

PROTA Structure[®] Suite 2027



ProtaStructure Suite 2027 – New Features

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Please get in touch with us for your training and technical support queries.

asiastatus@protasoftware.com | globalsupport@protasoftware.com

Publisher

 **PROTA SOFTWARE**

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Introduction

As Prota, we have been developing leading structural BIM software for over 40 years.

1. Priority on our product strategy has always been:
2. Providing new practical modeling approaches
3. Introducing innovative design technologies that will add value to your business and extend your toolset in your daily engineering practice
4. To improve the existing functionalities
5. To introduce more localization in our products, so that you can benefit from our technology much better

ProtaStructure 2027 is our brand-new release, a significant step taken to fulfill this strategy, raise the bar for competition, and meet expectations. Developing a comprehensive structural BIM analysis, design, and detailing solution is challenging teamwork in meeting user and industry expectations. We sincerely thank all our users for their trust in our products.

We are confident that you will enjoy and benefit from the features and improvements in **ProtaStructure Suite 2027**. You can find the details on the pages to follow.

Thank you for choosing ProtaStructure.



ProtaStructure Suite 2027: Engineering the Future

ProtaStructure Suite 2027 delivers a major leap forward across every discipline — from brand-new cold-formed steel design to a 4x faster analysis engine, a fully modernized reporting infrastructure, expanded international code coverage, and a wealth of productivity improvements in modeling, detailing, and BIM interoperability.

Key highlights of this release include:

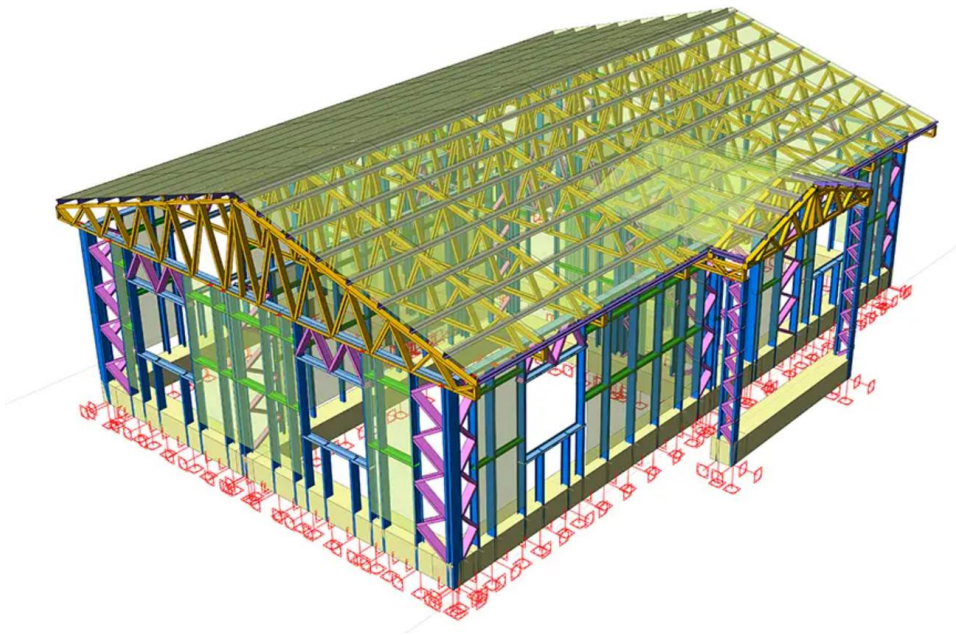
- Cold-Formed Structure Design — AISI S100, Eurocode EN 1993-1-3, and Turkish CYTHYE codes
- 4x Analysis Engine Performance improvement
- New Report Engine (PDF-based) — up to 10x faster report generation
- Overhauled ETABS Import and Export for bidirectional BIM interoperability
- More Centralized Report System with drag-and-drop submission set and report creation in one location. No more collecting reports from design menus.
- Spiral Staircase Modelling and Design
- Automatic Shearwall Checks per ACI 318-19 (Special Boundary Elements)
- Stability Checks (overturning & sliding) in Footing Design
- RC Beam and Column Design extended to Thailand Code (DPT 1302-61)
- New Indian Seismic Code IS 1893-2025
- Wide Beam Link Arrangement — up to seven links
- Group Members for Selection with Ctrl+G shortcut
- New Excel Export options across analysis, design, and quantity reports



New Capabilities & Highlights



Cold-Formed Steel Design



ProtaStructure 2027 introduces comprehensive cold-formed steel design, enabling structural engineers to model, analyze, and design cold-formed members directly within the platform. This eliminates the need for separate specialist tools and brings cold-formed steel firmly within the integrated ProtaStructure workflow.

Cold-formed steel members can be designed to three code families:

1. **AISI S100-16/20** — the AISC cold-formed specification (LRFD and ASD safety formats)
2. **Eurocode EN 1993-1-3**
3. **Turkish CYTHYE / TSC2016** (draft at the time of development)

Checks Covered

The AISI implementation covers tension, compression (global flexural/flexural-torsional/torsional buckling, local buckling, and distortional buckling), bending (major and minor axes), shear, combined actions, and serviceability deflection. The Eurocode and Turkish code implementations cover equivalent limit states appropriate to each standard. Supported section shapes include open profiles (C/channel, Z, hat) and closed profiles (RHS, SHS, circular pipe).

Key Differences from Hot-Rolled Design

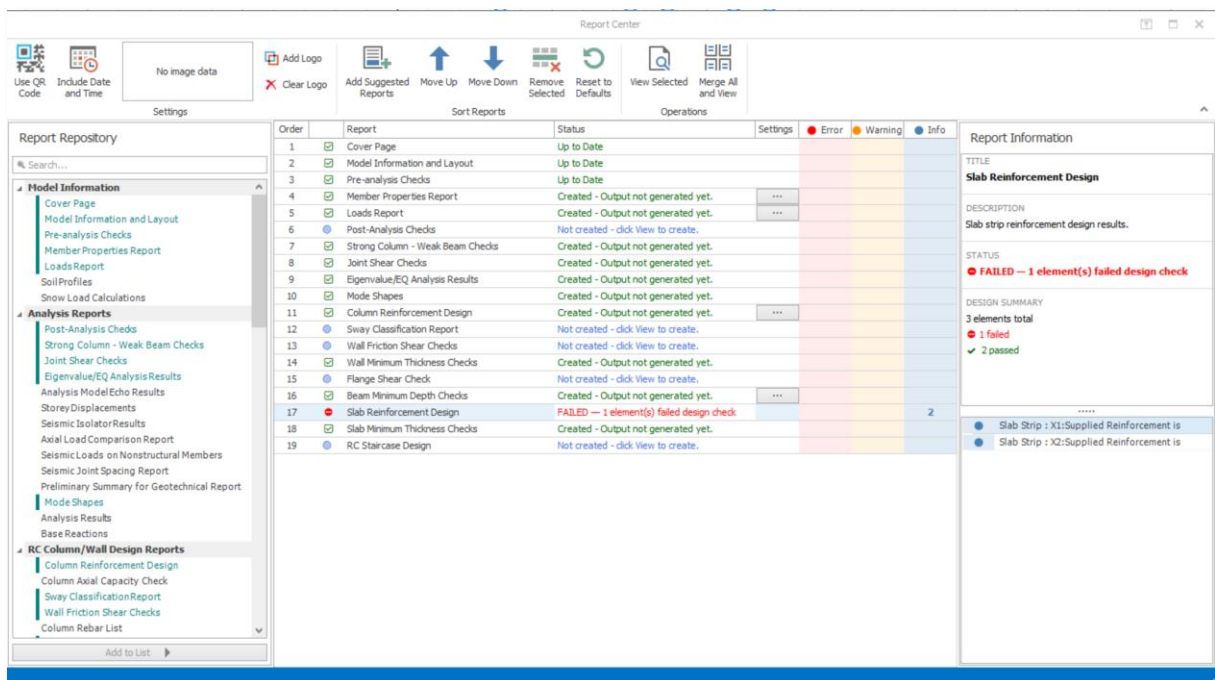
Member capacity is determined by the **Direct Strength Method (DSM)**, computing strengths directly from elastic buckling loads of the gross cross-section for each buckling mode — no iterative plate-width reduction. Distortional buckling is treated as a standalone limit state. For singly symmetric open profiles, flexural-torsional buckling typically governs compression capacity due to low torsional rigidity.



More Centralized Report System

The Report Preparation and Management system has been developed from scratch with productivity in mind. The new report system now provides a more integrated and intelligent submission workflow:

1. A single “**Report Submission Set**” sits centrally. Reports can be added from “**Report Repository**” and re-ordered by drag-and-drop. A **final merged report** is created from the submission set.
2. You can now generate all the reports in your project using this centralized menu without even going to relevant design menus. Failed or expired designs are also listed on the report center for you to have a grasp on your project’s design status.
3. Project is automatically examined for structure type, material, and components. A default submission set is generated and updated as the model evolves. ProtaStructure will recommend you add necessary missing reports (if they are not already part of your submission sets) when you click “**Add Suggested Reports**” button.
4. Company logo, date/time, and QR code can be added to reports for customization and as a token of authenticity.
5. The new presentable **Cover page** can now be included in the submission set
6. The New **Model Information and Layout Report with 3D and plan views**
7. Errors, warnings, and information items across all generated reports are visible at a single glance.
8. Report repository shows both included and excluded reports — drag any unlisted report into the submission set.



Structural Calculation Report
Residential Building Project
45843

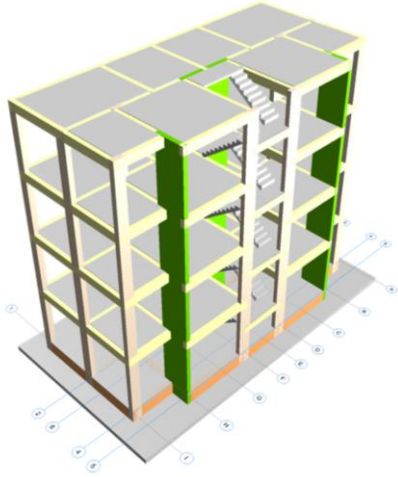
Prepared by Mustafa Tümer Tan (MSc)	Checked by -
Date 13/05/2026	Revision 1
Software ProtaStructure v10.0.0	Licensed to ProtaYazilim DEV (18813)



Ankara Residence Towers	ProtaYazilim DEV (18813)
Model Information and Layout 45843 13/05/2026 Rev 1	Calc. By: Mustafa Tümer Tan Checked By: -

Model Information and Layout

3D Model of the Structure

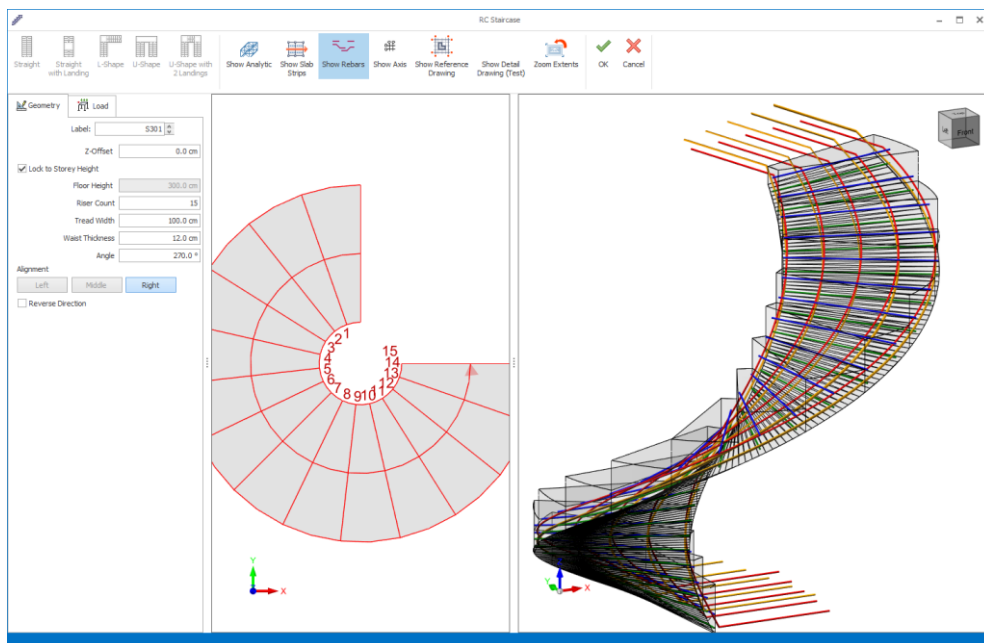


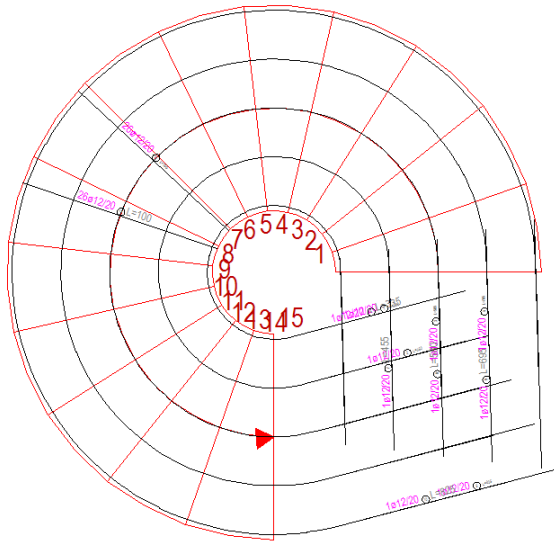
The newly introduced Cover Page and Model Information Report that includes 3D and floor plan images



Spiral Staircase Modelling and Design

ProtaStructure 2027 introduces **spiral staircase modelling** and **structural design**, supporting spiral staircases supported from the inner edge and/or flight ends. This long-requested capability enables engineers to model, analyze, and design spiral staircases within the same integrated environment as the rest of the structure.





S301 Staircase Plan View

QUANTITY TABLE					
NO.	SIZE(mm)	QUA	LENGTH (cm)	FORM	TOTAL LENGTH (m)
					ø12
1	ø12	1	340		3.40
2	ø12	1	460		4.60
3	ø12	1	585		5.85
4	ø12	1	705		7.05
5	ø12	1	835		8.35
6	ø12	1	335		3.35
7	ø12	1	455		4.55
8	ø12	1	580		5.80
9	ø12	1	695		6.95
10	ø12	1	825		8.25
11	ø12	52	100		52.00
TOTAL LENGTH (m)					110.15
UNIT WEIGHT (kg/m)					0.889
WEIGHT (Kg)					97.9
T.WEIGHT (Kg)					97.9



Import Models from ETABS

ProtaStructure 2027 introduces a robust ETABS import capability, allowing engineers to bring complete structural models from ETABS directly into ProtaStructure with high fidelity. This two-way BIM bridge eliminates manual remodeling and ensures that geometry, materials, sections, loads, and boundary conditions are faithfully transferred.

Units and Geometry

Automatic unit conversion (imperial or metric), intelligent grid mapping for orthogonal and skewed grids with all labels preserved, and cumulative story elevation management.

Materials, Sections and Structural Elements

Concrete and steel are automatically distinguished with full parametric support for rectangular, circular, pipe, L, T, U, and I/HE shapes. Shear walls are converted to column members. Ribbed, waffle, and deck slabs include specific spacing and rib data. Load cases are automatically categorized (DEAD to G, LIVE to Q), and load combinations are fully transferred.

Renewed ETABS Export

The ETABS Export module has been completely rebuilt from scratch, generating a high-fidelity e2k file that preserves every structural detail — from complex steel bracing to seismic mass sources — removing the need for any manual remodeling in ETABS. Full support covers ETABS versions v13 through v23.

Capabilities include flexible unit conversion, full story/grid hierarchy, cracked section modifiers per ACI 318-19, automatic rigid diaphragm assignment, response spectrum function export, and intelligent 3D geometry resolution to prevent flattening of roof trusses or cross-story bracing.



Automatic Shearwall Checks per ACI 318-19

ProtaStructure 2027 automates the determination of **Special Boundary Element (SBE)** requirements for structural walls per ACI 318-19, eliminating manual calculations and ensuring correct ductility provisions are applied in earthquake design.

Displacement-Based Approach

A special boundary element is required when $c > l_w / (600 \times d_u/h_w)$, where c is the largest neutral axis depth, l_w the wall length, d_u the design displacement, and h_w the wall height. The ratio d_u/h_w is not taken less than 0.005.

Stress-Based Approach

Special boundary elements are required where the maximum extreme fiber compressive stress exceeds $0.2f_c$, calculated using a linear elastic model based on gross section properties.

Both approaches are evaluated simultaneously and results presented in the RC Shearwall Design reports.

Column Reinforcement Design - GW4 (Storey 1)

Column Design | Fiber Section

Interactive Design | Column Analysis | Diagrams | **Save & Report** | Reset Bars | Section Analysis | New Column Design | Parameters | Image Max/Min | Elevation Drawing | OK | Cancel

b2 / s3: 5250 mm / 250 mm
L2 / L3: 3000 mm / 3000 mm
Concrete Cover: 40 mm [Update]

Loading: Use Defined
Select Marked Combinations as Use Defined

C300 / SD60 (Deformed Bar)
Web:SD60 (Deformed Bar)

No	N (kN)	M22 (kN.m)	M33 (kN.m)	V2 (kN)	V3 (kN)	Label
1 -Top	1348.49	22.4	222.1	-63.88	11.13	1.4D+1.6L
-Bottom	1486.30	-11.0	413.7	-63.88	11.13	

Shear Design

	Dir2	Dir3
Ve	221.51	7.13
Vc	0.00	0.00
Ve	240.00	16.20

Link

EndZone/Tie Bar: g16 / 50 mm
Web: g10 / 250 mm
No. of Link Legs -2: 4
-3: 4

SBE: Not Required

Utilization Ratio = 0.78

Special Boundary Elements (SBE)

SBE Check Method: Not Required (ACI 318 [2019], 18.10.6.2 - 18.10.6.3)

Displacement Check: $c = 437 \text{ mm} < c_{\text{lim}} = 1167 \text{ mm}$ ✓ [$c < c_{\text{lim}}$] (ACI 318 [2019], 18.10.6.2)

Stress Check: $f_c = 0.53 \text{ N/mm}^2 < 0.2f_c = 6.00 \text{ N/mm}^2$ ✓ [$f_c < 0.2f_c$] (ACI 318 [2019], 18.10.6.3)

SBE Transverse Reinforcement Spacing Limit at Critical Zone: 60 mm (ACI 318 [2019], 18.10.6.4(e))

SBE Transverse Reinforcement Spacing Limit at Span: 80 mm (ACI 318 [2019], 18.10.6.4(e))

SBE Transverse Reinforcement Amount Limit: 0.0065 (ACI 318 [2019], 18.10.6.4(g))

SBE Length: 530 mm

SBE Critical Height: 5.2500 m (ACI 318 [2019], 18.10.6.2(b)(i))

Shear Wall in Critical Range: No

13 -Top: 1105.75, 22.4, 176.7
-Bottom: 1199.11, -10.2, 895.7

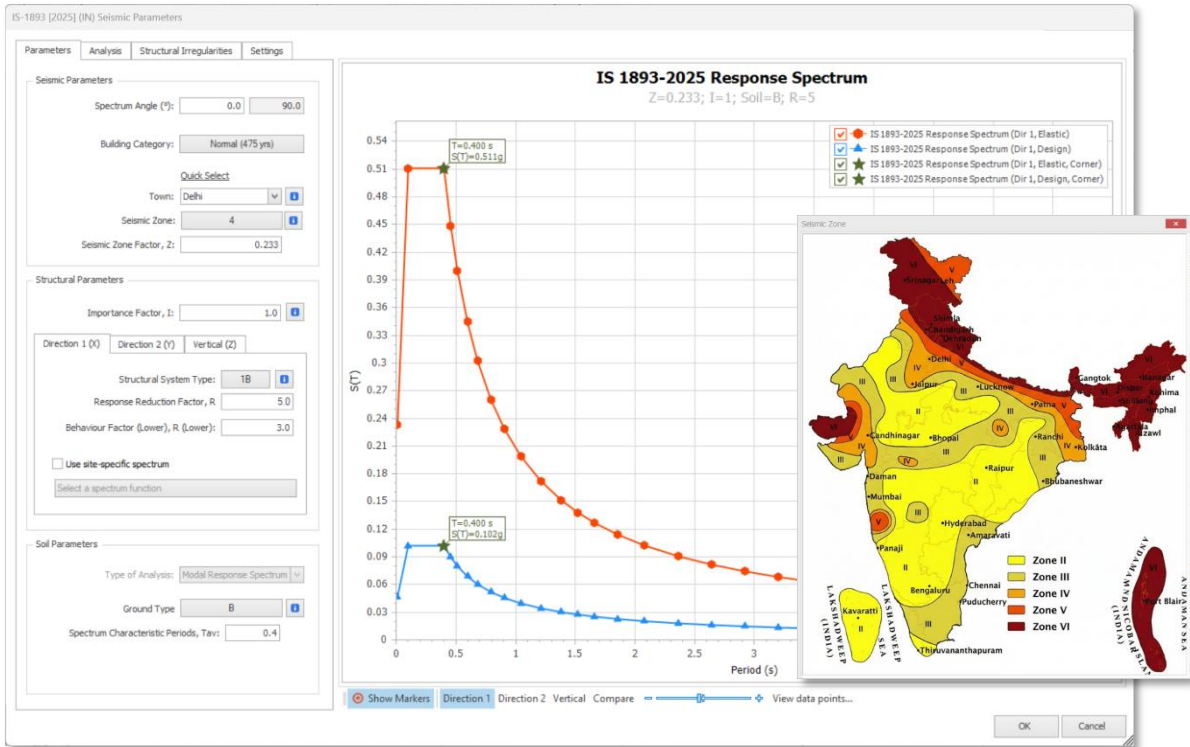
Column Design Completed... Critical Load Combination: 1 - (1.4D+1.6L)





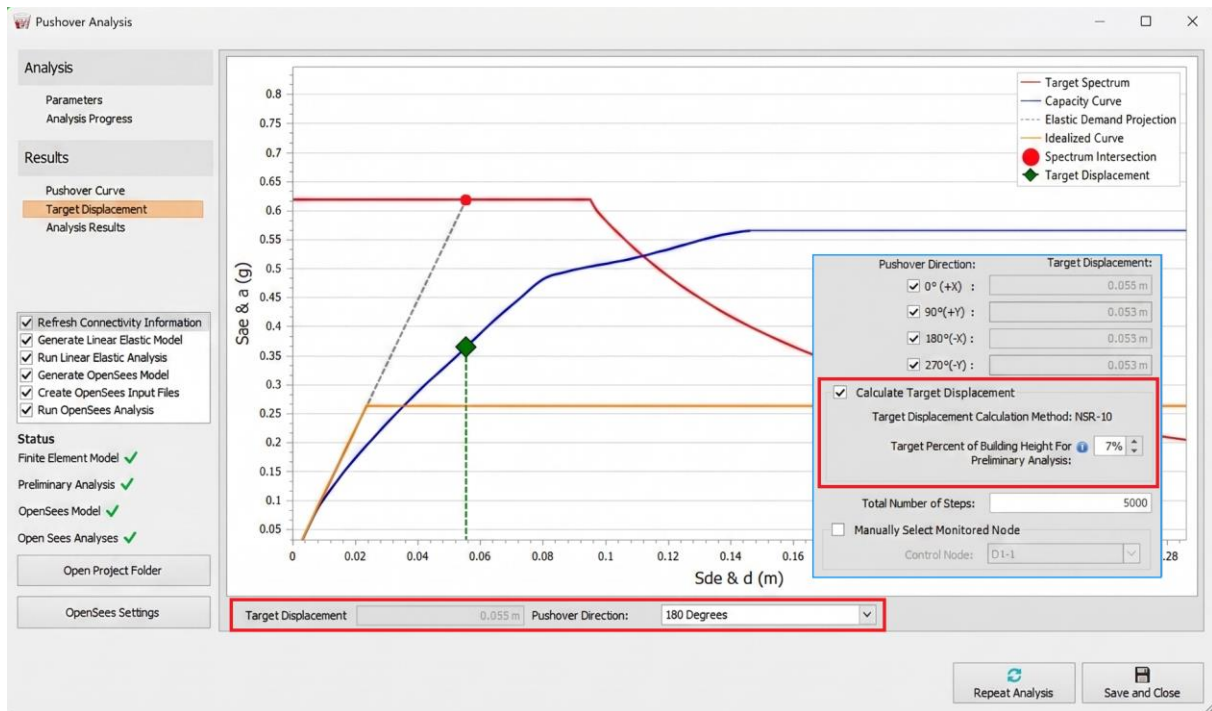
Indian Seismic Code IS 1893-2025

The Indian seismic design code IS 1893 has been updated to the 2025 edition. Engineers working on Indian projects automatically benefit from the latest seismic hazard maps, spectral acceleration parameters, and design provisions.



