ Static analysis model
- ▶ Foundation loads
- ▶ Static analysis report



Calculation of steel, precast concrete, hybrid and composite structures



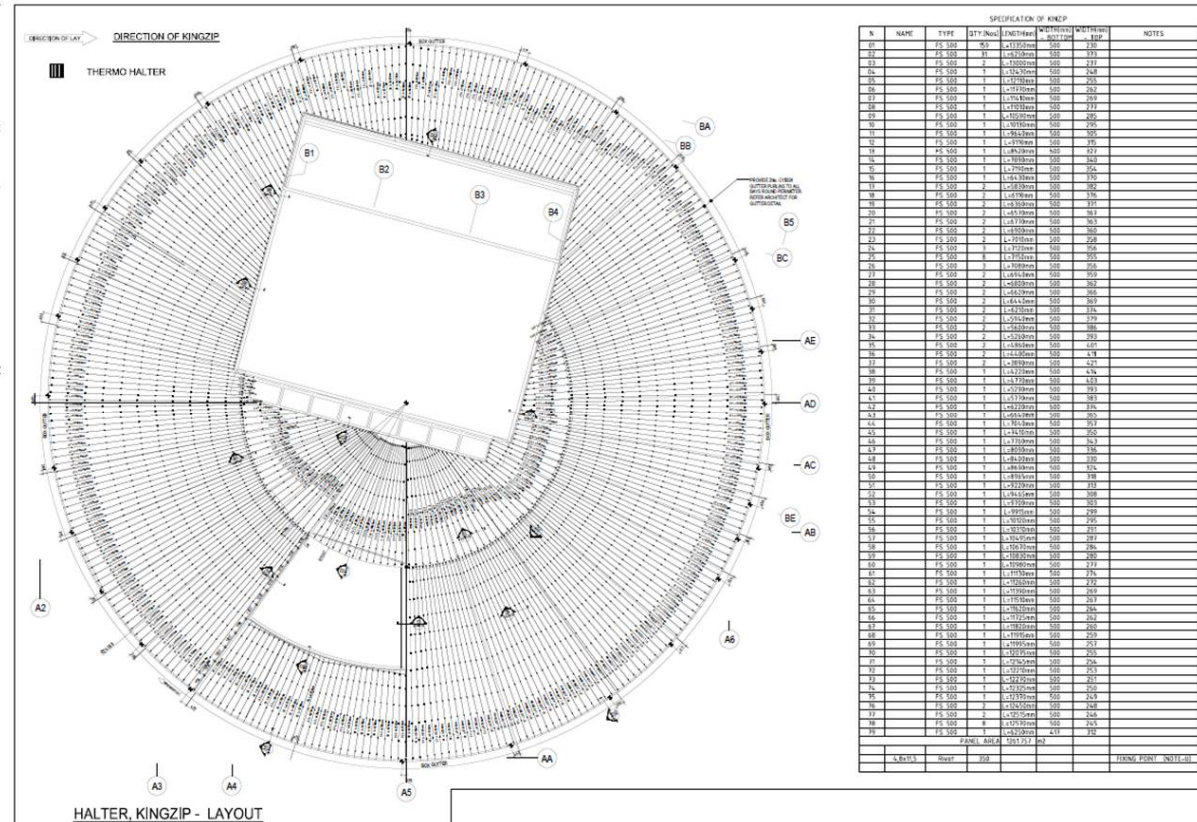
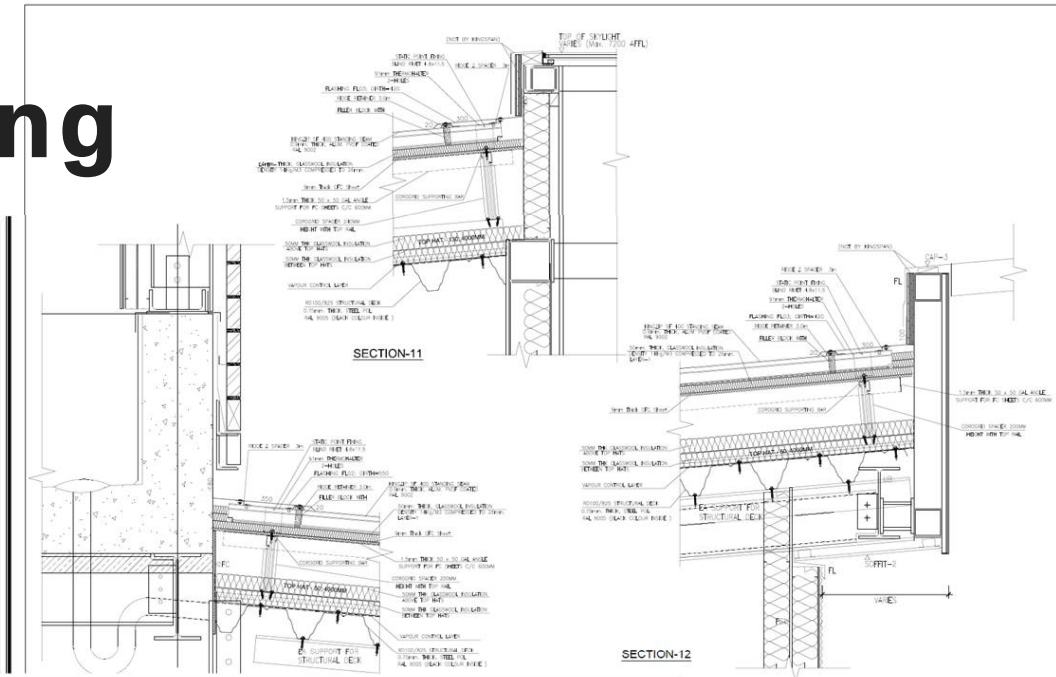
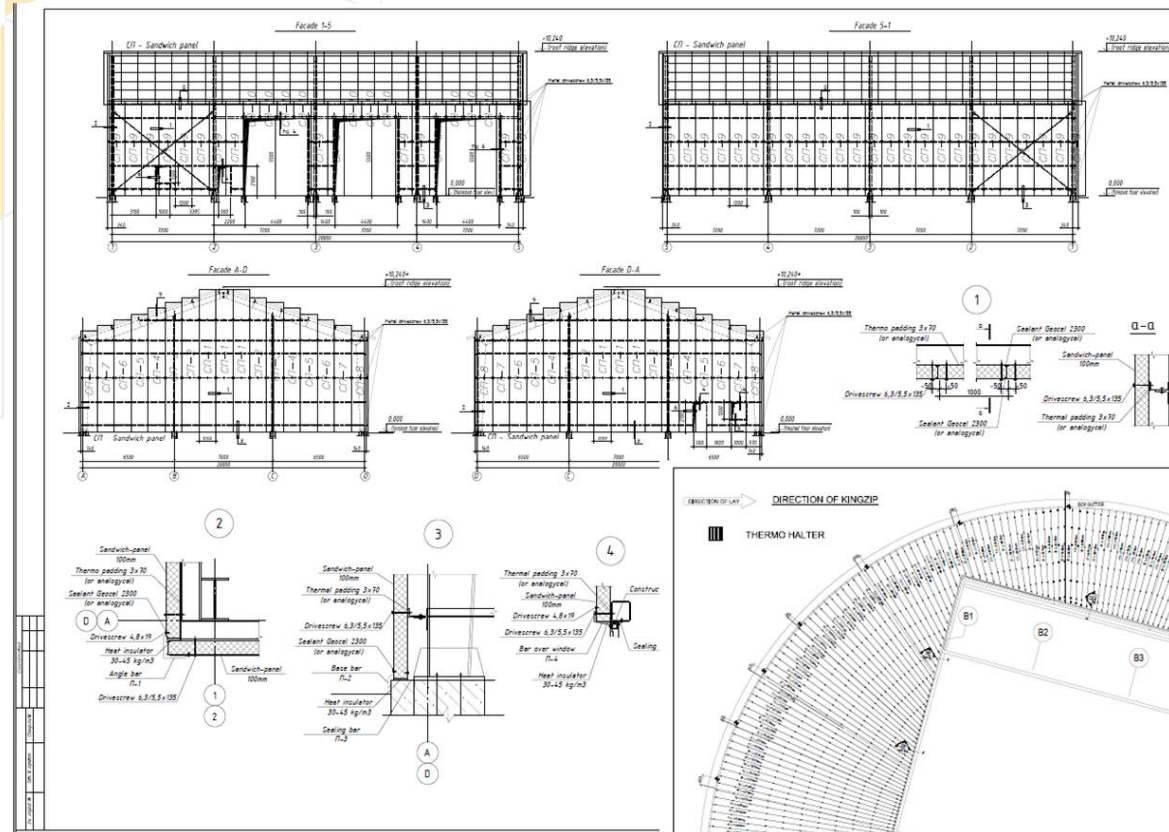
BIM-detailing/drafting