Target Displacement Calculation for NSR (Colombia)

Target Displacement Calculation for Pushover Analysis is now available for the Colombian Seismic Code NSR-10. Engineers working on Colombian projects can perform complete nonlinear static (pushover) analysis with code-compliant target displacement determination directly within ProtaStructure.



RC Column & Beam Design to Thailand Code (DPT 1302-61)

RC Column and beam design has been updated to cover DPT 1302-61 clauses over ACI 318. Fully integrated clauses include longitudinal reinforcement limits, column dimension checks, plastic hinge length, confinement zone spacing, mid-span spacing, and shear design logic.



	Column Reinforcement Design Rev: 1	ProtaYazilim DEV (18813)
		Calc. By: Checked By:

General Information	$\Phi = 0.85, f_c = 240.00 \text{ kg/cm}^2, f_{yt} = 5000.00 \text{ kg/cm}^2, N_u = 47278.138 \text{ kg}$
Cross-Section Dimension Check	$250 \geq 300 \text{ mm}$ X (DPT 1302-61 [2021], 5.2.9.1)
Cross-Section Dimension Check	$250/500 = 0.500 \geq 0.40$ ✓ (DPT 1302-61 [2021], 5.2.9.1)
Shear Force - Capacity Design	1488.946 kg (DPT 1302-61 [2021], 5.2.9.5.1)
Shear Force - Analysis Results	751.629 kg (DPT 1302-61 [2021], 5.2.9.5.1)
Shear Force - Design Force	1488.946 kg (DPT 1302-61 [2021], 5.2.9.5.1)
Lambda	$\lambda = 1$ (ACI 318 [2019], Table 19.2.4.1(a))
Concrete Shear Resistance	$V_c = 0.17 * \lambda * \sqrt{f_c} * N_u / (6A_g) = 16168.379 \text{ kg}$ (ACI 318 [2019], 22.5.5.1)
Cross-Section Dimension Check	$V_u = 1488.946 \text{ kg} \leq \Phi(V_c + 0.66 * \sqrt{f_c} * b_w * d) = 42438.720 \text{ kg}$ ✓ (ACI 318 [2019], 22.5.1.2)
Concrete Shear Contribution at Hinge Zone Check	If the following two conditions are satisfied $V_c = 0$. (DPT 1302-61 [2021], 5.2.9.5.3) (DPT 1302-61 [2021], 5.2.9.5.3(a)) : $1.489\text{E}+06 > 3.758\text{E}+05$ ✓ (DPT 1302-61 [2021], 5.2.9.5.3(b)) : ✓ Condition (a): $V_u = 1488.946 \text{ kg} \geq 0.5 * V_u = 0.5 * 751.629 \text{ kg}$ ✓ Condition (b): $P_u = 47278.138 \text{ kg} < A_g f_c / 20$ ✓
Minimum Shear Reinforcement	$A_{v,min} = \text{Max}[0.062 * \sqrt{f_c} * b_w * s / f_{yt}, 0.35 * b_w * s / f_{yt}] = 1387 \text{ mm}^2$ (ACI 318 [2019], 10.6.2.2)
Shear Reinforcement Check	$1387 \text{ mm}^2 = A_{v,min} \leq A_v = 1571 \text{ mm}^2$ ✓
Steel Shear Resistance	$V_s = A_v * f_{yt} * d / s = 2.222\text{E}+05 \text{ kg}$ (ACI 318 [2019], 22.5.8.5.3)
Shear Reinforcement Check	$2.222\text{E}+05 \text{ kg} = V_s \geq V_u / \Phi - V_c = 1751.701 \text{ kg}$ ✓ (ACI 318 [2019], 22.5.8.1)
Maximum Link Spacing	$V_u > 0.33\sqrt{f_c} * b_w * d \rightarrow s_{max} = \text{Min}[d / 4, 300 \text{ mm}] > s = 100 \text{ mm}$ ✓ (ACI 318 [2019], 10.7.6.5.2)
Maximum Link Spacing	$s_{max} = \text{Min}[16 * d_{b,long}, 48 * d_{b,tie}, B1] > s = 100 \text{ mm}$ ✓ (ACI 318 [2019], 25.7.2.1)
Minimum Link Diameter	$8 \text{ mm} \geq \text{No.10}$ X (ACI 318 [2019], 25.7.2.2)
Column Clear Span	$l_n = 2.500000 \text{ m}$
Largest Column Dimension	$H = 500 \text{ mm}$
Plastic Hinge Region Length	$l_o = \text{Max}[H, l_n/6, 500 \text{ mm}] = 0.5 \text{ m}$ (DPT 1302-61 [2021], 5.2.9.4.4)
Smallest Column Dimension	$B1 = 250 \text{ mm}$
Diameter of the Smallest Longitudinal Bar	$d_b = 20 \text{ mm}$
Calculated Value	$s_o = 100 + (350 - h_c) / 3 = 150 \text{ mm}$ (DPT 1302-61 [2021], 5.2.9.4.2)
Transverse Reinforcement Spacing at Hinge Region	$s_{o,max} = \text{Min}[B1 / 4, 6 * d_b, s_o] = 63 \text{ mm}$ (DPT 1302-61 [2021], 5.2.9.4.2)
Transverse Reinforcement Amount Limit	0.0108 (DPT 1302-61 [2021], 5.2.9.4.2 + ACI 18.7.5.4) (a) $0.3(A_g/A_{ch-1})(f_c/f_{yt}) = 0.0108$, (b) $0.09(f_c/f_{yt}) = 0.0043$
Transverse Reinforcement Spacing Outside l_o	$s_{max} = \text{Min}[150 \text{ mm}, 6d_b] > s = 100 \text{ mm}$ ✓ (DPT 1302-61 [2021], 5.2.9.4.6)



Stability Checks in Footings

Overtuning and sliding stability checks have been implemented for pad footing design. Factor of Safety limits are automatically determined based on the selected design code and load combination type (static or seismic/wind), covering TBDY 2018/TS500, ACI 318, NBCI 2016/IS 1904, and Eurocode/BS. Critical FS values across all combinations are shown in the design summary; a detailed matrix table is included in the report.

Bookmarks

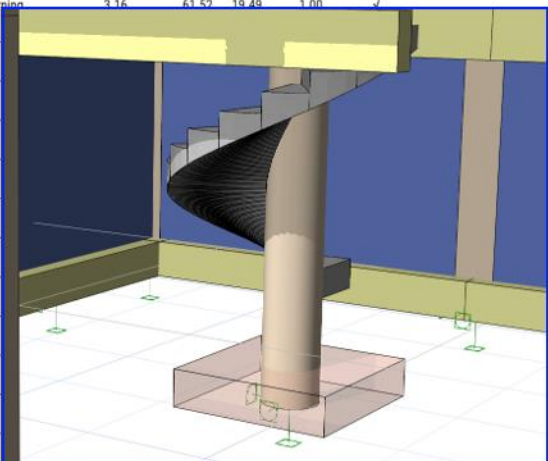
- F-S10 Design Summary
- Loading Info
- Soil Stress Check
- Eccentricity Check
- Stability (Sliding - Overturning) Check
- Punching Check
- Shear Check
- Bending Reinforcement Check

	Pad Footing Design Rev: 1	ProtaYazilim DEV (18813) Calc. By: Checked By:
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Y -8.21 39.315 20.87 cm 30.00 cm ✓

Stability (Sliding - Overturning) Check

Combination	Dir	Type	Demand	Capacity	FS	Limit	Status
1.4G+1.6Q	X	Sliding	0.406	35.214	86.84	1.50	✓
		Overturning	0.81	74.83	92.05	1.50	✓
	Y	Sliding	0.681	35.214	51.69	1.50	✓
		Overturning	0.66	79.23	119.40	1.50	✓
1.4G+1.6Qp2	X	Sliding	0.406	35.214	86.84	1.50	✓
		Overturning	0.81	74.83	92.05	1.50	✓
	Y	Sliding	0.681	35.214	51.69	1.50	✓
		Overturning	0.66	79.23	119.40	1.50	✓
Gc+Qc+0.3Ez+Ex++0.3Ey-	X	Sliding	1.731	26.317	15.20	1.00	✓
	Overturning	3.16	61.52	19.48	1.00	✓	
Gc+Qc+0.3Ez-Ex+0.3Ey-	X	Sliding					
	Overturning						
Gc+Qc+0.3Ez+Ex++0.3Ey+	X	Sliding					
	Overturning						
Gc+Qc+0.3Ez-Ex-0.3Ey+	X	Sliding					
	Overturning						
Gc+Qc+0.3Ez+0.3Ex++Ey+	X	Sliding					
	Overturning						
Gc+Qc+0.3Ez-0.3Ex-Ey+	X	Sliding					
	Overturning						
Gc+Qc+0.3Ez+0.3Ex++Ey-	X	Sliding					
		Overturning	6.45	59.96	9.30	1.00	✓
	Y	Sliding	6.352	25.650	4.04	1.00	✓
		Overturning	3.60	63.48	17.64	1.00	✓
Gc+Qc+0.3Ez-0.3Ex-Ey-	X	Sliding	0.493	28.710	58.27	1.00	✓
		Overturning	5.06	67.11	13.27	1.00	✓
	Y	Sliding	5.175	28.710	5.55	1.00	✓
		Overturning	2.50	71.06	28.45	1.00	✓
0.9Gc-0.3Ez+Ex++0.3Ey-	X	Sliding	1.571	14.963	9.52	1.00	✓



Floor Torsion: Perform at Corners or Selected Columns

The torsion check can now be performed at user-selected columns for each direction, rather than being limited to all vertical members. This is particularly useful for irregular floor plates where the governing torsion scenario does not occur at extreme corners. The columns used in the torsion check are now shown in the report.

The default is still to consider all vertical members to determine the maximum and minimum displacements.

(A1) TORSION IRREGULARITY CHECK:
(TBEC 2018 - Cl. 3.6.2.1)
 δ_{Min} : Minimum Absolute Storey Displacement
 δ_{Max} : Maximum Absolute Storey Displacement
 Δ : Relative Storey Drift ($\delta_{column,top} - \delta_{column,bottom}$)
 η_b : $\Delta_{Max} / \Delta_{ave}$

EARTHQUAKE DIRECTION: 1 (Angle From X 0.00 Deg)

Load Case: **Ex+** (Equiv. Static Seismic X (E+))

Storey	δ_{Min} (mm)	δ_{Max} (mm)	Δ_{Min} (mm)
Storey: 3	S5 / 4.483	S2 / 5.526	1.477
Storey: 2	S5 / 3.006	S2 / 3.724	1.831
Storey: 1	S5 / 1.175	S1 / 1.467	1.175

Load Case: **Ex-** (Equiv. Static Seismic X (E-))

Storey	δ_{Min} (mm)	δ_{Max} (mm)	Δ_{Min} (mm)
Storey: 3	S2 / 4.483	S5 / 5.526	1.478
Storey: 2	S2 / 3.006	S5 / 3.724	1.831
Storey: 1	S1 / 1.175	S5 / 1.467	1.175

Batch Design Options

Column/Wall Reinforcement Design
 Beam Reinforcement Design
 Steel Member Design Check
 Design Composite Beams
 Some columns in this model have user defined design loads over-riding the Building analysis results. Select This Option to Ignore These Loads.
 Effective Length Factors and/or Sway Conditions of some columns and walls are manually defined. Select This Option to Override User Defined Values.

Re-select Bar / Design

Re-Select Profiles

Use Selected Columns for Seismic Irregularity Checks
 Dir: 1: 14C17 14C5
 Dir: 2: 14C14 14C9

When this option is activated, maximum and minimum displacements of only the selected columns or walls will be used during seismic checks. For each direction, a pair of vertical members along a straight line perpendicular to the loading direction, preferable at edges of the plan, should be selected.
When not activated, by default all vertical members are considered for determining the maximum and minimum displacements.

	2.257	2.044	1.104 \geq 1.20
	1.467	1.321	1.110 \leq 1.20

Additional Eccentricity (%)

Additional Eccentricity (%)

Dir 1: A1 Irregularity does not Exist. ✓

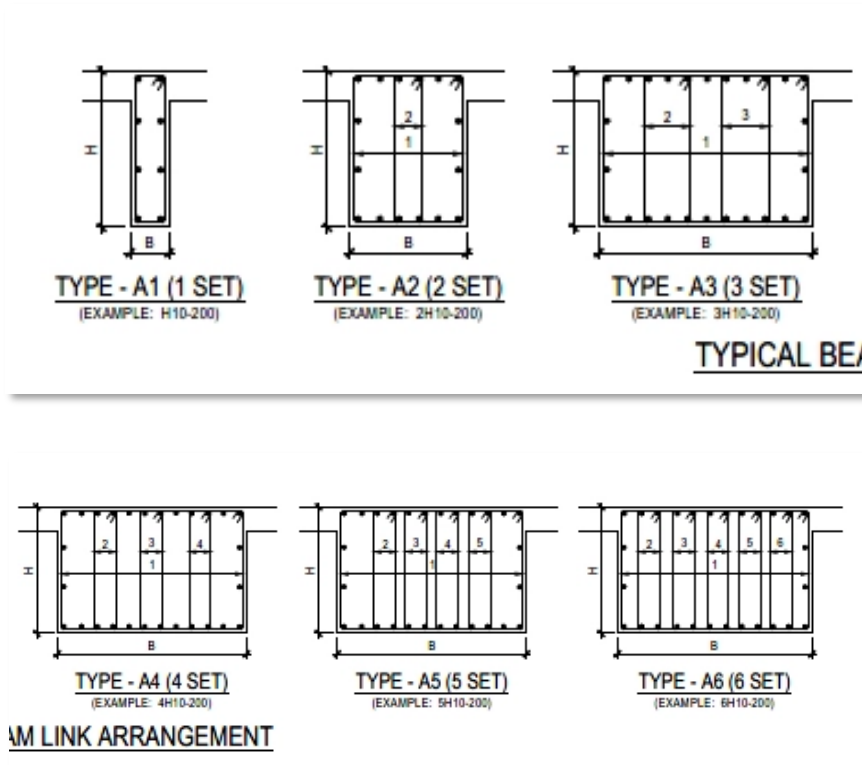
Do Not Design VOM Members for Seismic Provisions

Members designated as VOM (Vertical-Only Member) can now be excluded from seismic design and detailing provisions for Eurocode countries, ensuring seismic reinforcement requirements are not incorrectly applied.

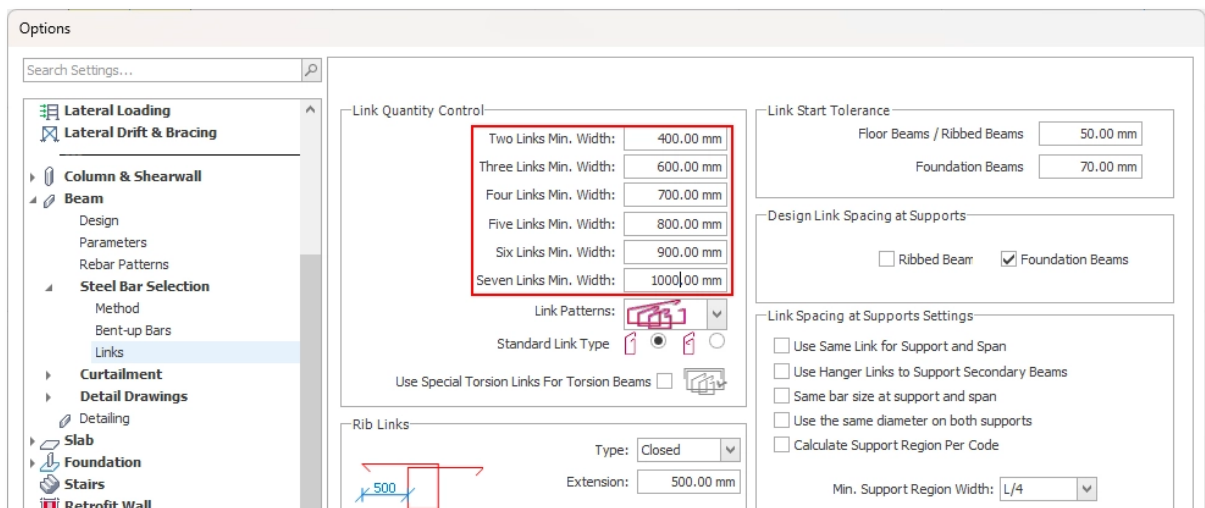
Wide Beam Link Arrangement

ProtaStructure 2027 now supports up to **seven links for wide beam design**. Engineers set the minimum width limits, and the algorithm follows them incrementally, automatically selecting the appropriate number of links. A new link pattern for wide beam layout provides additional flexibility in meeting detailing requirements.

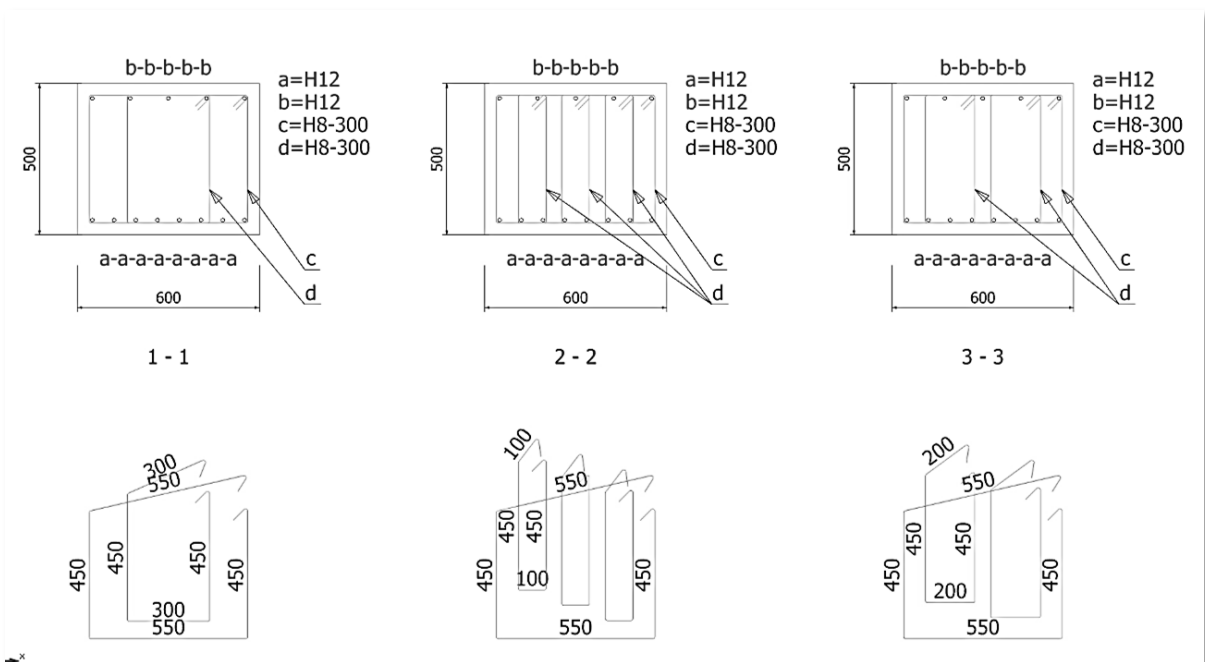
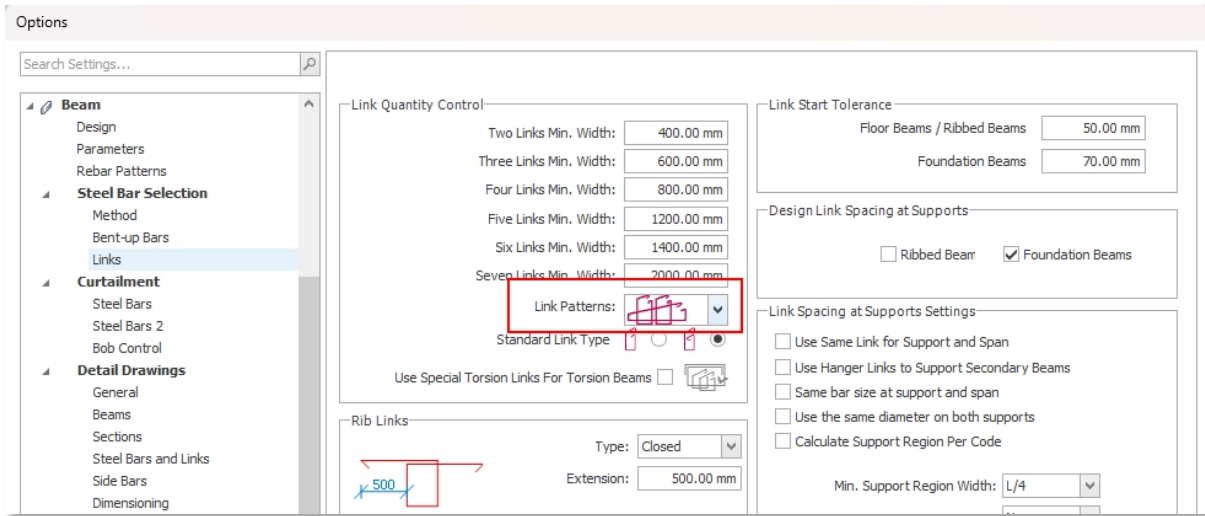




Set the minimum width limits and design. The algorithm will follow the limits incrementally, automatically picking the right number of links.



There's also a new link pattern for wide beam layout, giving you extra flexibility to meet your detailing requirements.

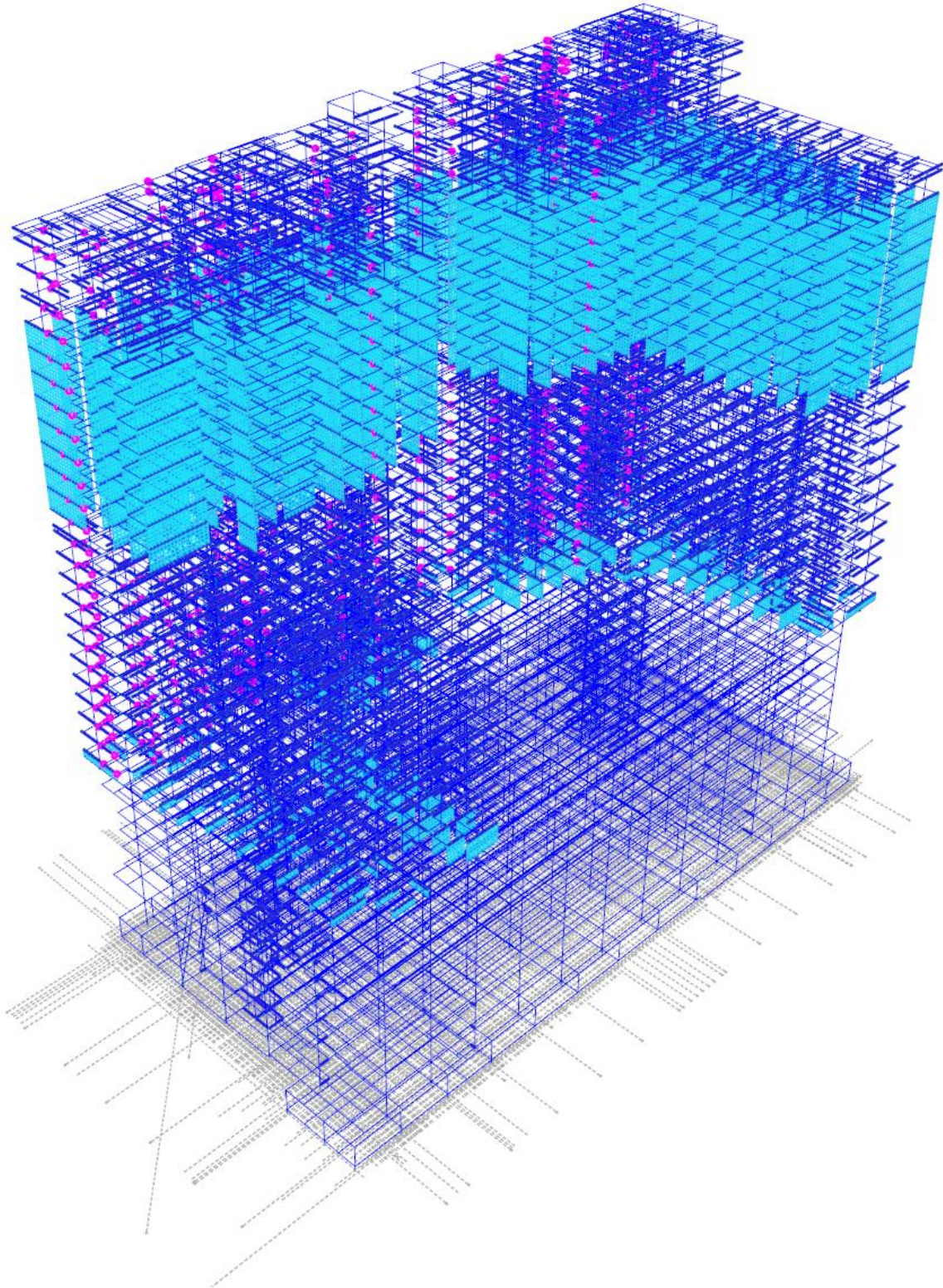


Performance Improvements



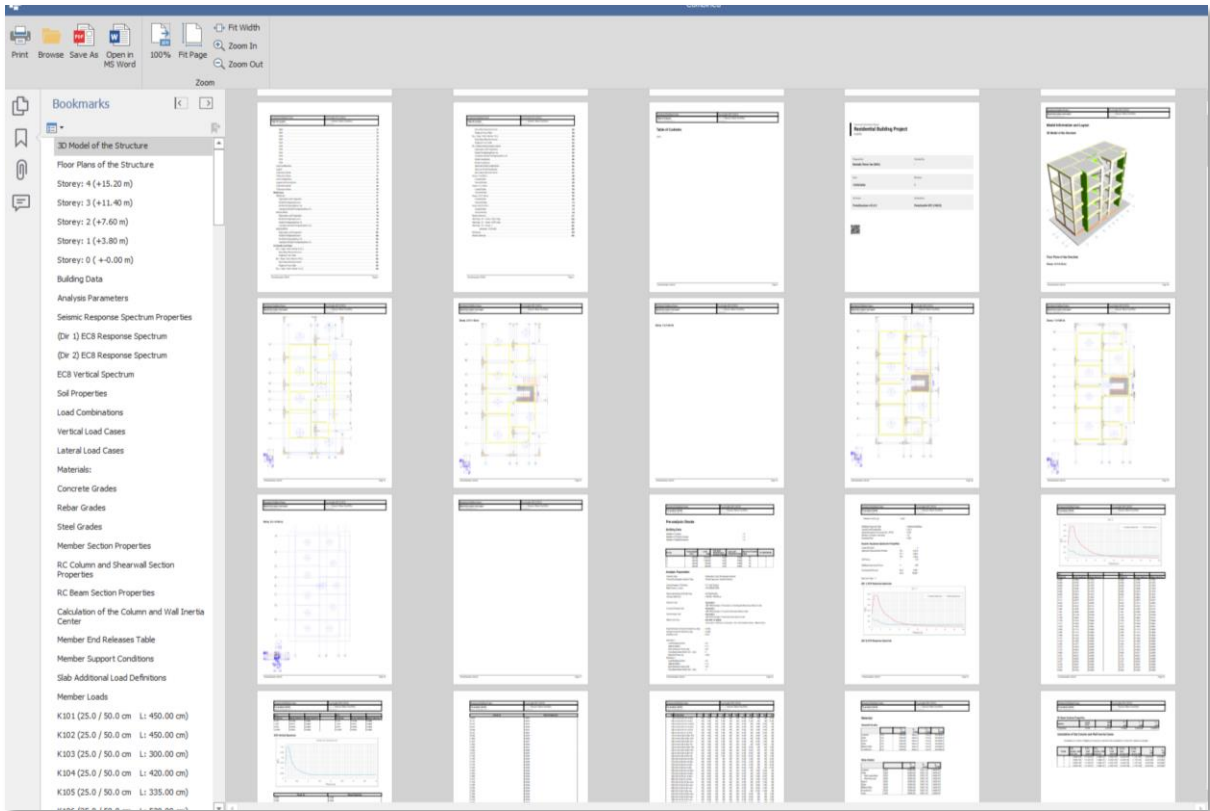
Improved Analysis Engine Performance

The analysis engine has been comprehensively re-engineered, delivering a 4x speed improvement across all model sizes. Engineers working on large, complex multi-storey structures will experience dramatically shorter run times, enabling faster design iteration and more productive workflows.



Enhanced Report Engine Performance

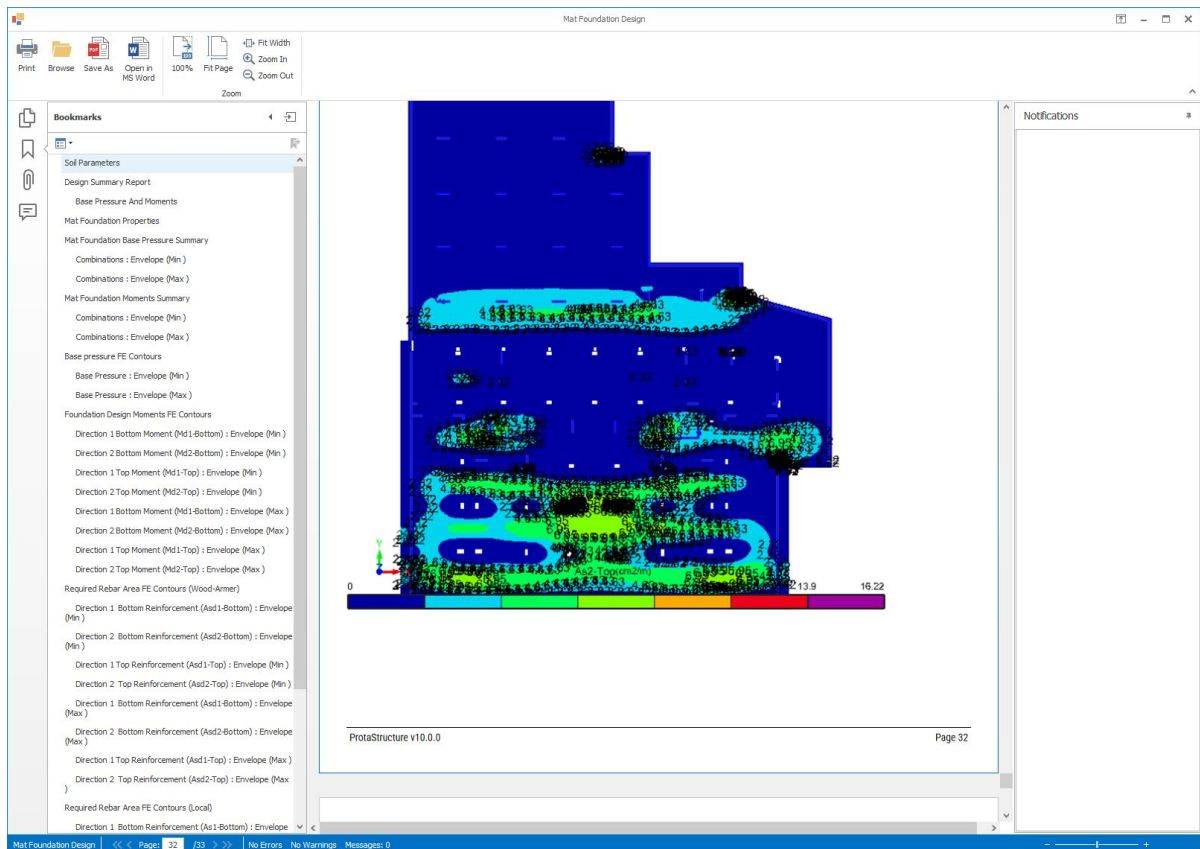
ProtaStructure 2027 migrates to a PDF-based report generation engine. This infrastructure change resolves slow report generation in large models — all reports are now generated up to **10x faster**. Besides the significant performance upgrade, the new report engine provides visually more appealing reports and more quality print preview. Large design reports with intensive content will be prepared and rendered in seconds.



Improved Analysis Results Post-Processing Performance

Analysis results post-processing and contour generation are very time-consuming operations. Design and report generation algorithms also rely on these processed analysis results. The new algorithm significantly accelerates the result collection and processing operations. This means up to a 5x speed improvement in Finite Element Foundation Result reports.

The grouped beam design has also undergone to more than 2x speed improvement with this update.



Improved Modelling Performance

We have revised the connectivity algorithm to perform up to 200x better depending on the size of the model when editing members in models with similar storeys.

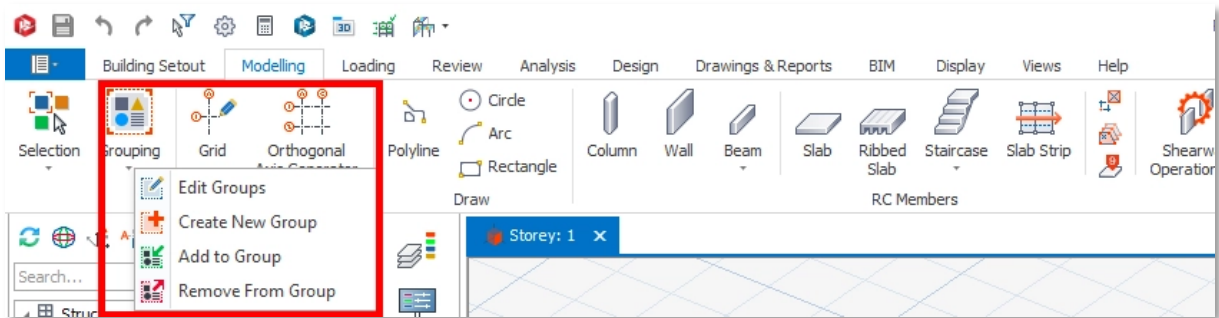


Modeling and Productivity Improvements

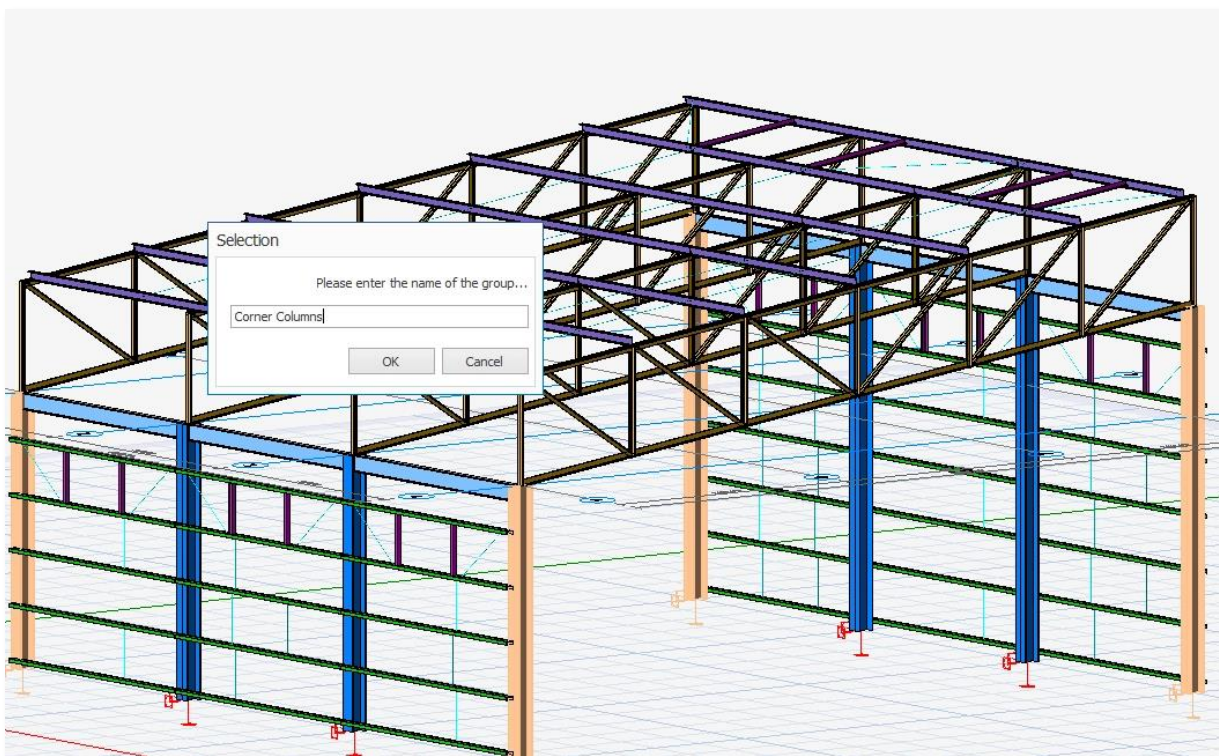


Member Grouping for Selection

Engineers can now create named selection groups and assign any combination of members to them. In large models, this dramatically speeds up amendments, verification, and change management — select all members in a group instantly with **Ctrl+G** rather than re-selecting them individually each time.

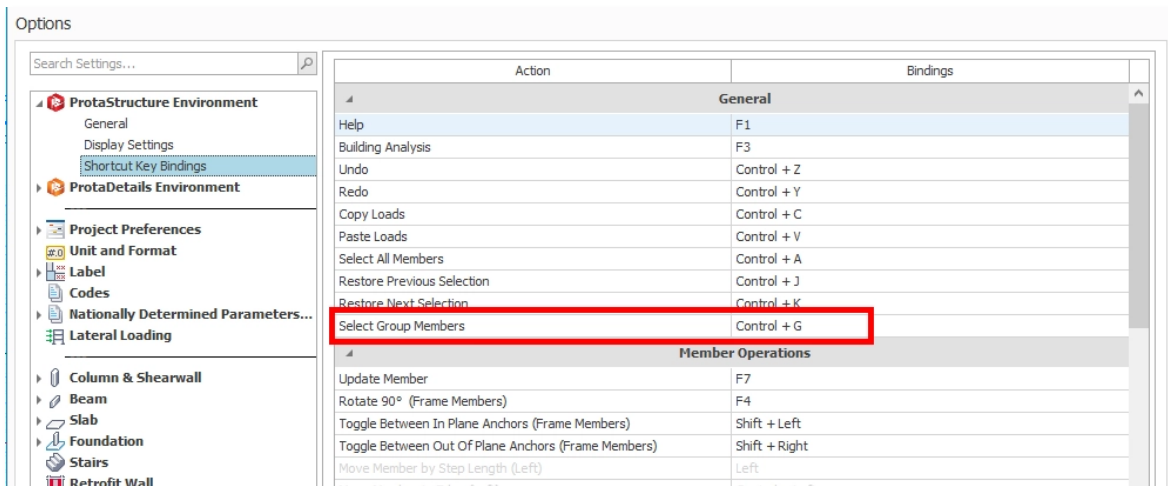
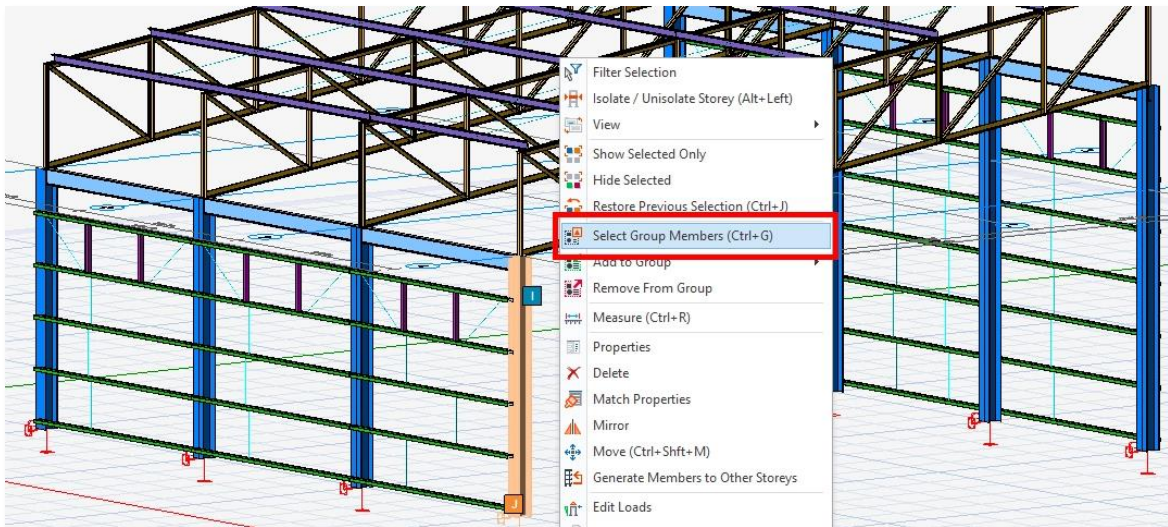


To create a group: select members on the arena > Right-Click (or Ribbon > Modelling Page) > Create New Group. Members can belong to multiple groups simultaneously.

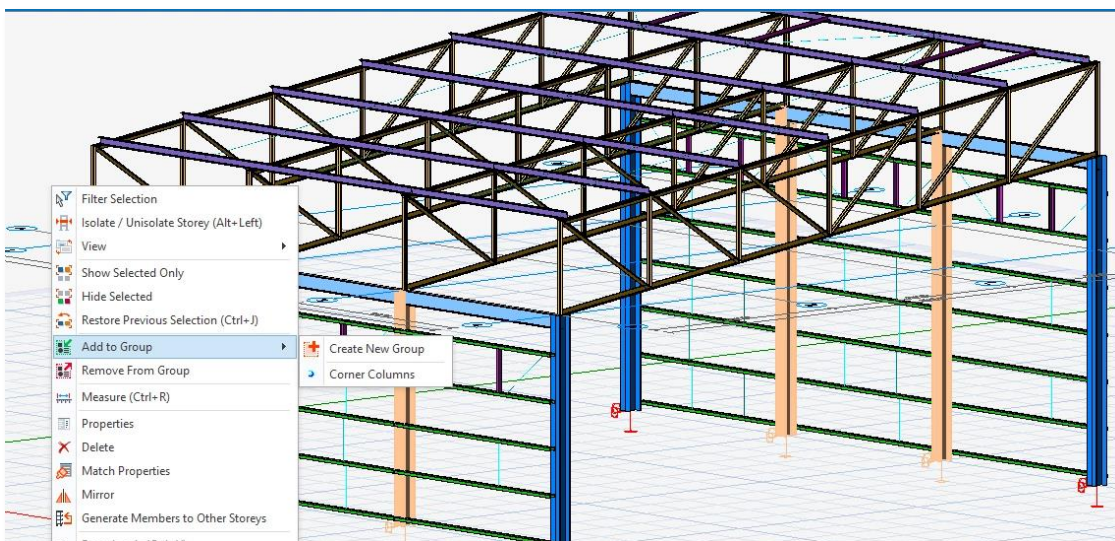


To Select all the members of a group of the selected member:
 Right Click > Select Group Members or Hit **"Ctrl+G"** (default key binding can be changed via Short Key Bindings Setting)



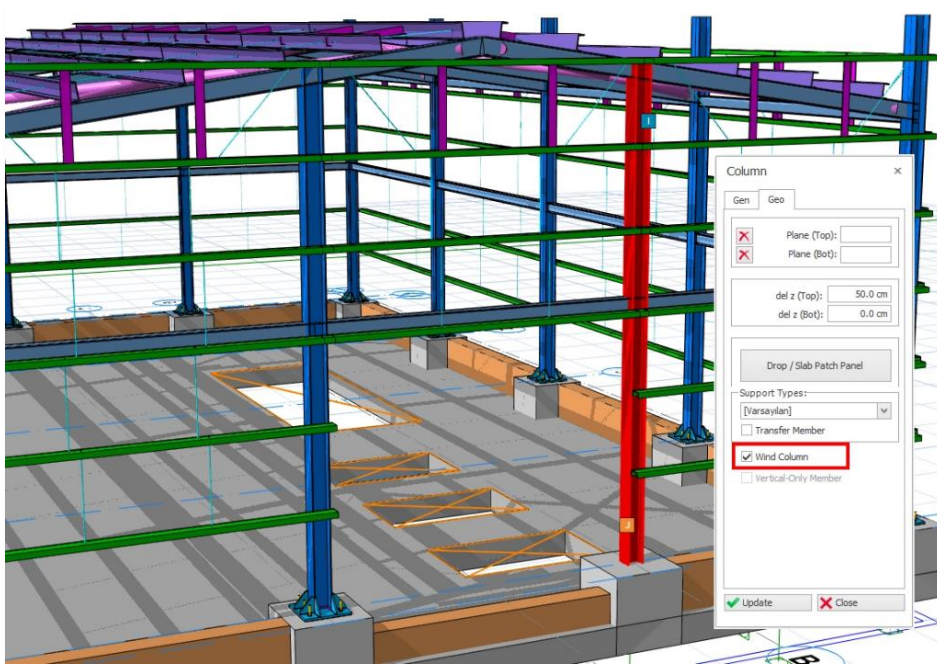


You can either add members to an existing group or create a new group for the selection...



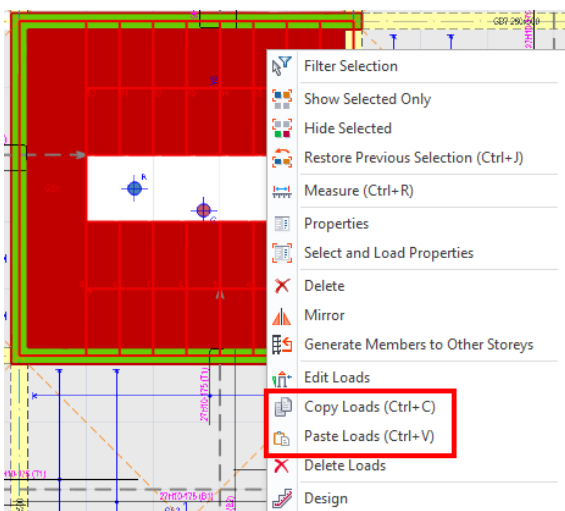
Wind Columns

A Wind Column option has been added to steel columns. When designated as a wind column, the member is designed only for vertical and wind loads — seismic forces are excluded. This enables accurate design of secondary structural elements that are not part of the lateral force-resisting system.