BIM-detailing/drafting includes:

- ▶ 3D-model (BIM)
- ▶ General arrangement drawings
- ▶ Workshop drawings
- ▶ Details drawings, nc-files, specs

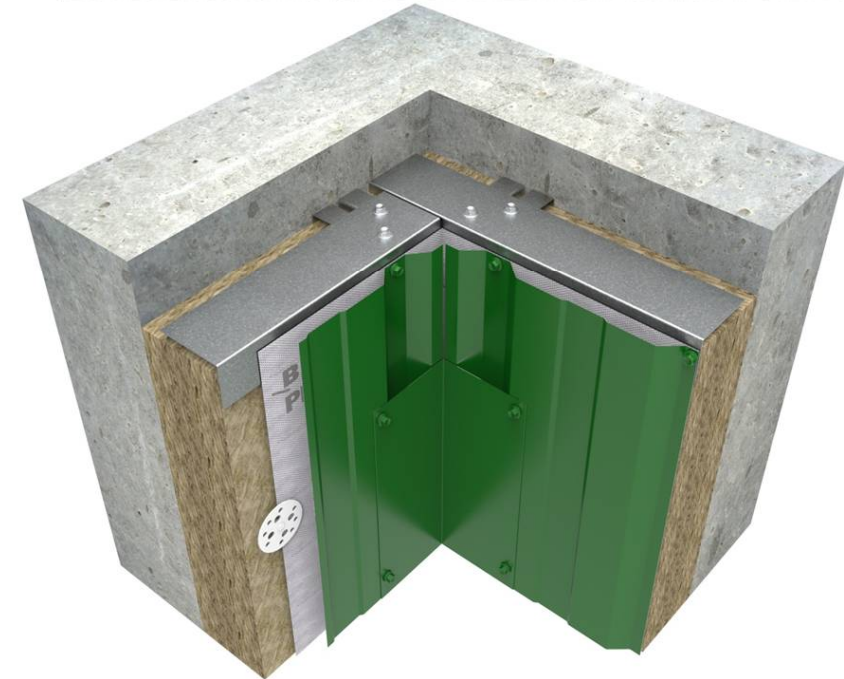
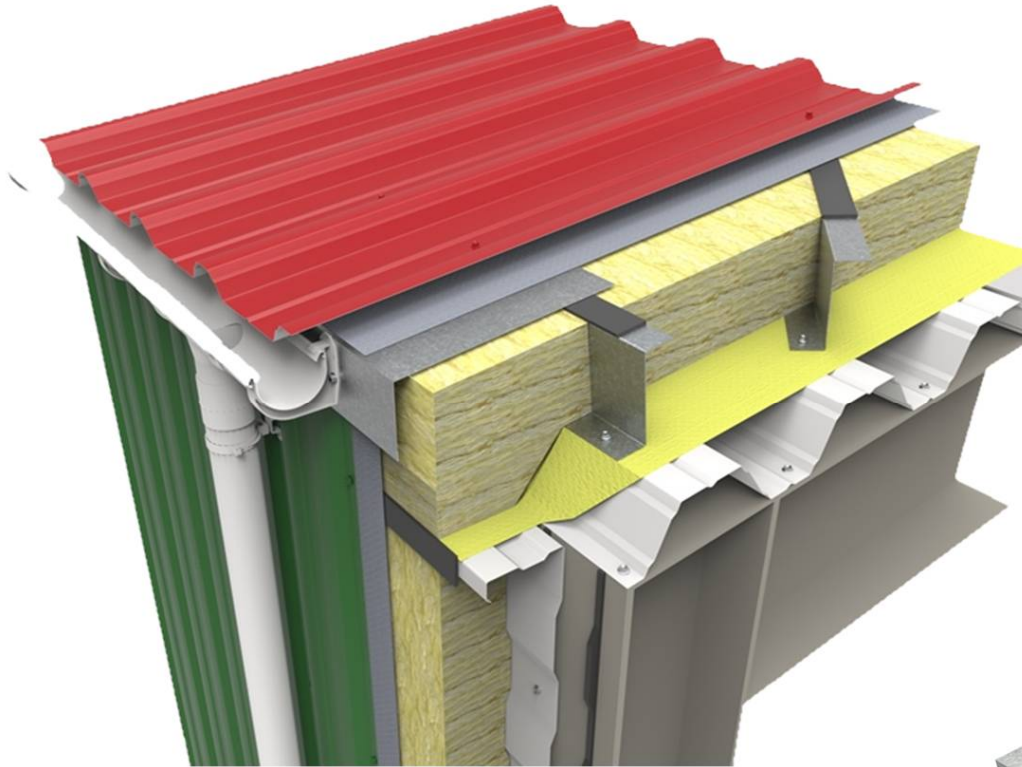
Cladding detailing



Cladding detailing includes:

- ▶ Cladding layout
- ▶ Joint detailing
- ▶ Specs for elements and flashings

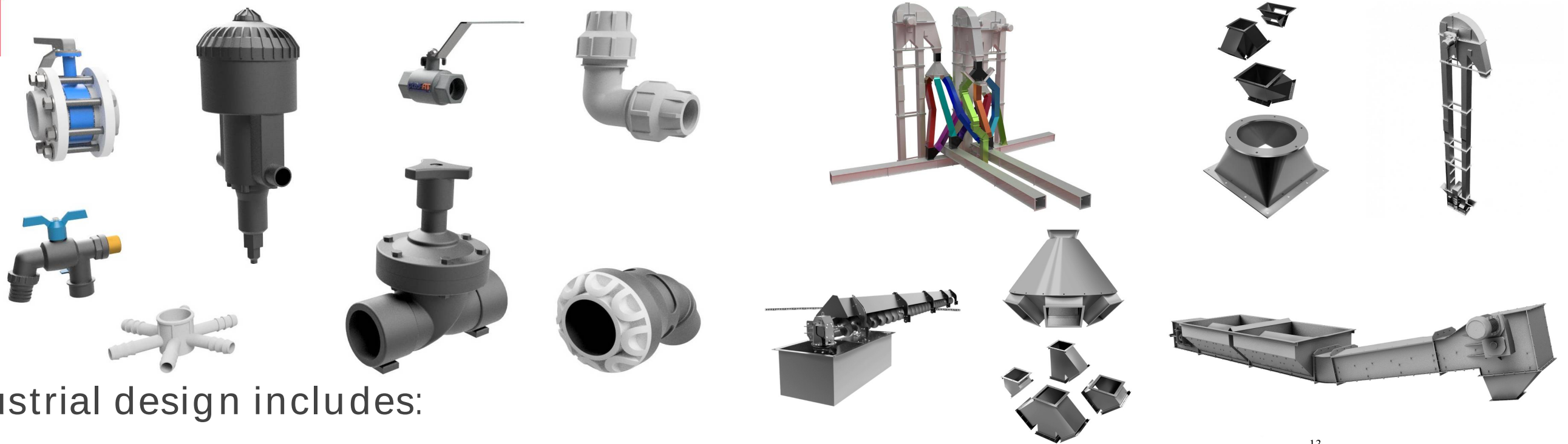
Product and cladding visualization



Visualization includes:

- ▶ Cladding and structural joints visualization
- ▶ Product visualization
- ▶ SketchUP visualization

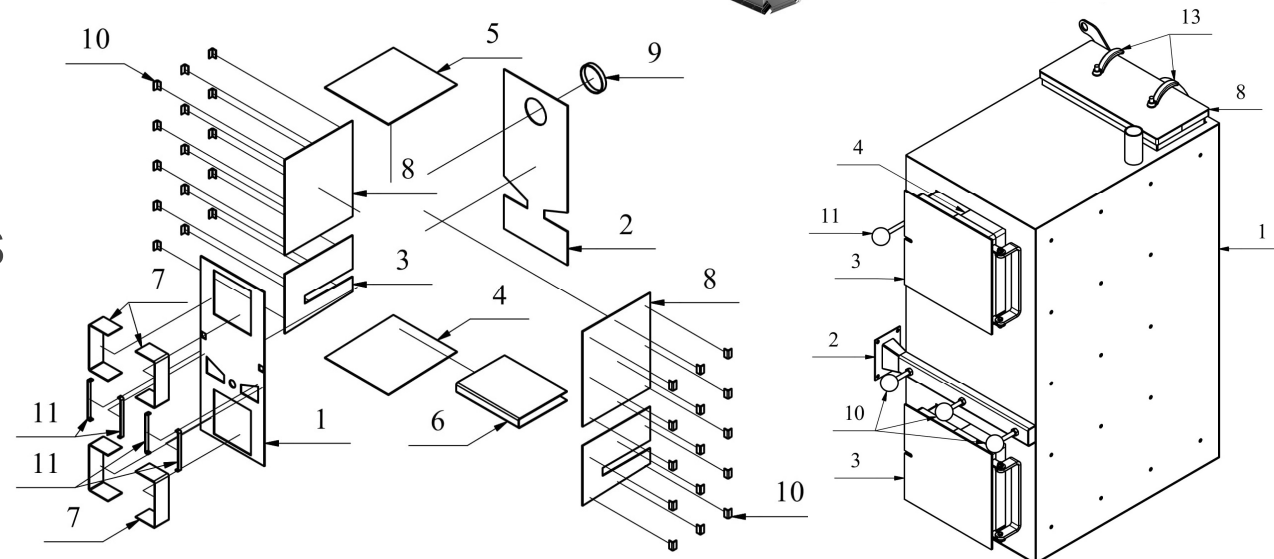
Industrial design and detailing



Industrial design includes:

- ▶ 3D-modelling (part/ipart)
- ▶ Sheet metal detailing
- ▶ General arrangement drawings
- ▶ Assembly drawings
- ▶ Detail drawings

www.prefab.com.ua



Contact us

Nikita Biliaiev

Director, chief engineer

Tel/wtsp/viber: +380 93 223 37 68

Skype-ID: nykzod4iy

e-mail: n.biliaiev@prefab.com.ua



Outsource to Ukraine