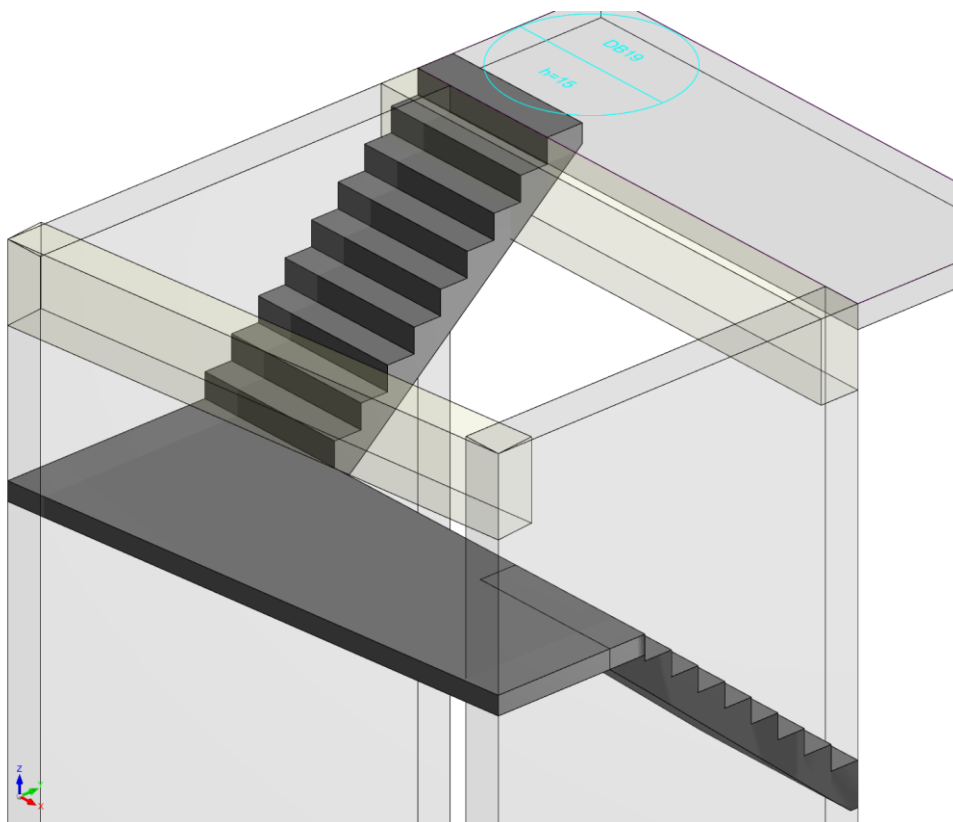
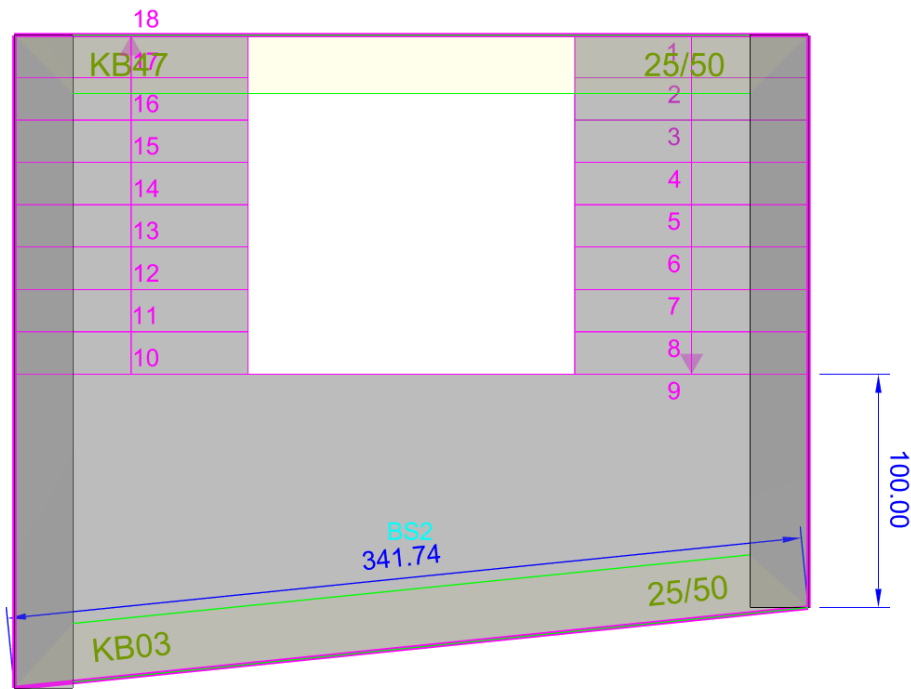


Staircase Modelling and Detailing Enhancements

Staircase loads can now be copied to other staircases, significantly reducing repetitive data entry when a project contains multiple identical stair configurations.



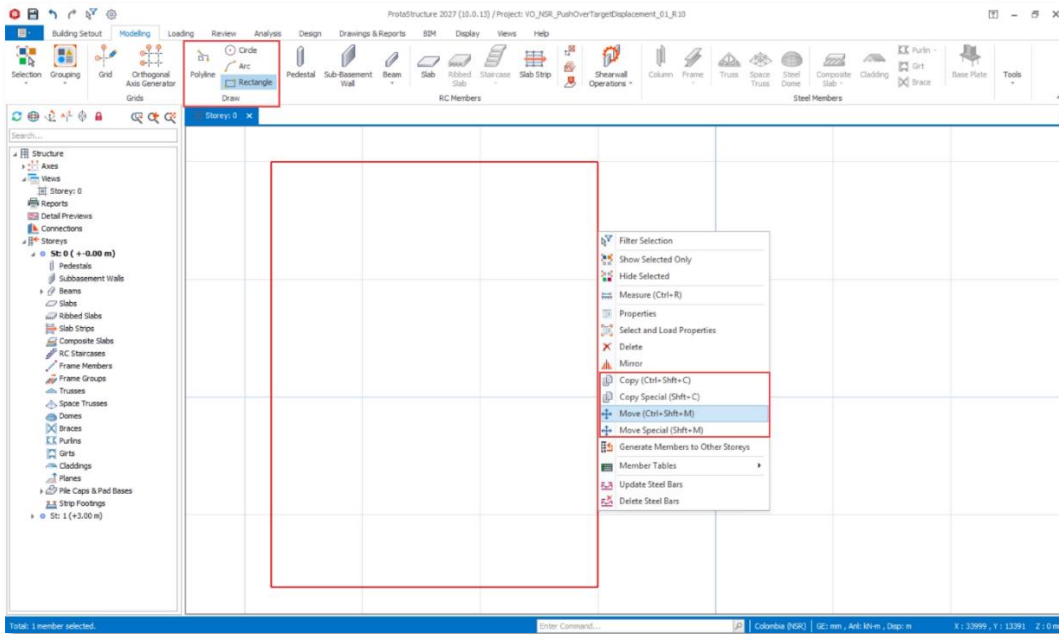
Non-orthogonal landing arrangements are now supported. Stair configurations with inclined and asymmetric landing boundaries can now be modelled and detailed more accurately.



Move and Copy Drawing Entities



Primitive drawing entities can now be copied in the drawing environment, streamlining sheet layout and annotation work and allowing engineers to quickly replicate drawing elements without redrawing from scratch.



Enhancements in Match Properties Command

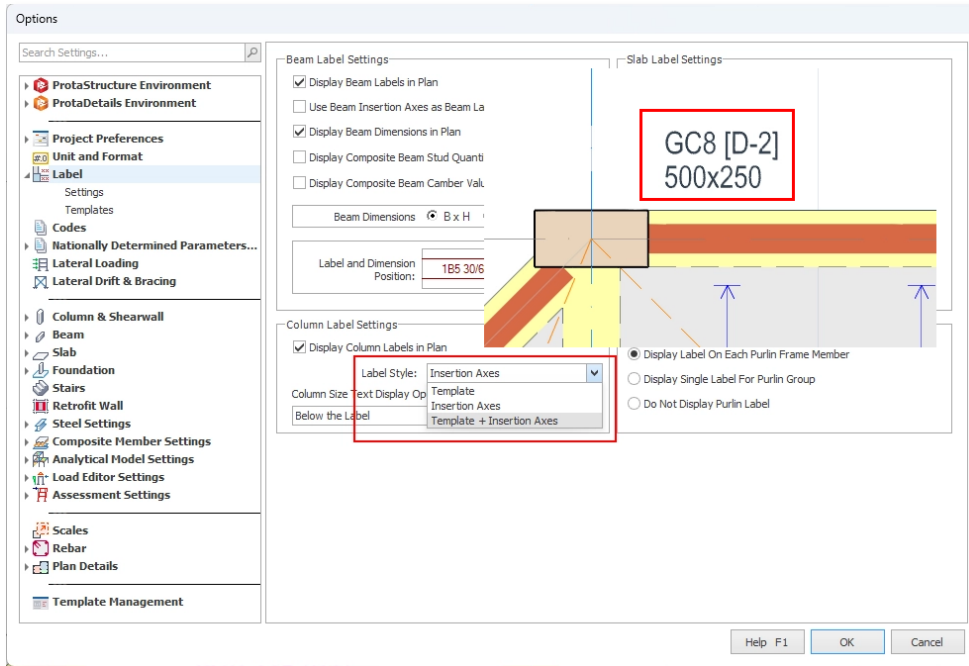
The Match Properties command has been extended to cover a broader range of member types and properties, including rib slabs, space trusses, domes, loads across all member types, del-z values, materials, splices, and alignment/offset properties.



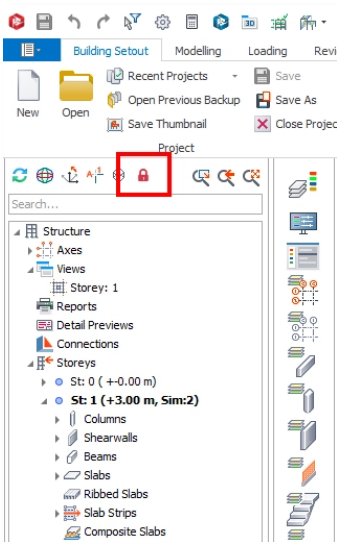
Other Productivity Improvements

A range of targeted improvements to the modelling environment enhance everyday productivity:

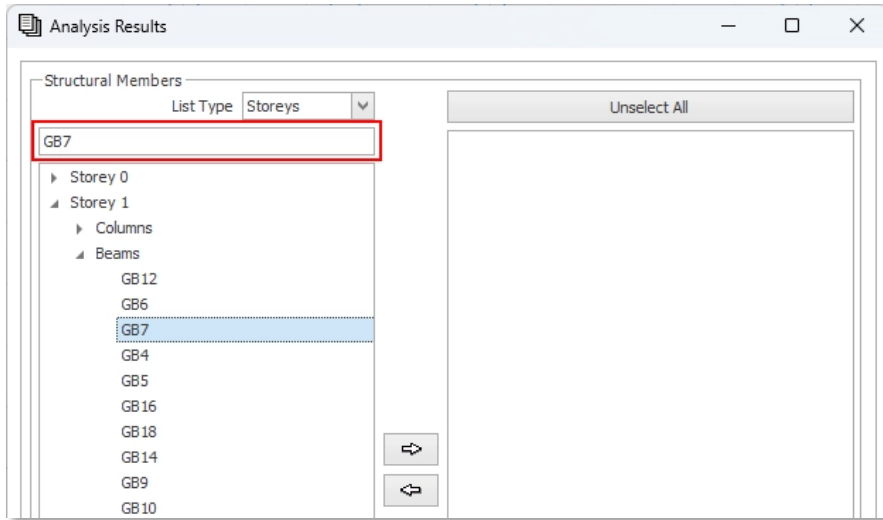
1. New option to display template label and insertion axes together as column plan labels



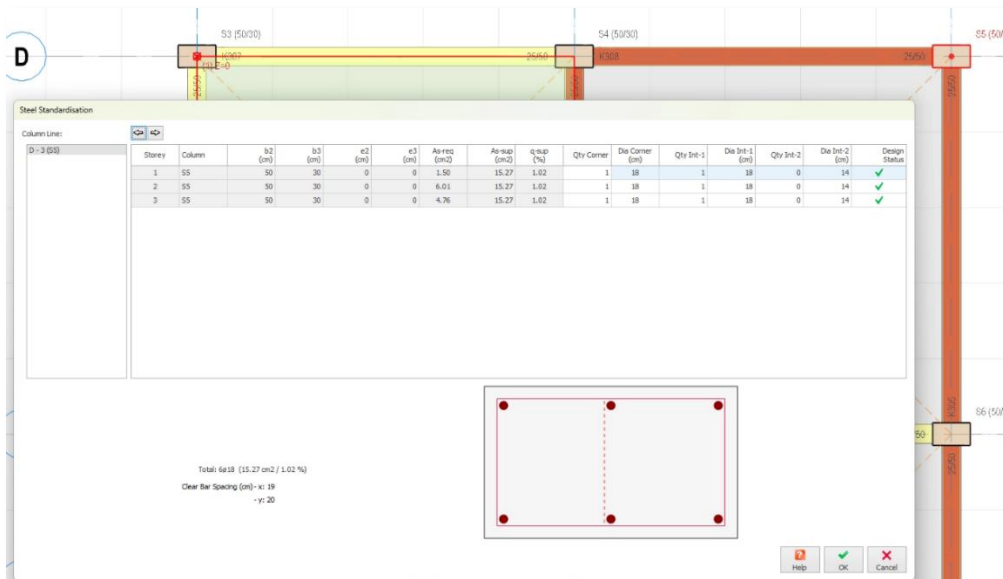
2. Structure Tree tracking can now be locked to avoid auto-scrolling in models with many axes



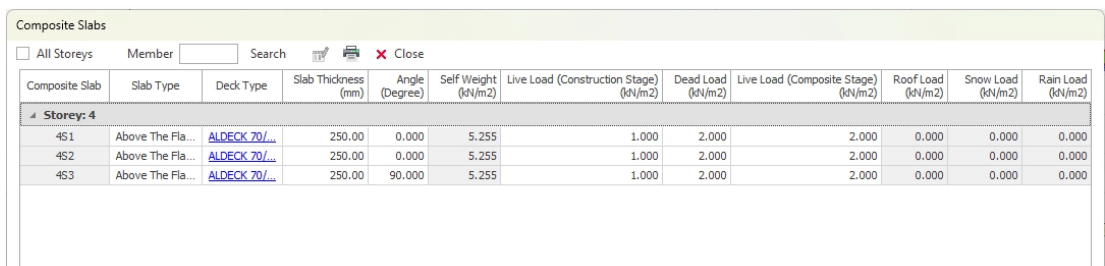
3. Search feature added to the Analysis Results Report



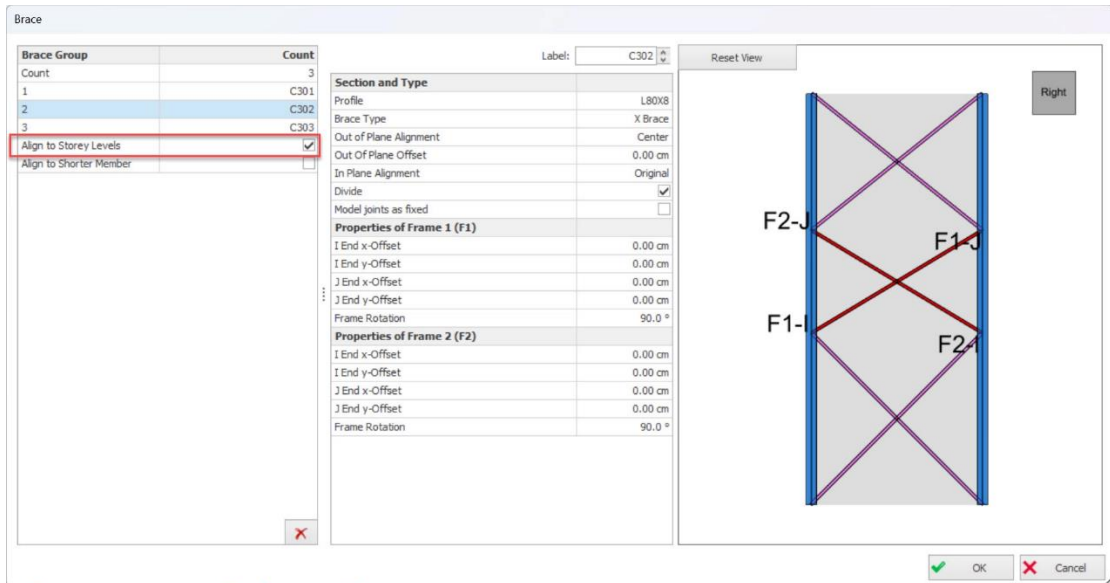
4. Steel Bar Optimization window is now modeless — switch between columns while the window stays open



5. Multiple composite slabs can now be edited simultaneously via the Member Table

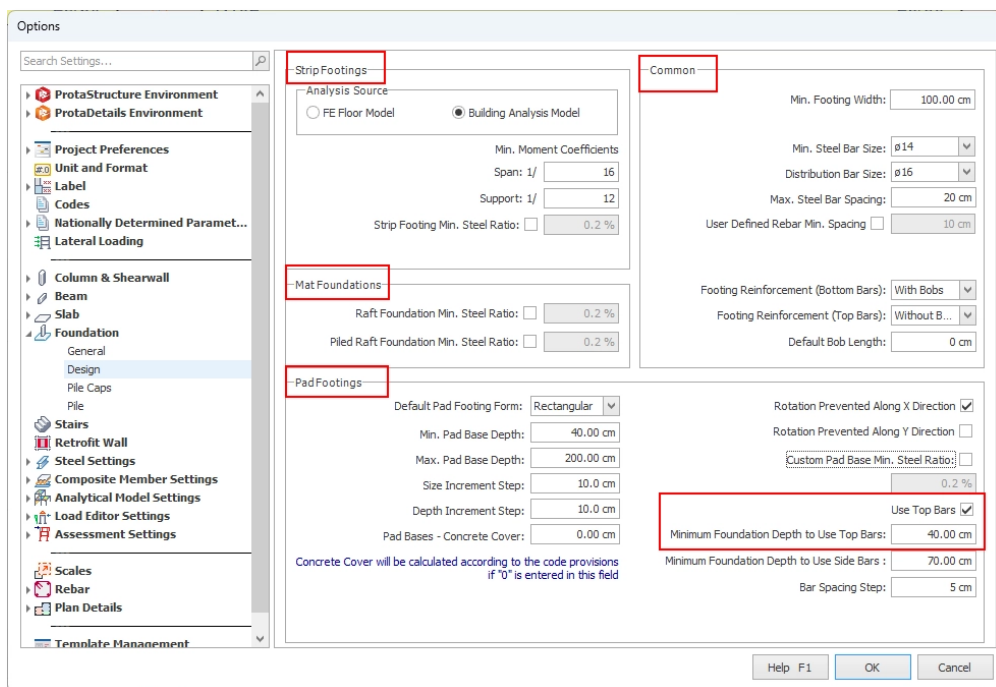


- "Align to Story Levels" option added to brace properties for vertical braces between story-transferred columns." This feature allows braces to automatically align with story levels for improved modeling consistency. It helps ensure more accurate and standardized vertical bracing definitions across stories.



Foundation Design Settings Enhancements

Foundation Design Settings have been reorganized and categorized by foundation type, making it easier to locate and adjust relevant parameters. A new Minimum Foundation Depth to Use Top Bars setting has been introduced for pad footings.



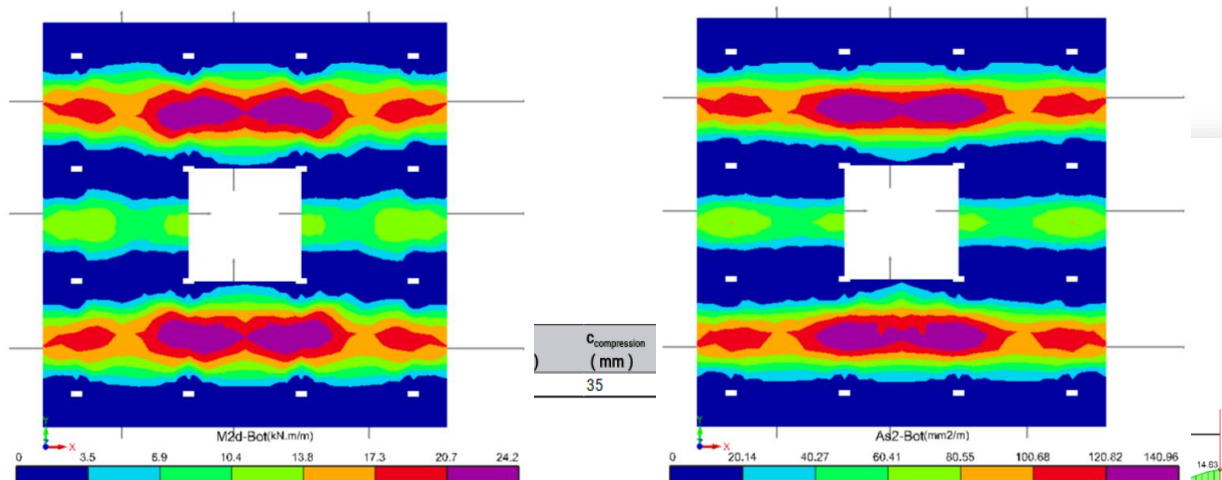


Report Improvements



RC Slab Detailed Design Report

A comprehensive slab design report has been introduced, including strip profile images with deflection/shear/moment values, detailed bending design and deflection check calculations with formulas and code clause references, and moment and steel bar area contours for finite element strips in flat slab systems.



Design Bending Moment	$M_u = 5.6 \text{ kN.m (Positive Moment)}$ Tension side bottom of the section.
Strength Reduction Factor	$\phi = 0.9$ (ACI-318 [2019], Table 21.2.1)
Ultimate Strain at Extreme Concrete Compression Fiber	$\epsilon_{cu} = 0.003$ (ACI-318 [2019], cl.R21.2.2.1)
Yield Strain of Longitudinal Reinforcement	$\epsilon_{fy} = 0.001$ (ACI-318 [2019], cl.21.2.2.1)
Net Tensile Strain for Tension-Controlled Section	$\epsilon_t = \epsilon_{fy} + \epsilon_{cu} = 0.004$ (ACI-318 [2019], Table 21.2.2)
Maximum Distance from Extreme Compression Fiber to Neutral Axis	$c_{max} = \epsilon_{cu} d / (\epsilon_{cu} + \epsilon_t) = 69 \text{ mm}$ (ACI-318 [2019], cl.22.2.1.2)
Factor of the Equivalent Rectangular Stress Block Depth	$\beta_1 = 0.85 - [0.05 (f'_c - 28)] / 7 = 0.836, 28 \text{ MPa} < f'_c < 55 \text{ MPa}$ (ACI-318 [2019], Table 22.2.2.4.3)
Equivalent Rectangular Compression Block Depth	$a = d - \sqrt{d^2 - 2 M_u / (0.85 f'_c \phi b_w)} = 1 \text{ mm}$
Maximum Allowable Equivalent Rectangular Compression Block Depth	$a_{max} = \beta_1 c_{max} = 58 \text{ mm}$ (ACI-318 [2019], cl.22.2.2.4.1)
	$a < a_{max}$ Tension-controlled section. Compression reinforcement is not required.
Required Area of Tension Reinforcement	$A_s = M_u / (\phi f_y (d - a / 2)) = 165 \text{ mm}^2$
Maximum Ratio of Reinforcement	$\rho_{max} = 0.039$ (ACI-318 [2019], cl.18.6.3.1)
Maximum Ratio of Reinforcement for Earthquake Resistant Structures	$\rho_{seismic,max} = 0.025$ (ACI-318 [2019], cl.18.6.3.1)
Maximum Area of Tension Reinforcement	$A_{s,max} = \text{Min} (\rho_{seismic,max}, \rho_{max}) b_w d = 4125 \text{ mm}^2$
Minimum Area of Tension Reinforcement	$A_{s,min} = \text{Min} [\text{Max} [0.25 \sqrt{f'_c} b_w d / f_y, 1.4 b_w d / f_y], 4/3 * A_s] = 330 \text{ mm}^2$ (ACI-318 [2019], cl.9.6.1.3)

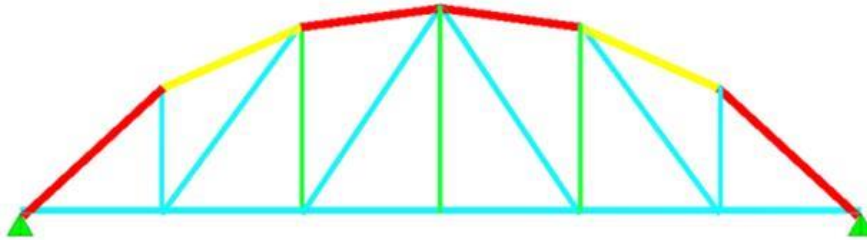


Truss Sketch in Truss Design Reports

Truss diagrams are now displayed directly in truss design reports. This enhancement improves report clarity by providing a visual representation alongside the calculation results.

Steel Truss Design

Steel Truss RT1

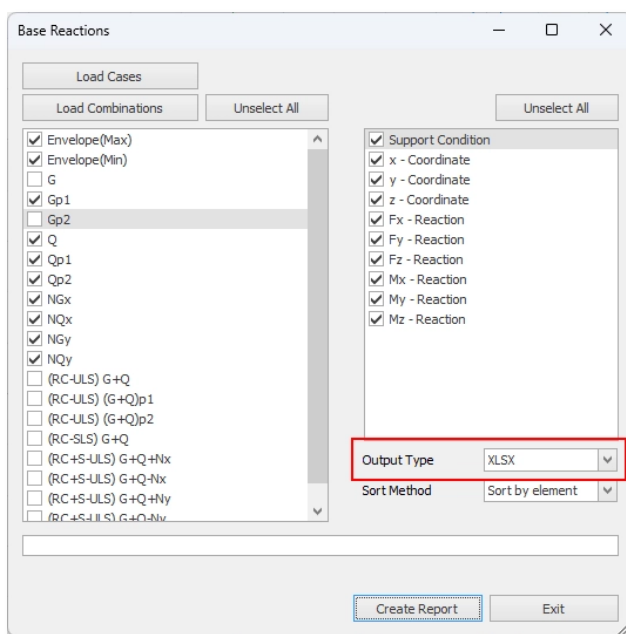
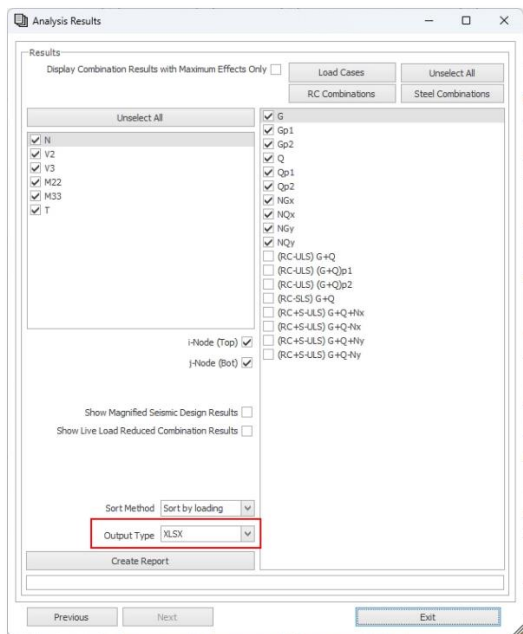


	Member	Section / Material	kL/r	Deflection	U. Ratio	Status	Governing Check
Top Chord	TC10	2xL 100x100x10-Gr1BB / S235	83 < 200 ✓	0.1 < 27.8 (L/360) ✓	2.273 ≥ 1.000	Fail X	(Combined)
	TC11	2xL 100x100x10-Gr1BB / S235	67 < 200 ✓	0.0 < 27.8 (L/360) ✓	0.823 < 1.000	Fail X	(Seismic Checks)
	TC12	2xL 100x100x10-Gr1BB / S235	62 < 200 ✓	0.0 < 27.8 (L/360) ✓	1.216 ≥ 1.000	Fail X	(Combined)
	TC13	2xL 100x100x10-Gr1BB / S235	62 < 200 ✓	0.0 < 27.8 (L/360) ✓	1.220 ≥ 1.000	Fail X	(Combined)
	TC14	2xL 100x100x10-Gr1BB / S235	67 < 200 ✓	0.0 < 27.8 (L/360) ✓	0.836 < 1.000	Fail X	(Seismic Checks)
	TC15	2xL 100x100x10-Gr1BB / S235	83 < 200 ✓	0.1 < 27.8 (L/360) ✓	2.256 ≥ 1.000	Fail X	(Combined)
Bottom Chord	BC16	2xL 80x80x8-Gr1BB / S235	209 ≥ 200!	0.4 < 27.8 (L/360) ✓	0.119 < 1.000	Fail X	(Seismic Checks)
Diagonal	D2	2xL 70x70x7-Gr1BB / S235	148 < 200 ✓		- 0.348 < 1.000	Fail X	(Seismic Checks)
	D4	2xL 70x70x7-Gr1BB / S235	157 < 200 ✓		- 0.112 < 1.000	Fail X	(Seismic Checks)
	D6	2xL 70x70x7-Gr1BB / S235	157 < 300 ✓		- 0.054 < 1.000	Fail X	(Seismic Checks)
	D8	2xL 70x70x7-Gr1BB / S235	148 < 200 ✓		- 0.215 < 1.000	Fail X	(Seismic Checks)
Vertical	V1	L 60x60x6 / S235	137 < 200 ✓		- 0.105 < 1.000	Fail X	(Seismic Checks)
	V3	L 60x60x6 / S235	187 < 200 ✓		- 0.689 < 1.000	Fail X	(Seismic Checks)
	V5	L 60x60x6 / S235	200 < 200 ✓		- 0.557 < 1.000	Fail X	(Seismic Checks)
	V7	L 60x60x6 / S235	187 < 200 ✓		- 0.622 < 1.000	Fail X	(Seismic Checks)



New Excel Export Options

Export to Excel has been introduced across a wide range of reports. Reports now exportable to Excel include **Analysis Results**, **Base Reactions**, **Column/Wall Design Forces**, **Beam and Column Rebar Tables**, and **Concrete/Formwork/Steel/Sheeting/Shear Stud Quantity Tables**.



Column/Wall Design Forces

	Column	Storey	Section	Combina	End	N (k N)	M22 (k N)	M33 (k N)	V2 (k N)	V3 (k N)
1										
2	GC6	1	500x250	1 G+Q	Bot	-775.87	-0.67	-20.01	21.71	0.69
3	GC6	1	500x250	1 G+Q	Top	-762.75	1.41	45.11	21.71	0.69
4	GC6	1	500x250	2 (G+Q)p1	Bot	-612.33				
5	GC6	1	500x250	2 (G+Q)p1	Top	-599.20				
6	GC6	1	500x250	3 (G+Q)p2	Bot	-633.42				
7	GC6	1	500x250	3 (G+Q)p2	Top	-620.29				
8	GC6	1	500x250	4 G+Q	Bot	-541.76				
9	GC6	1	500x250	4 G+Q	Top	-532.39				
10	GC6	1	500x250	5 G+Q+Nx	Bot	-649.64				
11	GC6	1	500x250	5 G+Q+Nx	Top	-638.39				
12	GC6	1	500x250	6 G+Q-Nx	Bot	-650.59				
13	GC6	1	500x250	6 G+Q-Nx	Top	-639.34				
14	GC6	1	500x250	7 G+Q+Ny	Bot	-650.75				
15	GC6	1	500x250	7 G+Q+Ny	Top	-639.50				
16	GC6	1	500x250	8 G+Q-Ny	Bot	-649.47				
17	GC6	1	500x250	8 G+Q-Ny	Top	-638.22				
18										
19										
20										
21										

Column/Wall Design Forces

List Options:

- List All Columns
- List Only Columns of Foundation Level

Loading Options:

- Load Combinations
- Load Cases

Upper End Effects
 Lower End Effects
 Both

List Vertical Load Cases
 List Pattern Loads
 List Horizontal Load Cases

List Moments
 List Shear Forces

Show Magnified Seismic Design Results
 Show Live Load Reduced Combination Results

Skip Line

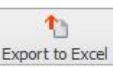
The report will contain the members as filtered and sorted in the Column/Wall Design Table.

Quantity Take-Off Reports

Concrete and Formwork Quantity Reports can now be filtered by storey. All quantity reports can be exported to Excel.


Quantity Tables


Storey	Beam	Column	Shearwall	Slab	Rib Slab	Blocks	Foundations	Staircases	Retrofit Wall	Jackett	Pile
Material: C25											
Foundation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	-42.619	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	-42.619	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	0.000	0.000	-85.239	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Material: C40											
Foundation	0.000	0.000	0.000	695.759	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	66.229	118.650	79.604	126.777	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	92.933	118.650	34.123	86.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	1.763	8.232	9.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	1.763	10.290	12.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	2.098	10.878	12.766	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	164.787	266.700	148.231	908.742	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Material: Lean Concrete											
Foundation	0.000	0.000	0.000	103.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000



Storey Filter: Foundation, 1, 2, 3, 4, 5, ...

Total Concrete: 1506.4 m3





(Select All)
 Foundation
 1
 2
 3
 4
 5
 X



Steel member quantities are now broken down by member type.

The screenshot shows the 'Quantity Extraction Tables' dialog box with the following options:

- Concrete Quantity Table
- Formwork Quantity Table
- Steel Quantity Table
- Sheeting Quantity Table
- Shear Stud Quantity Table
- Steel Quantity Table (By Member Type)

The main 'Quantity Tables' window displays the following data:

Member Type	Total Length (m)	Total Weight (t)
Storey: 3		
Column	0	0
Frame Member	0	0
Brace	0	0
Purlin / Girt	21.3	0.229
Truss	0	0
Space Truss	0	0
Dome	0	0
Primary Composite Beam	235.6	9.176
Storey Total		9.4
Storey: 4		
Column	0	0
Frame Member	3.1	0.076
Brace	0	0
Purlin / Girt	28.4	0.305
Truss	0	0
Space Truss	0	0
Dome	0	0
Primary Composite Beam	235.6	9.176
Storey Total		9.56
Storey: 5		
Column	101.3	7.736
Frame Member	72.13464	2.527
Brace	0	0
Purlin / Girt	388.3	4.177
Truss	0	0
Space Truss	0	0
Dome	0	0
Primary Composite Beam	0	0
Storey Total		14.44
Storey: 6		
Column	57.3568	4.379
Total Steel:		51.74 t

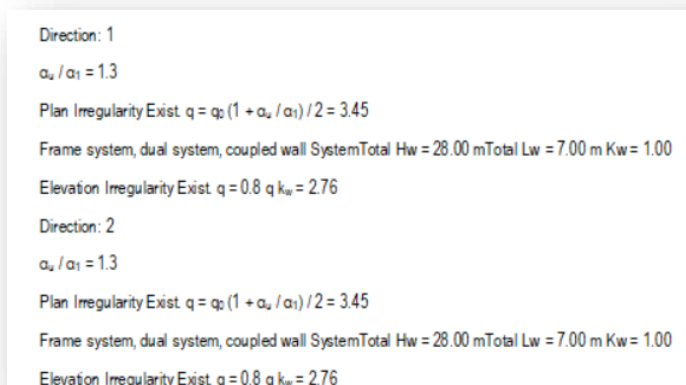
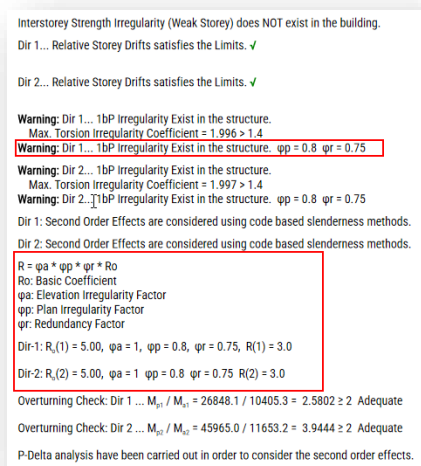
Retrofit wall, column jacket, and pile quantities have separate columns in the quantity tables.

The screenshot shows the 'Quantity Tables' window with the following data:

Storey	Beam	Column	Shearwall	Slab	Rib Slab	Blocks	Foundations	Staircases	Retrofit Wall	Jackett	Pile
Material: C25											
Foundation	0.000	0.840	0.919	38.400	0.000	0.000	0.000	0.000	0.919	0.455	0.000
1	4.506	3.600	3.938	8.123	0.000	0.000	0.000	0.000	3.938	1.950	0.000
Total	4.506	4.440	4.856	46.523	0.000	0.000	0.000	0.000	4.856	2.405	0.000
Material: Lean Concrete											
Foundation	0.000	0.000	0.000	11.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Concrete:				78.717 m3							

Improved Post-Analysis Report: Behaviour Factor and Eccentricity

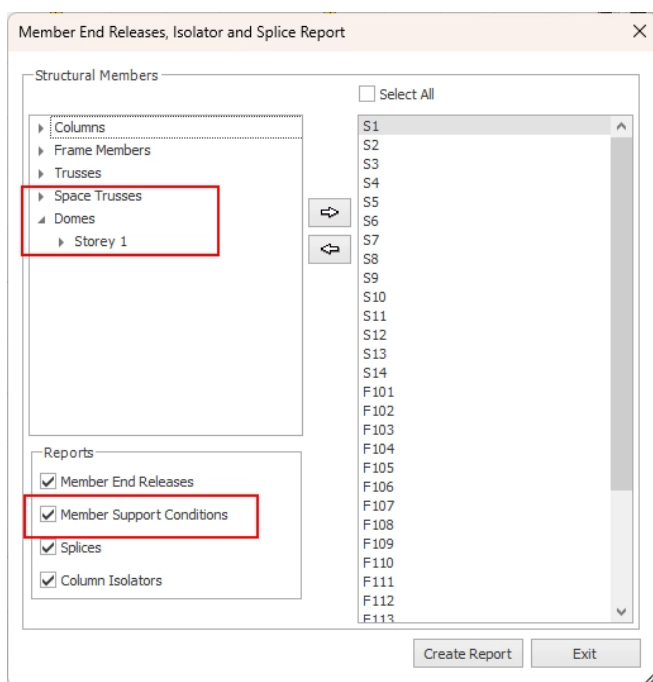
The post-analysis report has been enhanced to better communicate behaviour factor and eccentricity calculations for all seismic codes, providing clearer traceability from input parameters to code-compliance verification.



Additional Elements in Member

Property Report

Space trusses, domes, and frame groups are now listed in Member Property Assignment Reports, with Member Support Conditions also added.



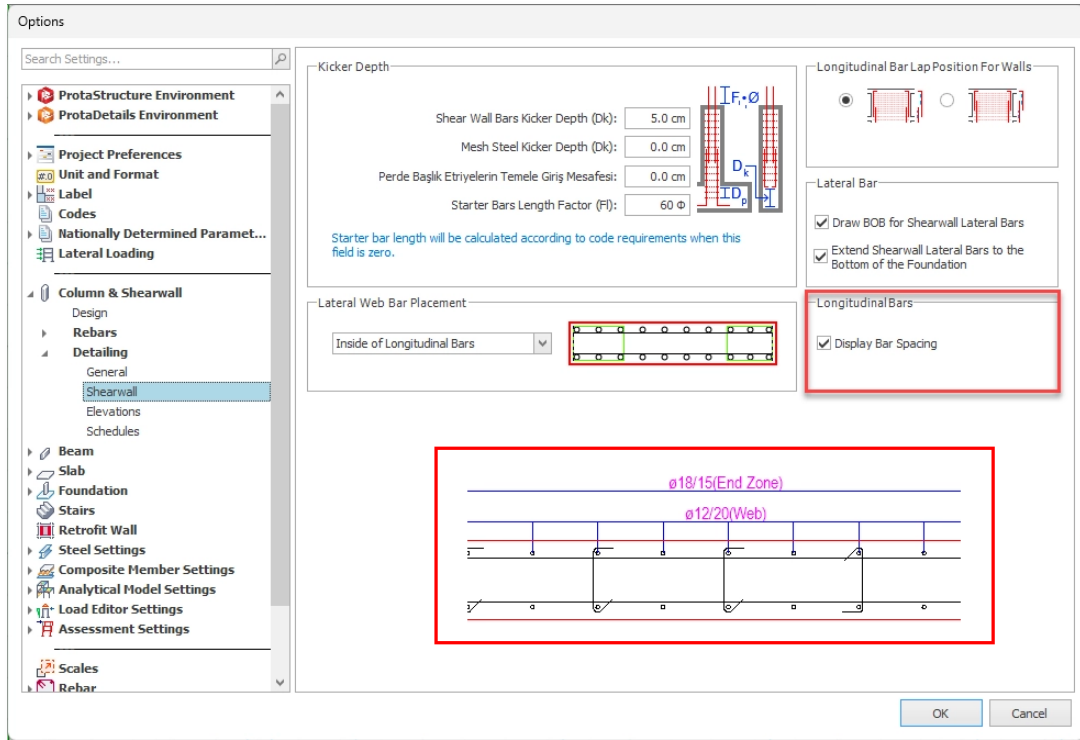
RC Detailing Improvements



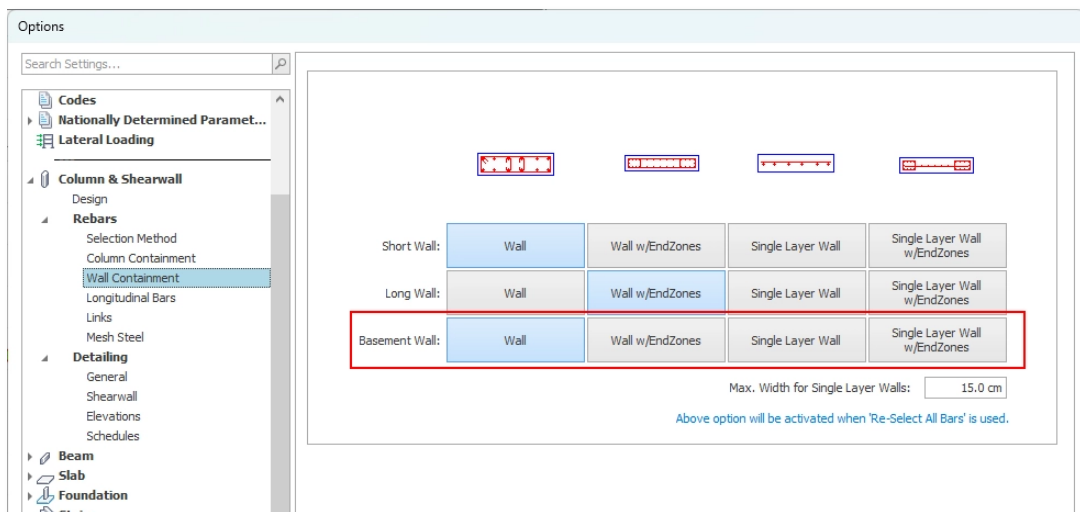
Shearwall Detailing Enhancements

Several targeted improvements have been made to shearwall detailing:

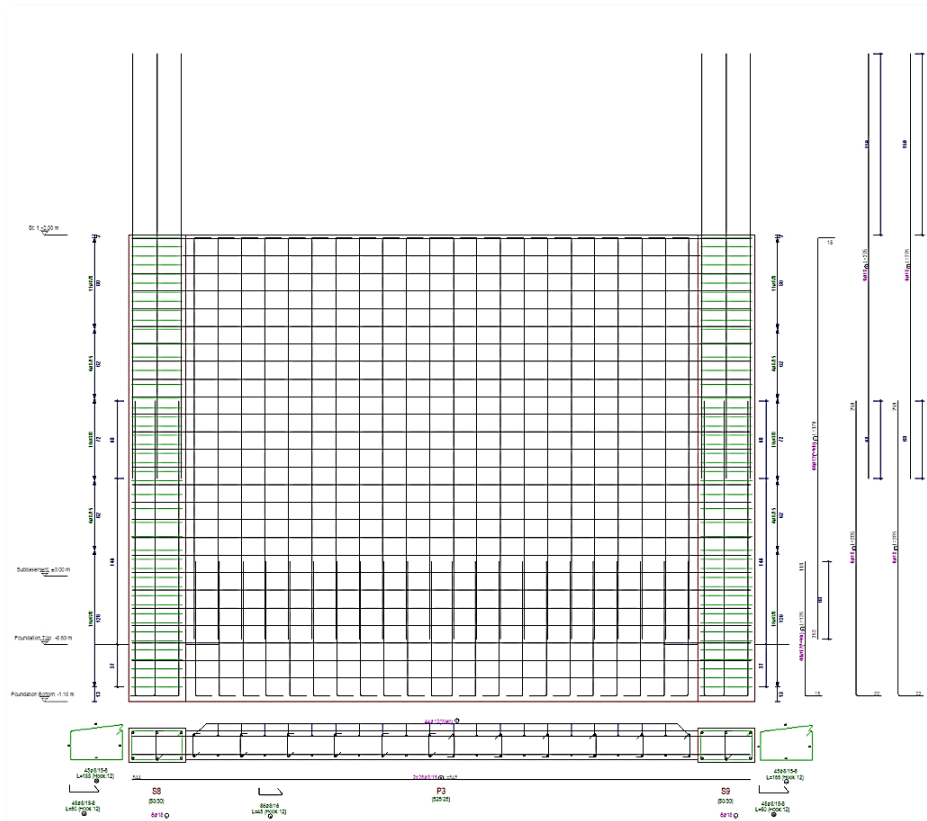
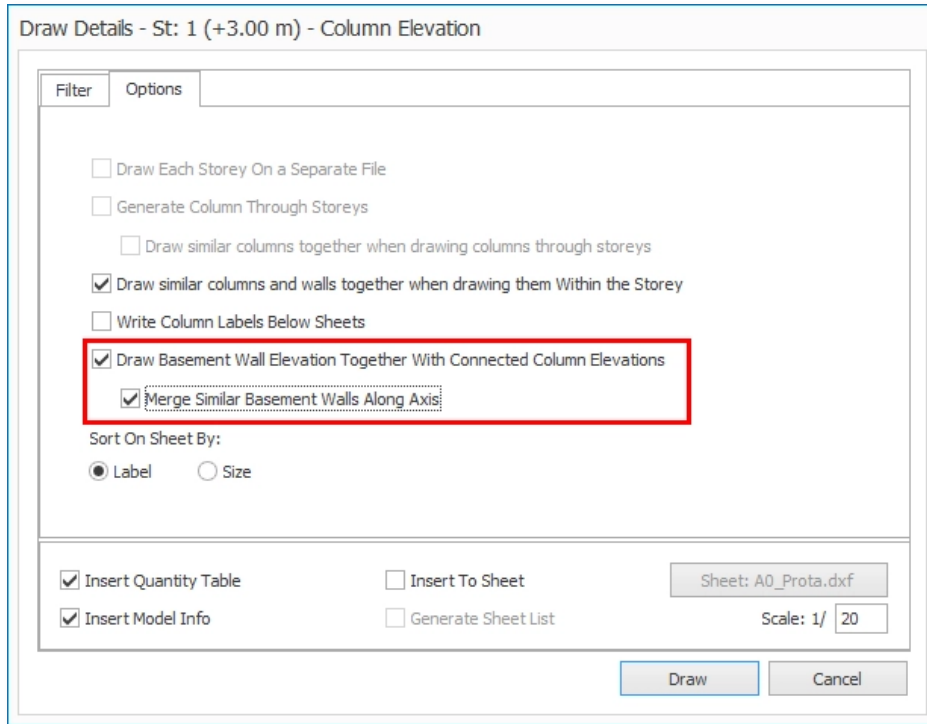
1. Per-spacing labeling: a new 'Display Bar Spacing' setting shows longitudinal bar labels as diameter/spacing rather than quantity and diameter



2. Separate containment settings for basement walls, aligning detailing correctly for merged wall and column details at basement level

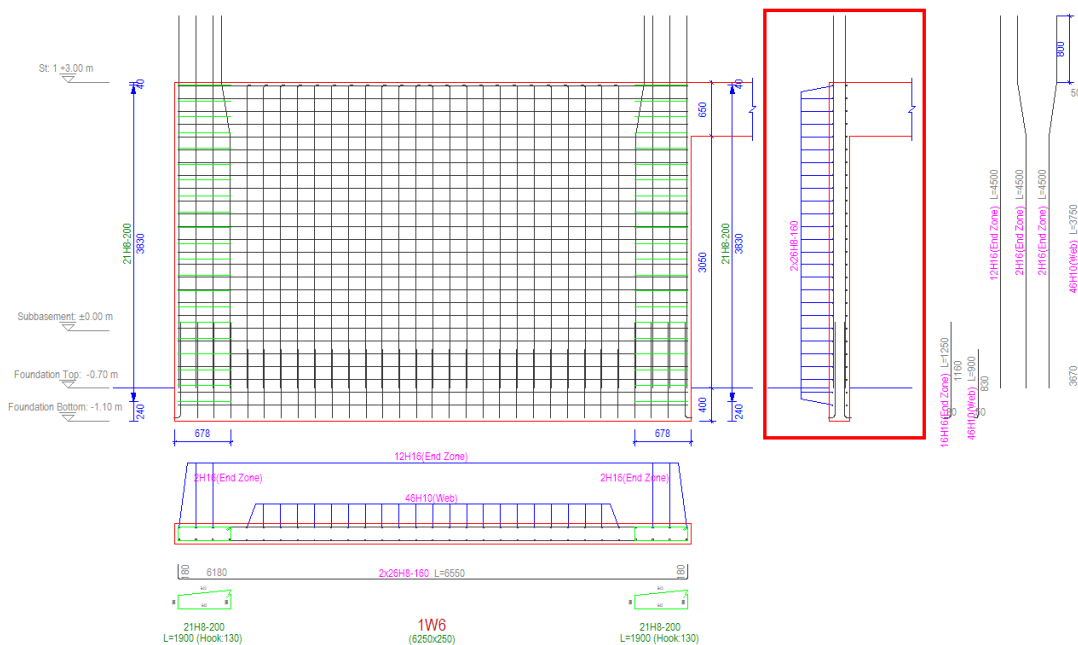
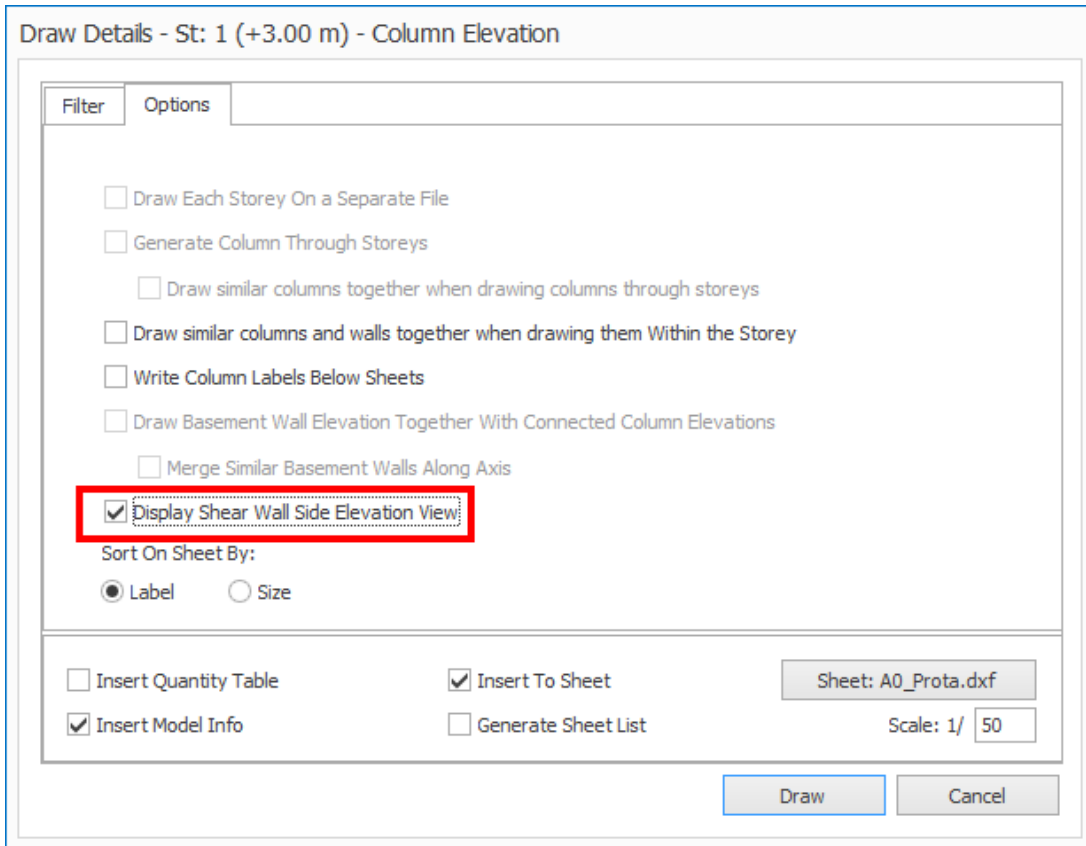


- Basement wall elevations can now be drawn alongside connected column elevations and merged along the axis.



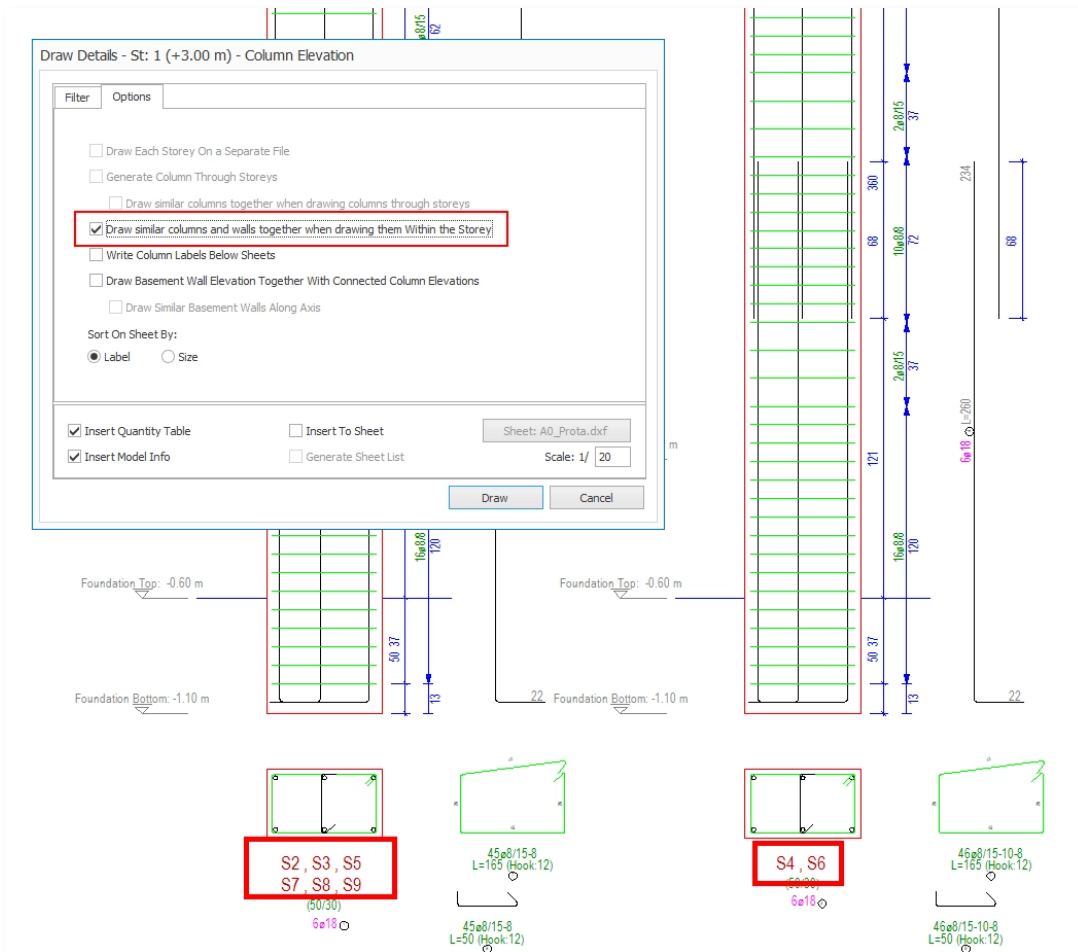


4. Shearwall elevations can now be drawn with narrow side view displayed.



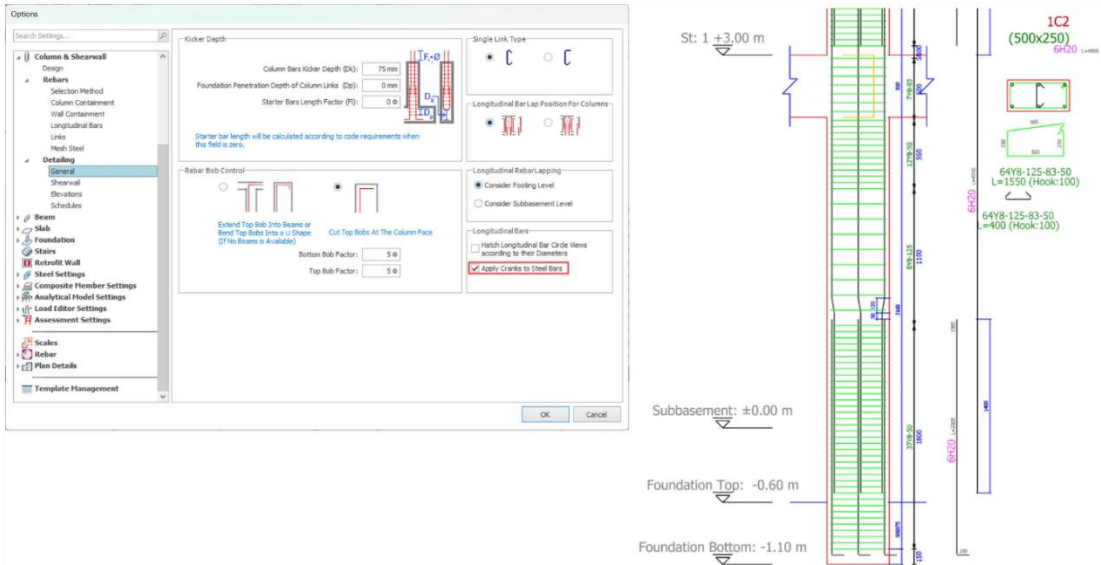
Grouping Similar Column Details

Similar columns and walls within a storey can now be represented together in a single elevation detail, saving sheet space. The quantity take-off automatically accounts for the grouping.



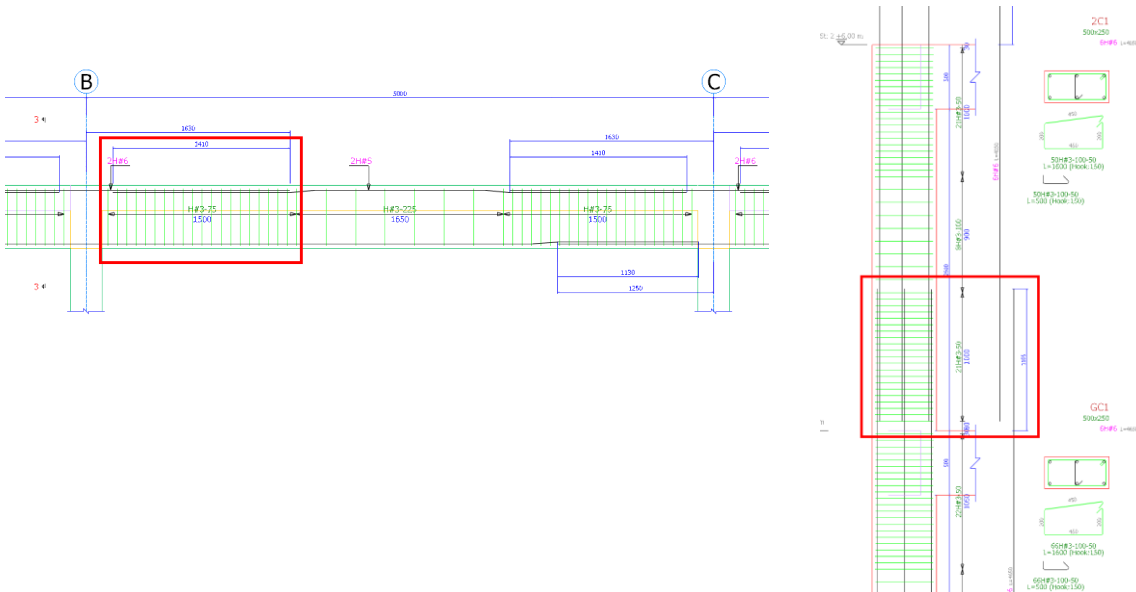
Draw Cranks in Lap Zones of Column Elevation Drawing

A new option applies cranks to column elevation rebar laps — a commonly required detailing practice in Europe and India where lapped bars at floor levels must show the crank geometry explicitly in the elevation drawing.



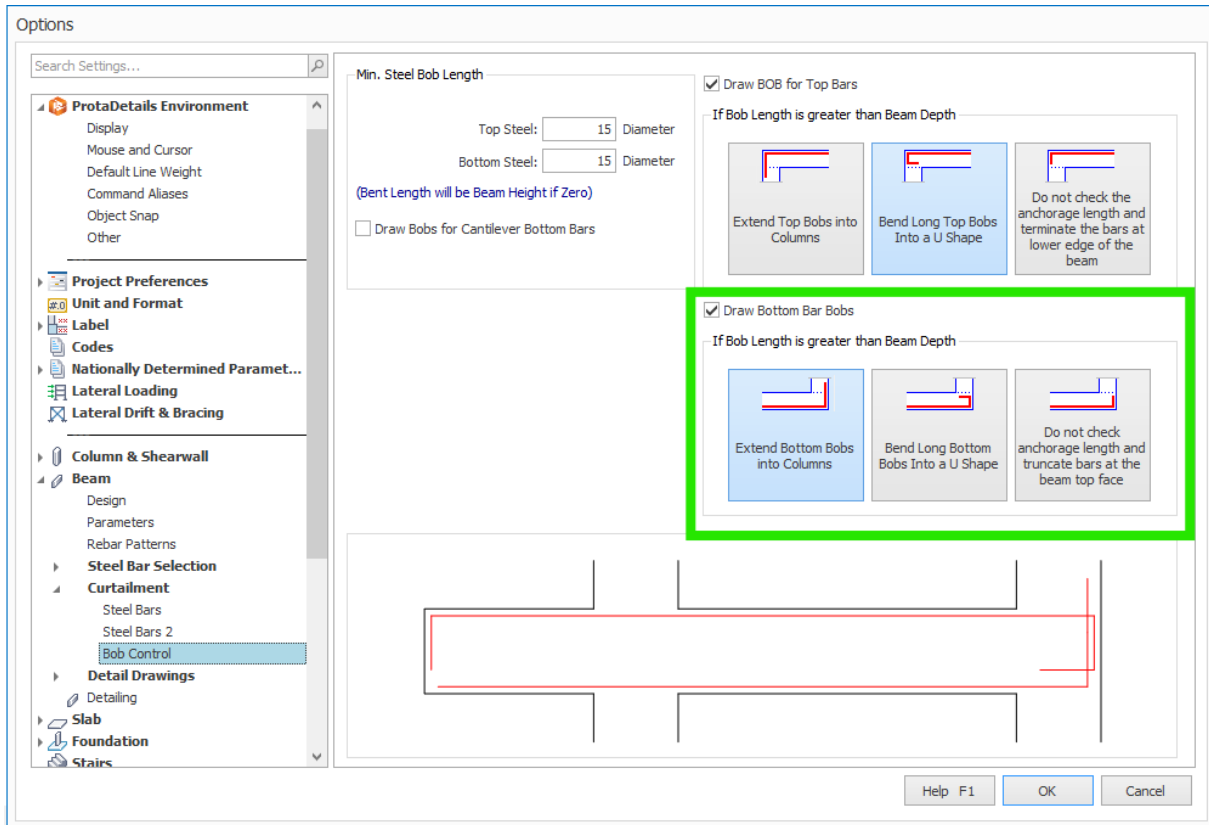
Confinement Along Beam and Column Splices

Confinement reinforcement along beam and column splice regions is now automatically detailed in accordance with applicable code requirements, ensuring correct transverse reinforcement is provided in splice zones for US Code and South American projects.



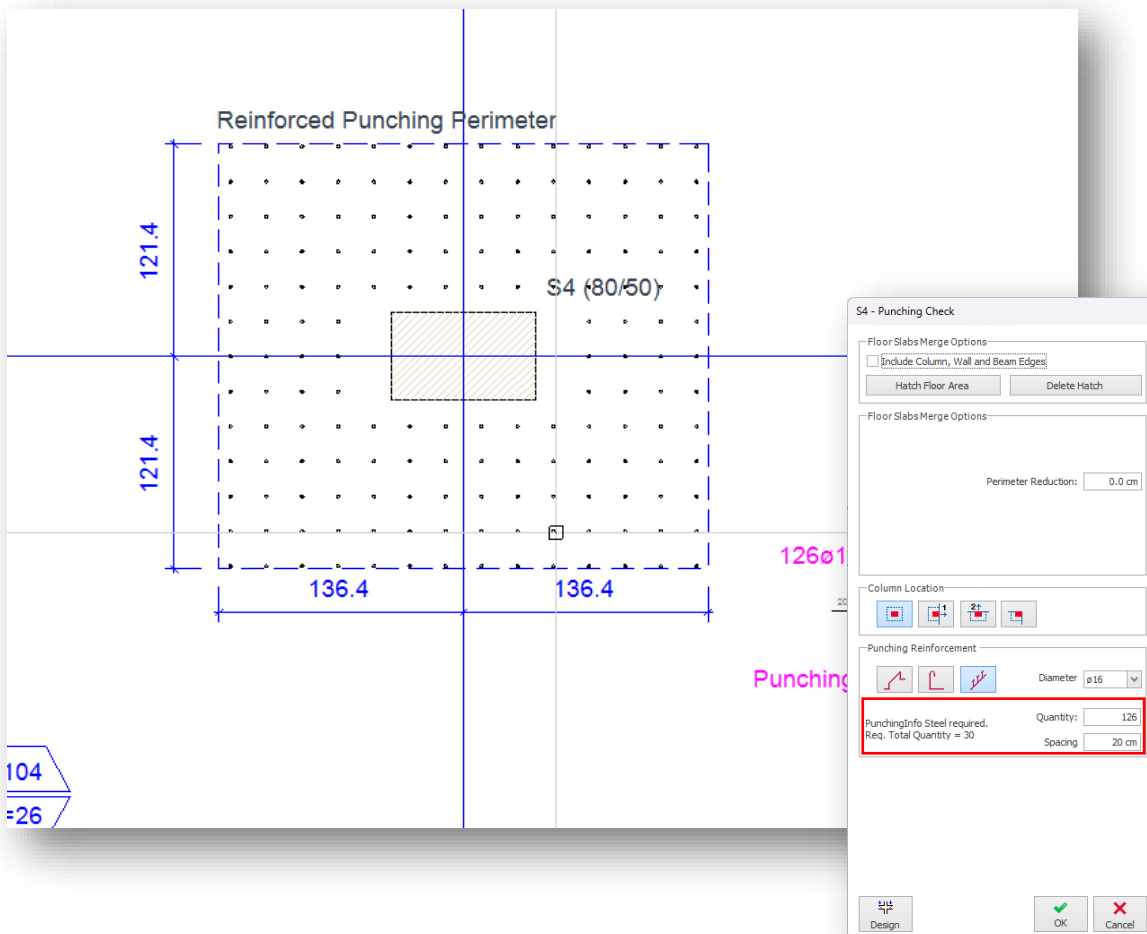
Full Anchorage Length for Beam Bottom Bar

Bottom bar anchorage options are now available for cases where bob length is greater than beam depth. This allows anchorage definitions to be applied even when the bob length exceeds the beam depth.



Punching Reinforcement Detailing

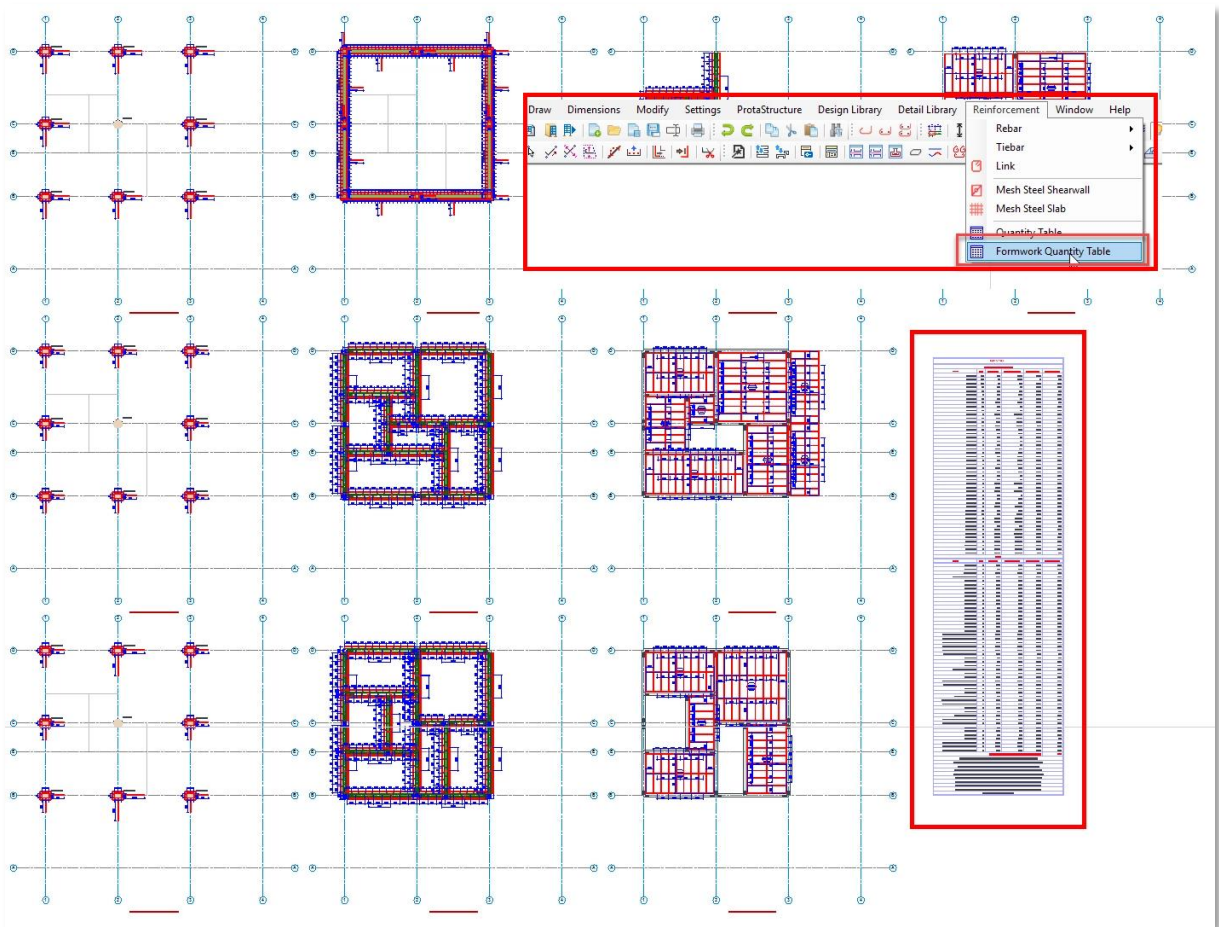
Punching Reinforcement requirements are calculated according to the code standards and required vs. provided reinforcement area is printed on the reports. Users now have control over the quantity and spacing of the selected punching reinforcement. Full detail drawing generation is available in ProtaDetails. All three types of punching reinforcement can be drawn and included in the quantity take off.



Formwork Scaffold Quantity Take-Off Command

ProtaDetails now includes a dedicated take-off command for formwork scaffolds. Select a region on the drawing containing formwork applications and details, and a cumulative quantity take-off table is automatically generated.





Manual Override for Column-Beam Joint-Region Link Spacing

Two new settings allow manual override of the column-beam joint region link spacing, giving engineers precise control over joint region detailing where the automatically calculated spacing needs to be adjusted.

Donatılar Etriyeler Etriye Hesabı Narinlik Ayarlar

Kesme Hesabı:

	Yön2	Yön3
Vd* ϕ D	4.398	1.583
Vc	0.000	0.000
Ve	9.541	3.540

Etriye Düzeltildi

Orta: ϕ 8 / 15 cm

Sarıma: ϕ 8 / 8 cm

Birleşim: ϕ 8 / 10 cm

Etriye Kol Adedi -2: 2

-3: 3

Hesapla

C25 / B420C

No	N (t)	M22 (t.m)	M33 (t.m)	V2 (t)	V3 (t)	Etiket
1-Üst	14.612	-0.35	-0.54	-0.460	-0.258	1.4G+1.6Q
-Alt	1.049	0.02	-0.06	0.120	-0.033	
2-Üst	14.612	-0.35	-0.54	-0.460	-0.258	1.4G+1.6Qs1
-Alt	1.049	0.02	-0.06	0.120	-0.033	
3-Üst	14.612	-0.35	-0.54	-0.460	-0.258	1.4G+1.6Qs2
-Alt	1.049	0.02	-0.06	0.120	-0.033	
5-Üst	12.166	-0.50	-1.46	-3.796	-0.757	Gc+Qc+0.3Ez+Ex
-Alt	1.058	0.14	0.11	-0.614	-0.661	++0.3Ey-
6-Üst	12.273	0.01	0.83	3.227	0.388	Gc+Qc+0.3Ez-Ex
-Alt	1.057	-0.09	-0.25	0.916	0.567	+0.3Ey-
7-Üst	12.181	-0.56	-1.65	-4.398	-0.918	Gc+Qc+0.3Ez+Ex
-Alt	1.064	0.13	0.12	-0.663	-0.616	+0.3Ey+
8-Üst	12.257	0.08	1.03	3.829	0.549	Gc+Qc+0.3Ez-Ex
-Alt	1.051	-0.08	-0.27	0.965	0.521	-0.3Ey+
9-Üst	12.220	-0.82	-1.01	-2.415	-1.583	Gc+Qc+0.3Ez+0.3Ex
-Alt	1.082	0.28	0.02	-0.241	-1.453	-+Ey+
10-Üst	12.218	0.34	0.39	1.846	1.213	Gc+Qc+0.3Ez-0.3Ex
-Alt	1.033	-0.74	-0.17	0.544	1.359	-+Ey+

Kullanım Oranı = 0.1

Tümünü Seç/Segme

Kuvvetli Kolon Kontrolü yapılmamış. Doğru kesme hesabı için önce bu kontrolü yapın. (TBDY 2018 - Madde 7.3.7.2)

PROTASTEEL 2027 — New Features

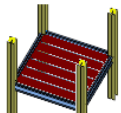


New Macros

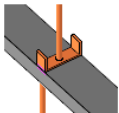
1- Handrail Post Connection Types

Two new handrail connection macros have been added to simplify the modeling of post connections. **The Simple Connection for Posts** macro provides a straightforward and efficient solution for standard post-to-member connections, while the **Removable Connection for Posts** macro creates a bolted connection that allows posts to be easily removed when required for maintenance, transportation, or site installation. These new macros help engineers model common handrail details more quickly and consistently.

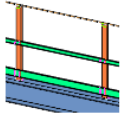
▼ Ancillary Steelwork



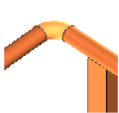
Floor Modeller



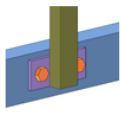
Sag Rod Connection



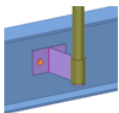
Handrail



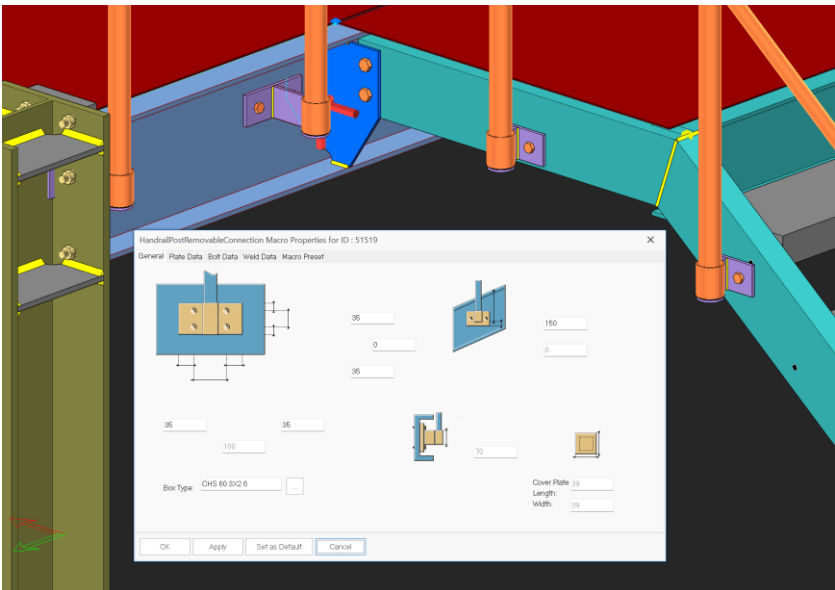
Handrail Connection



Simple Connection for Posts

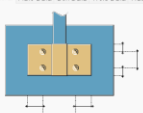


Removable Connection for Posts



HandrailPostRemovableConnection Macro Properties for ID: 51519


General Plate Data Bolt Data Weld Data Macro Preset



35


0

35



150


0




35

100

35



70



Box Type: CHS 60.8x2.6

Cover Plate (mm)

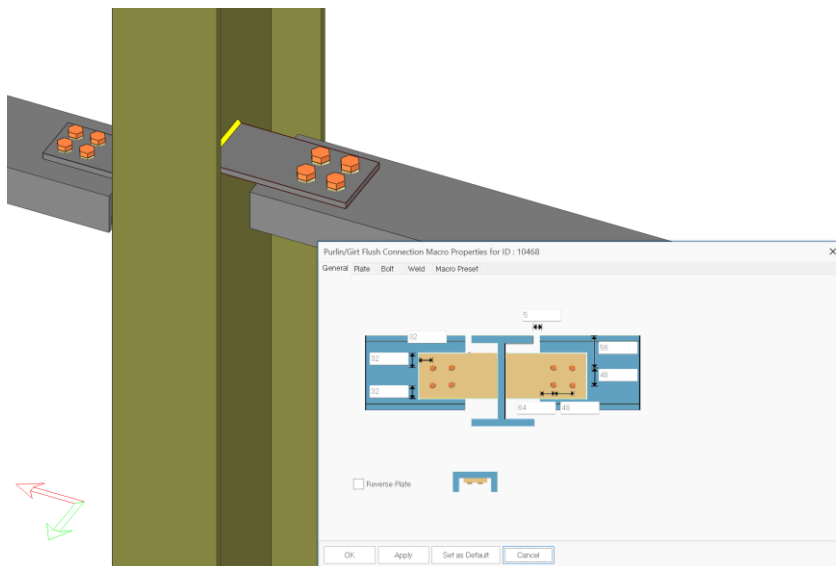
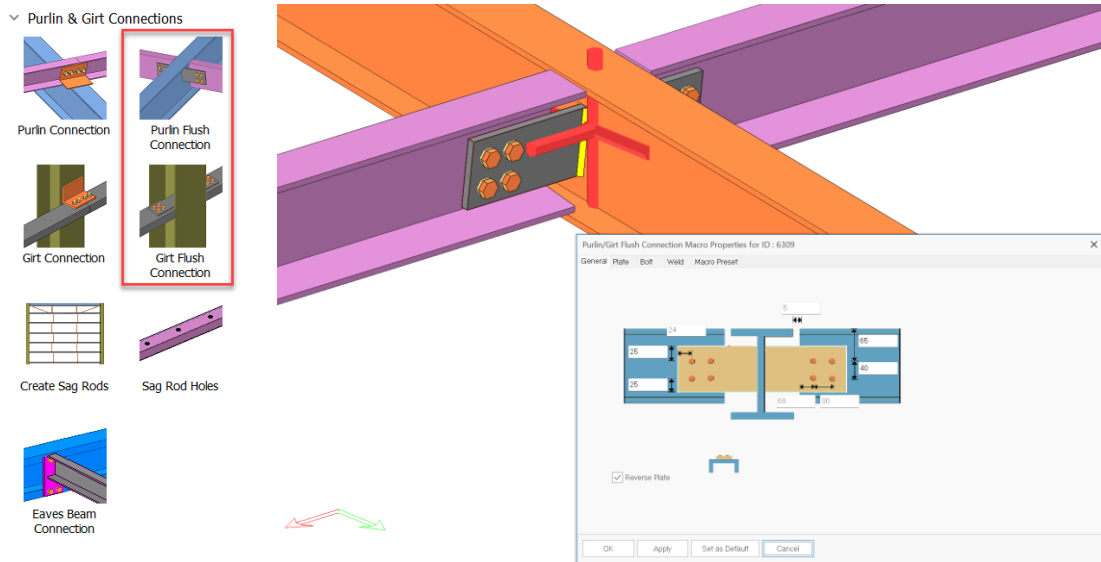
Length:

Width:



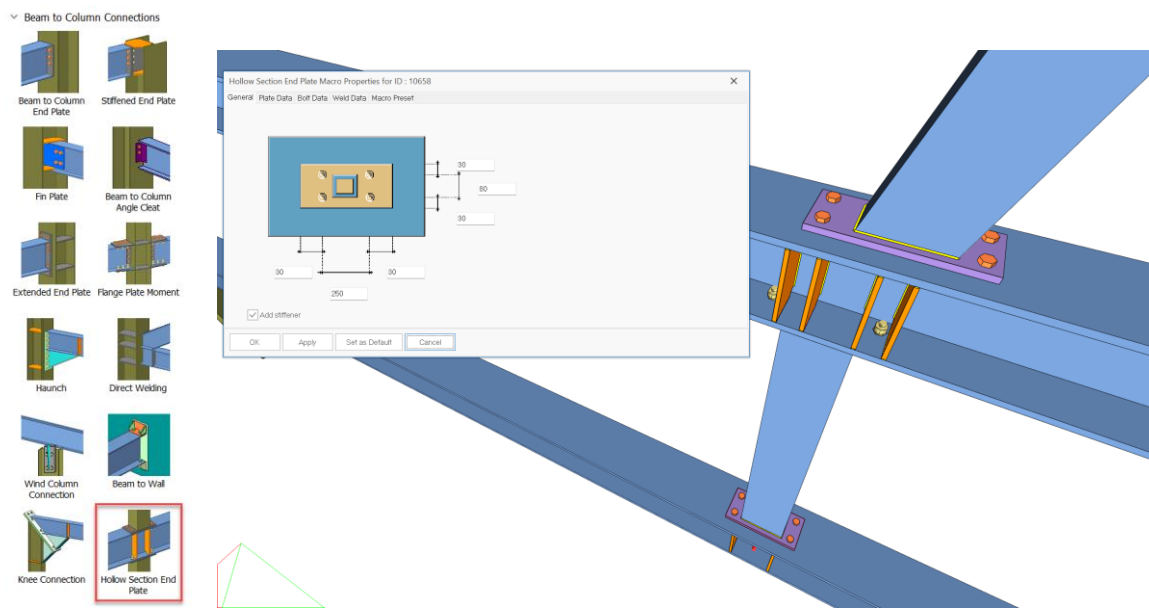
2- Purlin and Girt Flush Connections

Purlin Flush Connection and Girt Flush Connection are new macros developed for situations where purlins and girts are positioned within the depth of the main member. These macros can be used when the purlin or girt is located inside the web region of the supporting member and aligned with either the top or bottom flange. They provide a simple and efficient way to model flush connections without the need for manual detailing.



3- Hollow Section End Plate Connection

The new **Hollow Section End Plate** macro provides a fast and efficient way to create end-plate moment connections between hollow structural sections (RHS, SHS, and CHS) and open steel sections such as I-beams and channels. Supporting a wide range of beam-to-column, column-to-beam, and continuous member configurations, the macro automatically generates connection geometry and detailing, significantly reducing modeling time while improving consistency and accuracy. This enhancement enables engineers to design complex hollow section connections with greater confidence and productivity.

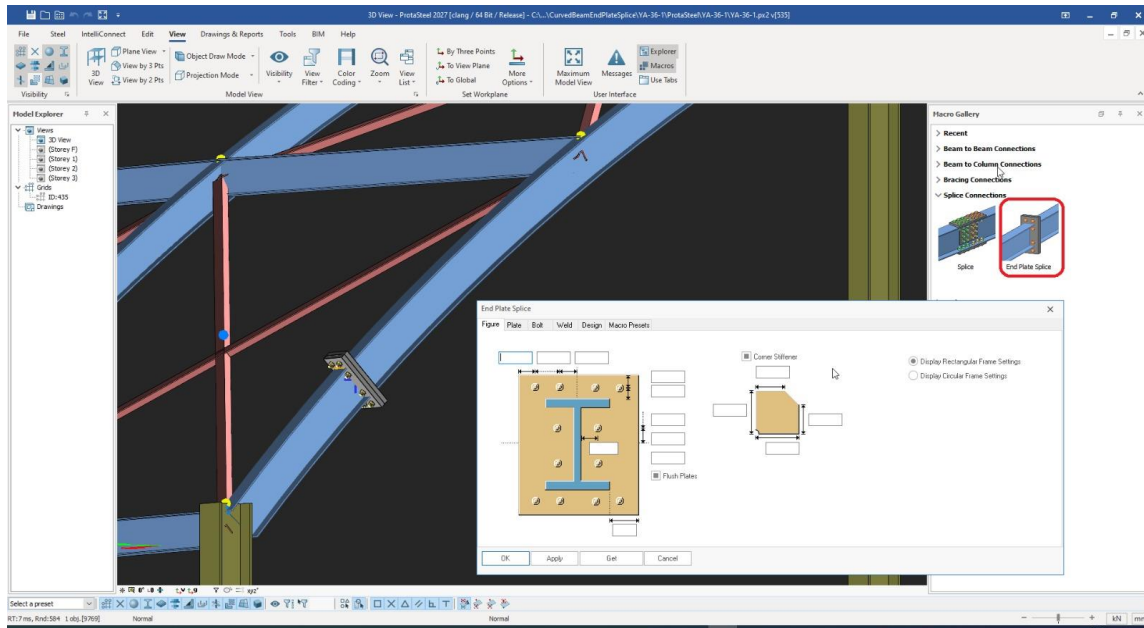


4- End-Plate Splice Connection for Curved Beam

The **End Plate Splice** macro can now be applied to **curved steel beams**. In previous versions, this connection type was limited to straight beam members; with this enhancement, it can also be used on beams with curved and arc-shaped geometries.

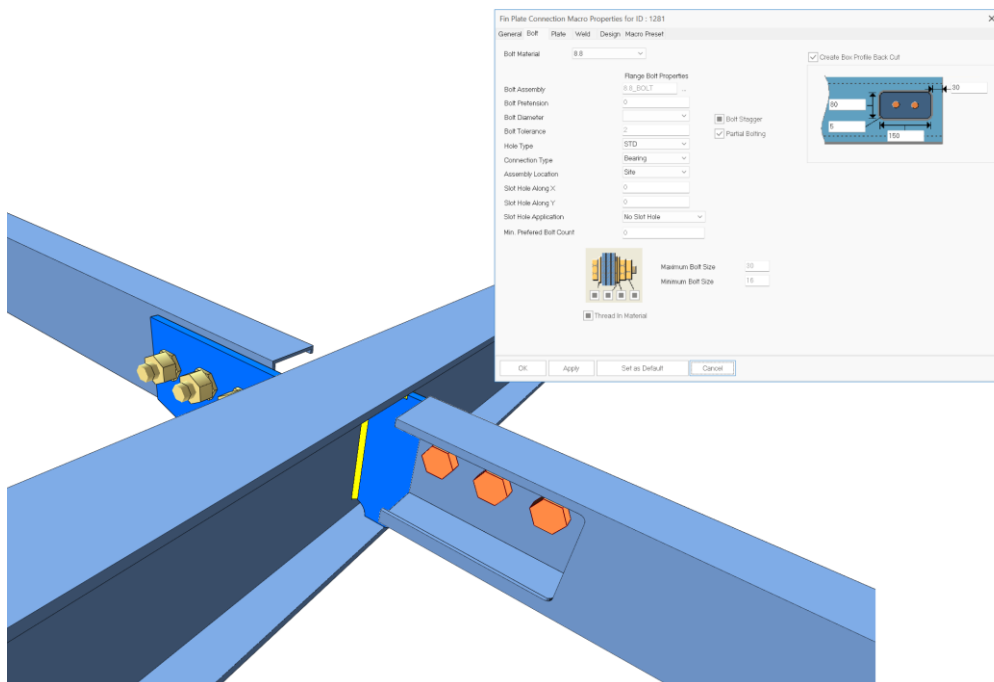
This improvement enables engineers to model end-plate moment splice connections for curved beams used in architecturally complex steel structures quickly and reliably. The macro automatically recognizes the beam geometry and generates the connection components in their appropriate locations, providing accurate detailing with minimal manual effort. As a result, modeling efficiency is improved, detailing consistency is enhanced, and production-ready connection details can be created more easily.





5- Fin Plate Macro Extended for Hollow Sections

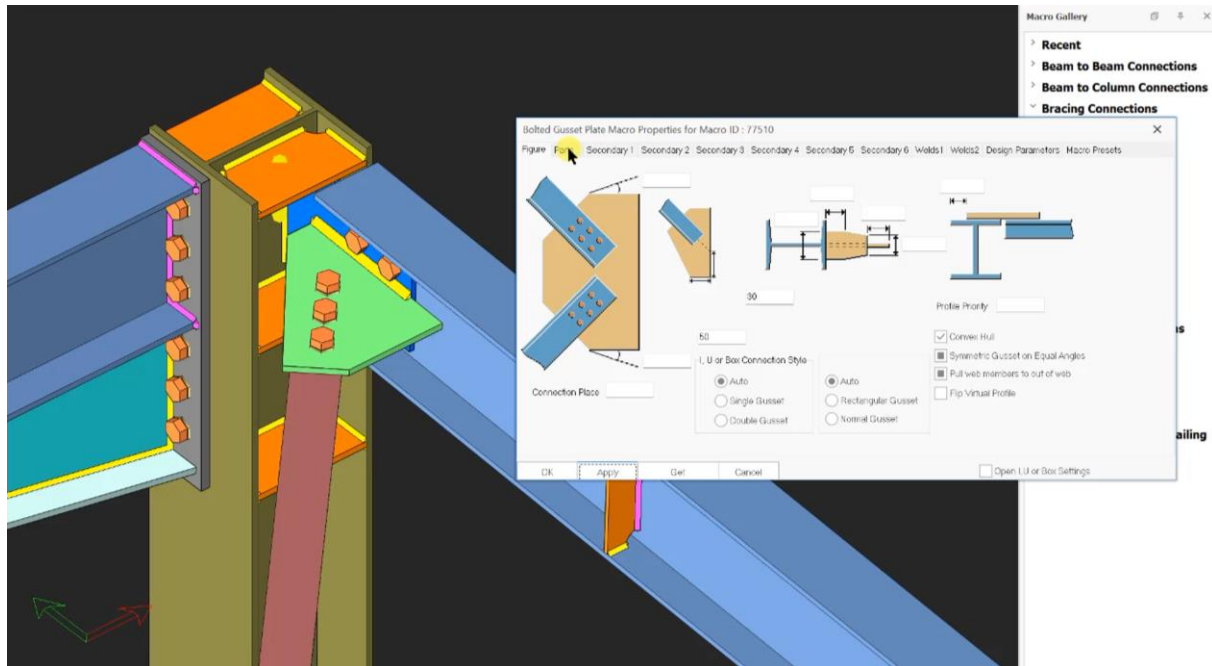
The Fin Plate macro now supports connections to hollow section beams. To facilitate bolt installation, a suitable access opening can also be automatically created on the hollow section member. This enhancement improves the practicality and detailing efficiency of Fin Plate connections for hollow section applications.





6- Fin Plate Macro Extended for Hollow Sections

With V2027, enhancements have been made to the **Bolted Gusset Plate** macro. A new **Plate Boundary** option has been introduced, allowing gusset plates for horizontal braces at beam-to-column connections to be generated directly from an existing plate boundary by simply selecting the plate and the brace.



BIM Integration / Interoperability

Building on ProtaSteel's commitment to seamless open-BIM and specialty analysis workflows, connection integration has been significantly refined.

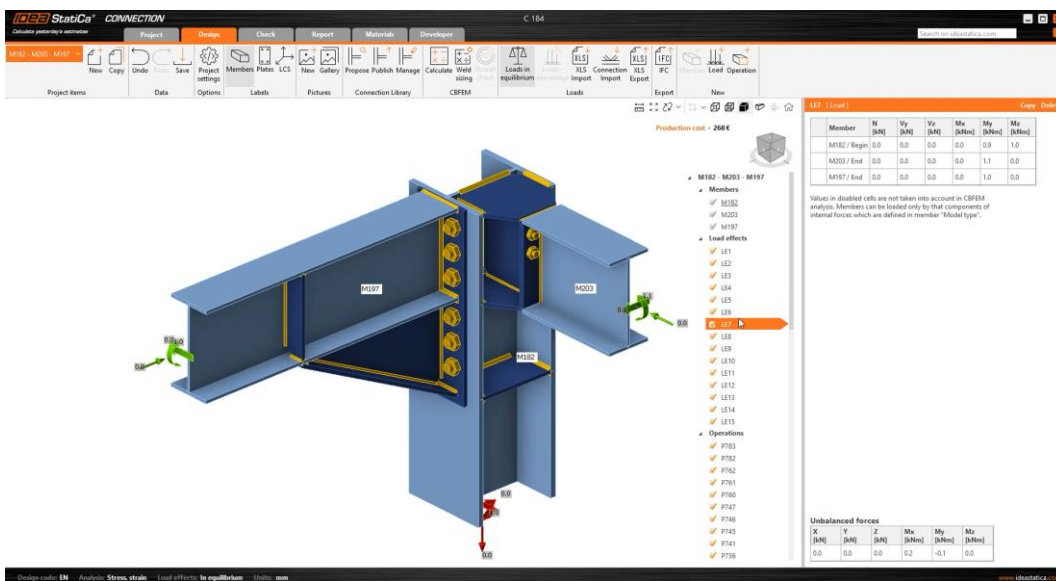
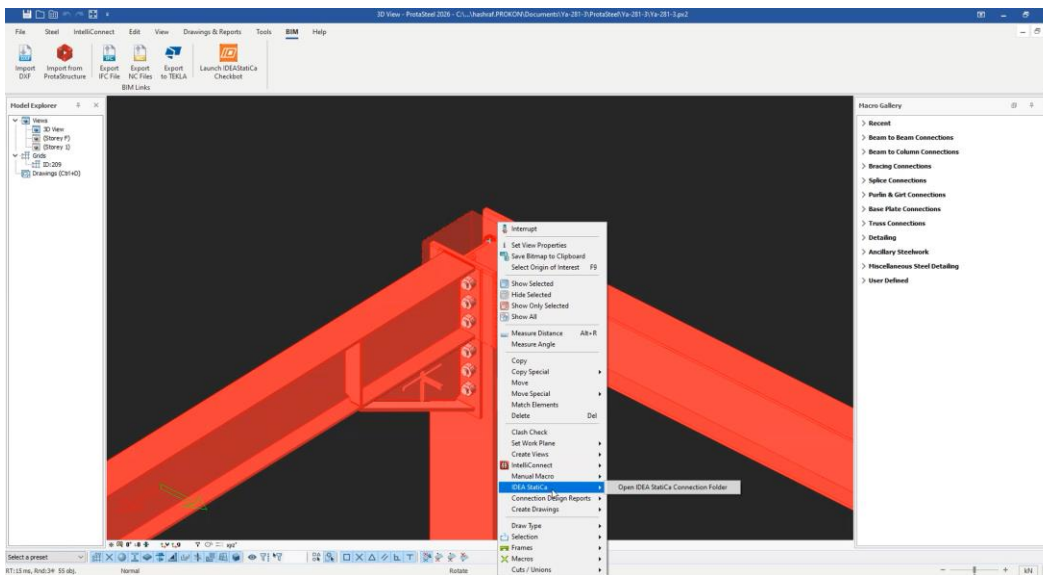
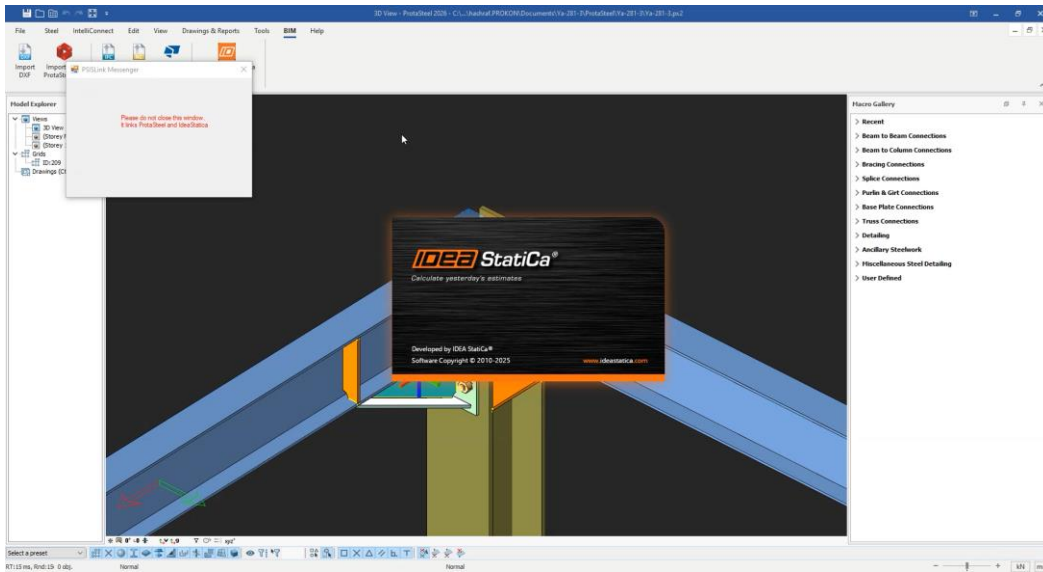
Enhanced IDEA StatiCa Integration

The workflow for transferring member internal forces from the ProtaStructure analysis model to IDEA StatiCa through ProtaSteel has been enhanced. These improvements provide a more accurate and consistent transfer of member forces and load combinations used in connection design.

The integration interface with IdeaStatica has been comprehensively upgraded. Structural analysis forces, critical combination loads, and complex multi-axis member actions are now transferred with higher fidelity and precision, ensuring seamless code-compliance and connection stress verification between the physical model and the analysis engine.

The enhanced workflow improves data consistency between the analysis model and the connection verification model while reducing the need for manual adjustments. As a result, engineers can transfer analysis results from ProtaStructure to IDEA StatiCa more efficiently and perform connection checks with greater confidence.





Drawing Module Improvements

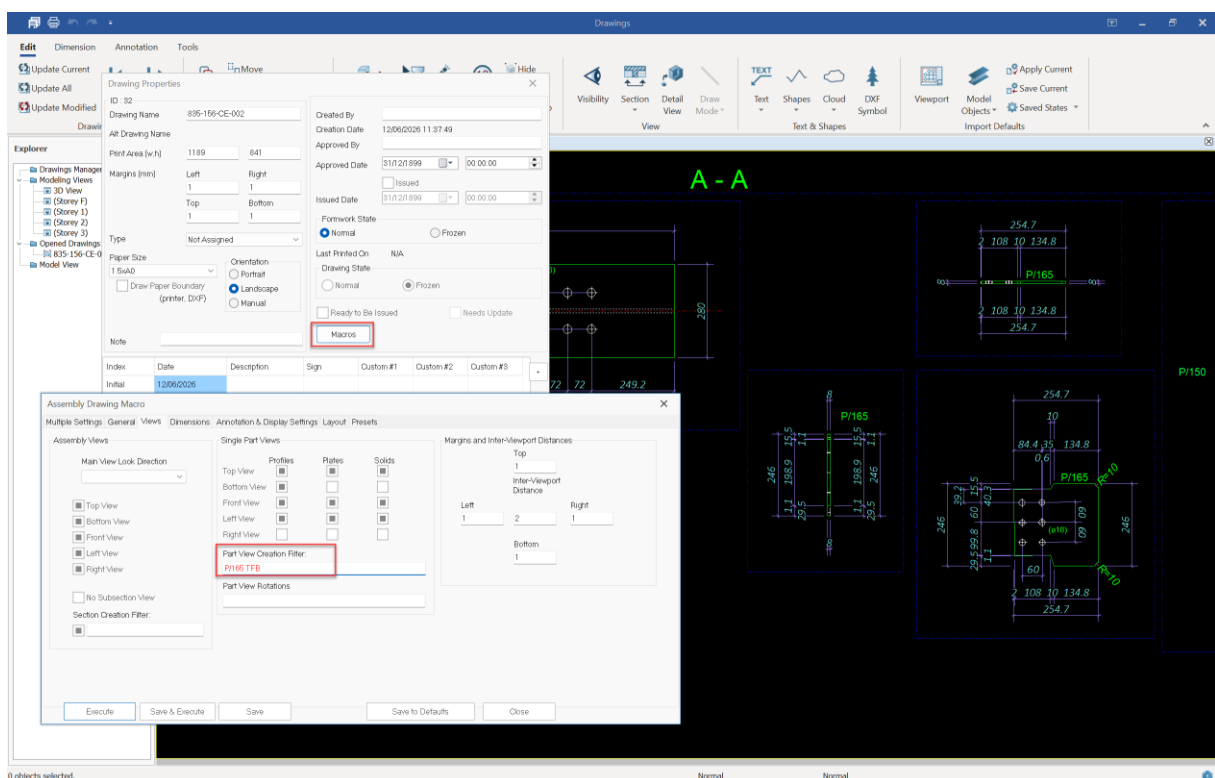
Enhanced Manual Editing and Persistence

Persistent Manual Detailing in Automatic Drawings: Users can now manually add custom views, sections, and detailed callouts directly to automatically generated assembly drawings. Crucially, ProtaSteel 2027 ensures these manual additions are strictly preserved and kept intact even if the master model or drawing is updated.

This release introduces major workflow optimizations, precise visual controls, and enhanced detailing capabilities within the drawing environment, granting engineers and detailers unprecedented flexibility over production-ready documentation.

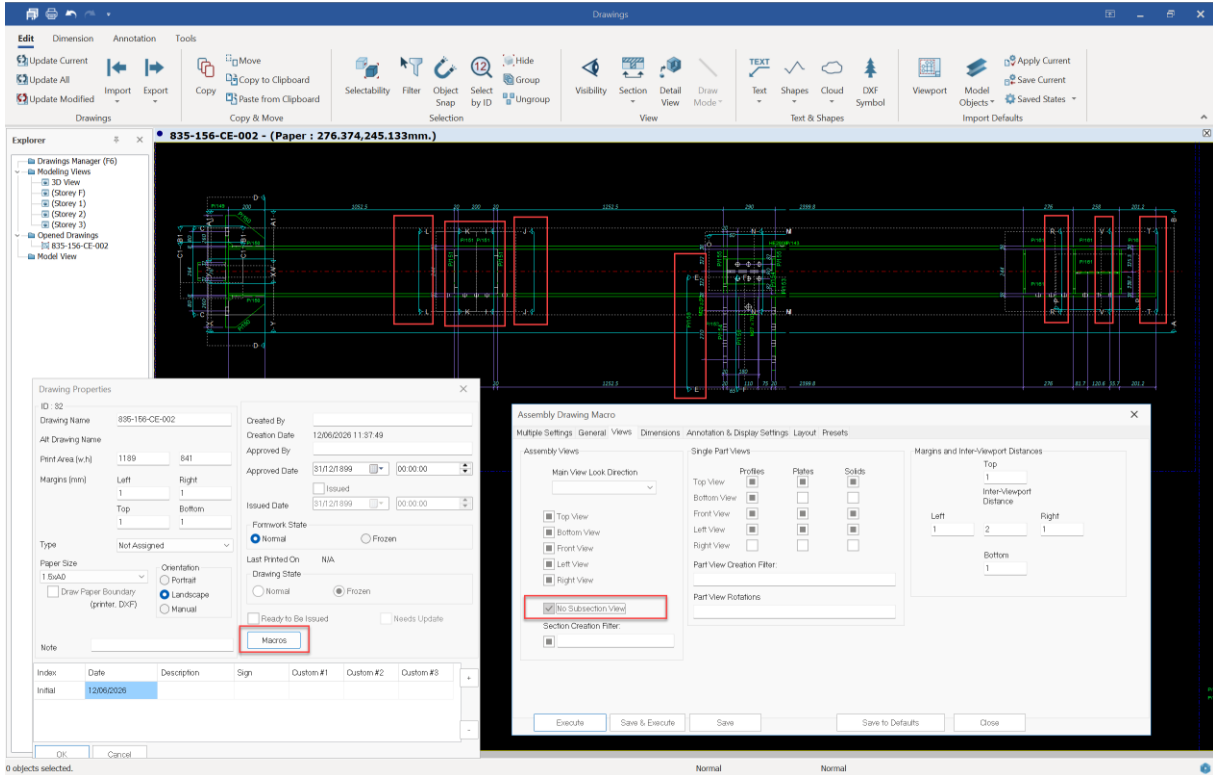
Granular View and Section Overrides

Single Part View Overrides in Assembly Drawings: Users now have individual control over which specific views of each single part are rendered within assembly drawings, eliminating unnecessary visual clutter.

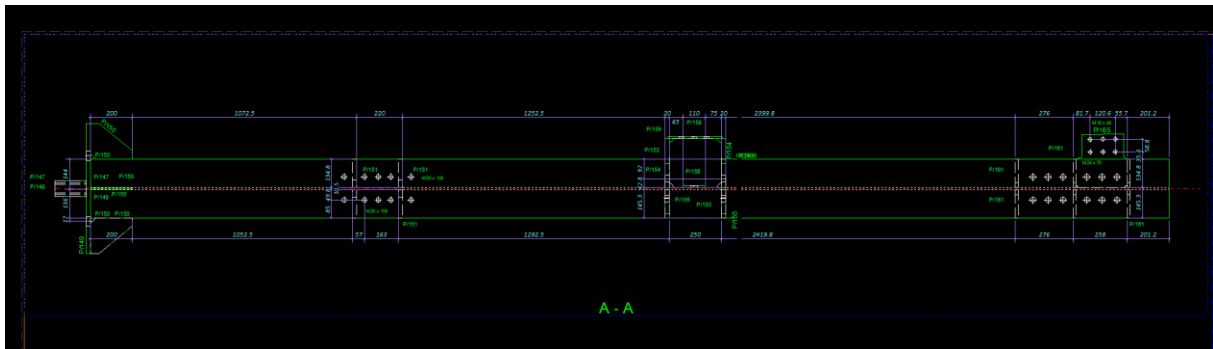


Assembly View Overrides for Sections: Individual control is introduced for cross-sections taken on assemblies, allowing users to precisely decide which specific sectional views are generated.

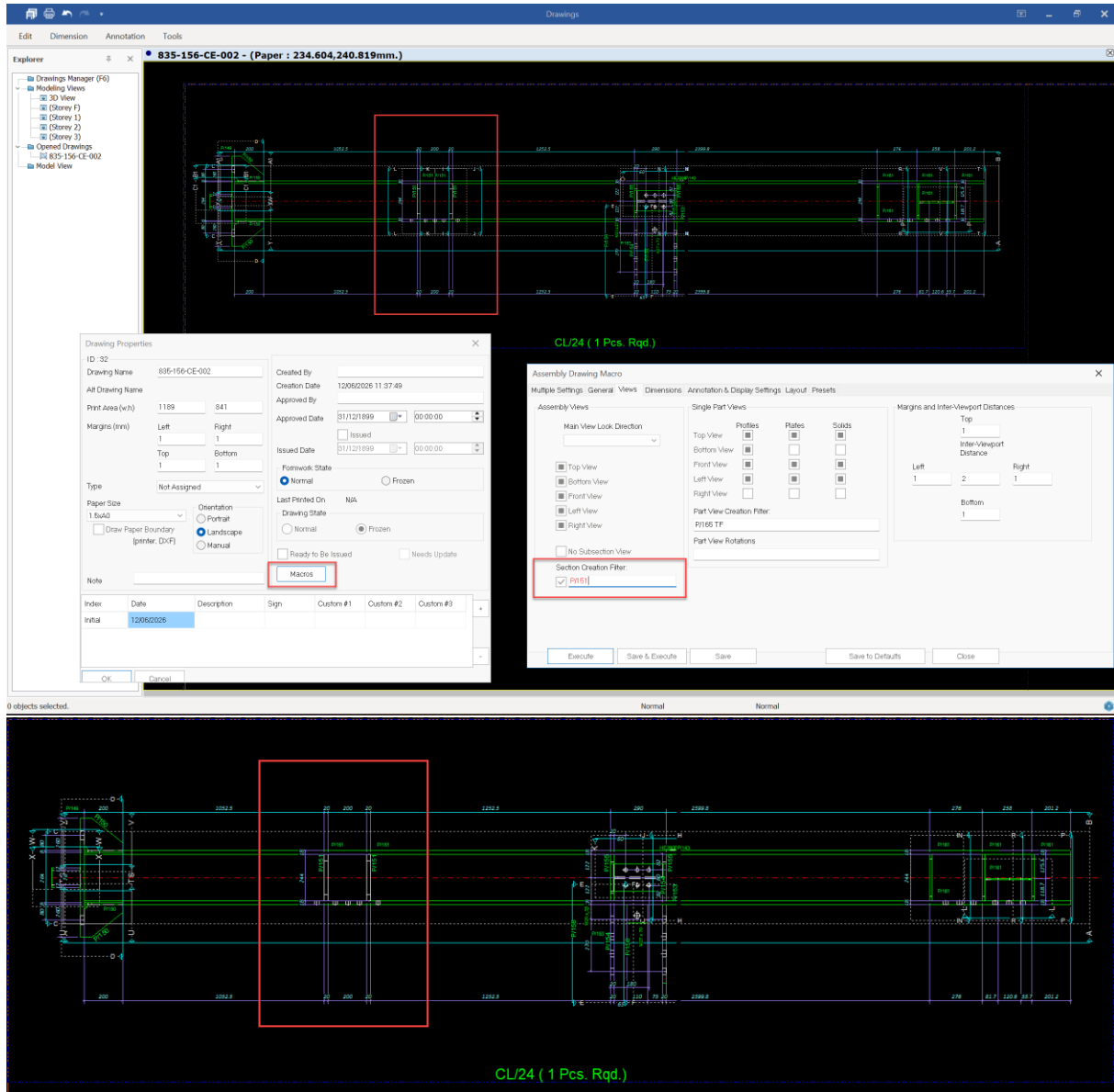


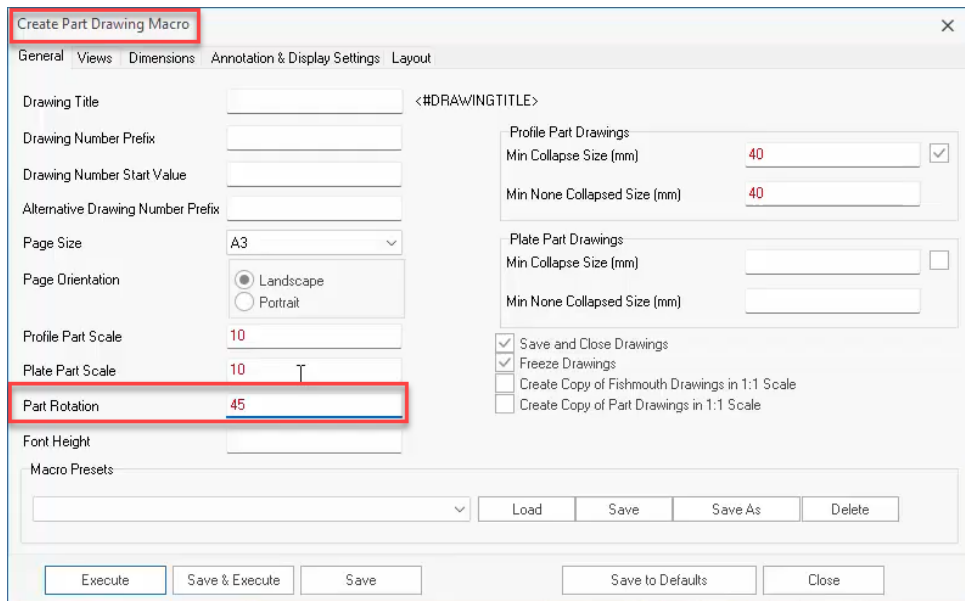


Removing section views of specific parts results in a cleaner and more readable drawing.



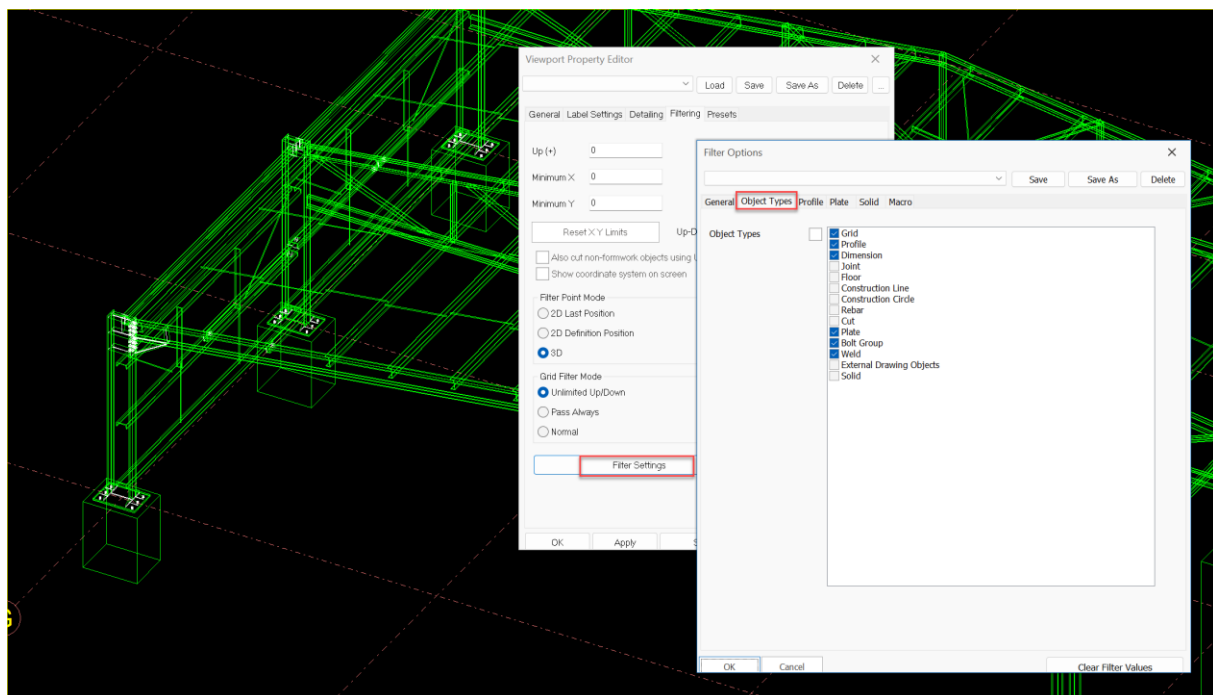
In assembly drawings, the generation of section views for specific parts can be disabled. This allows users to precisely control which elements are included in section creation and prevents unnecessary section views from being generated. This improvement ensures cleaner and more targeted section outputs, especially in complex assembly models.





Advanced Dimensioning, Annotating, and Filtering

Dimensioning, annotation, and filtering capabilities in ProtaSteel have been improved to provide faster and more controlled detailing workflows. Users can now perform dimensioning and labeling more efficiently, while advanced filtering options make it easier to isolate and navigate specific model elements.



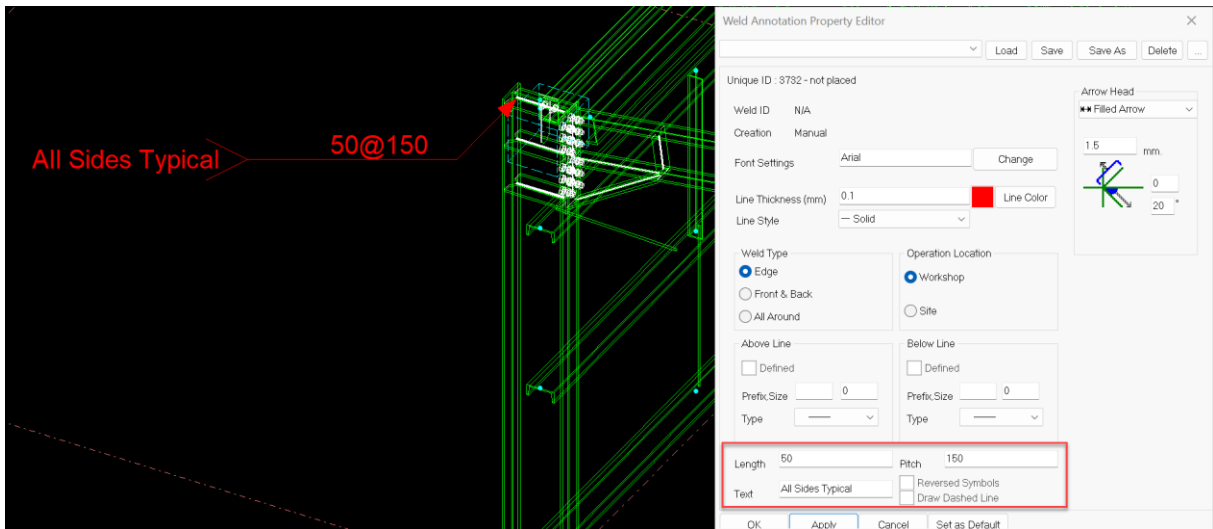
Generic Solid Dimensioning and Annotation



New dedicated settings are available in assembly drawings specifically for dimensioning and annotating generic solids, standardizing documentation for non-profile objects.

Multi-Leg Welding Symbols

Support has been added for drawing complex welding symbols with multiple leader legs, accommodating intricate fabrication requirements within a single annotation.



Drawing Side Filtering for ID Holes

A smart drawing-side filter automatically identifies and includes any holes located on an internal diameter (ID) or reverse face the moment the main part is added to the sheet.

Viewport-Bounded Element Cutting

Plates, profiles, and generic solids are now intelligently cut and cropped strictly according to the up/down depth limits of the viewport, eliminating overlapping or out-of-bounds geometry.

Workflow Efficiency and Quality Control

“Ready to be Issued” Status Flag: A new revision-tracking flag, "Ready to be Issued," has been integrated into the drawing management system to streamline quality assurance workflows and signal drawing approval.



Drawing Properties [X]

ID : 5

Drawing Name: 835-156-CE-001

Alt Drawing Name:

Print Area (w.h): 1189 841

Margins (mm): Left: 1, Right: 1, Top: 1, Bottom: 1

Type: Not Assigned

Paper Size: A0

Orientation: Portrait, Landscape, Manual

Draw Paper Boundary (printer, DXF)

Note:

Created By:

Creation Date: 10/06/2026 17:15:11

Approved By:

Approved Date: 30/12/1899 00:00:00

Issued

Issued Date: 30/12/1899 00:00:00

Formwork State: Normal, Frozen

Last Printed On: N/A

Drawing State: Normal, Frozen

Ready to Be Issued Needs Update

Macros

Index	Date	Description	Sign	Custom #1	Custom #2	Custom #3
Initial	10/06/2026					

OK Cancel

Drawings Manager

Name	Dimensions	Type	O/C	State	Need	Issued	Ready	Drawn Marks
<input type="checkbox"/> (Storey F)	A0 Landscape	Not Assigned	Closed	N				1
<input type="checkbox"/> (Storey 1)	A0 Landscape	Not Assigned	Closed	N				1
<input type="checkbox"/> test-1	A0 Landscape	Not Assigned	Closed	N				
<input type="checkbox"/> 835-156-CE-001	A0 Landscape	Not Assigned	Opened	F				0-B/31

Open Drawing(s)
Close Drawing(s)

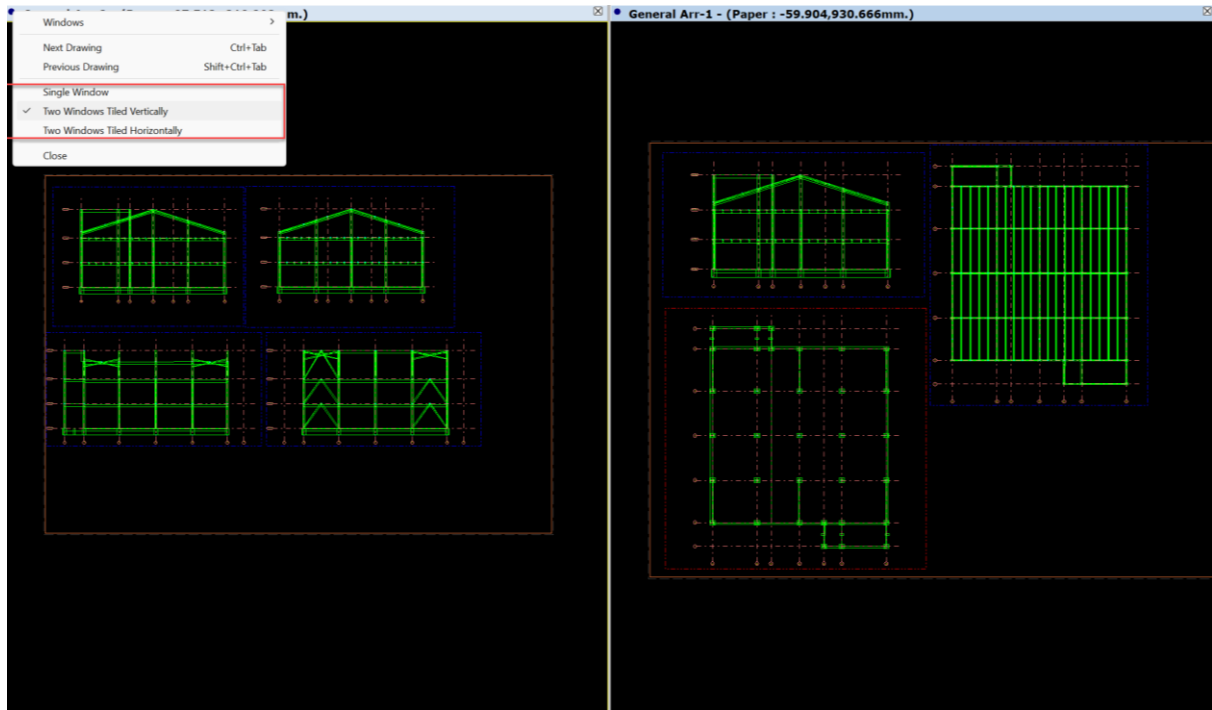
Modify Fields
 Needs Update
 Issued
 Ready to Be Issued

Create Drawing



Multi-Drawing Side-by-Side View

Detailers can now open and work on more than one drawing simultaneously side-by-side, vastly improving cross-referencing speeds and multi-sheet editing.



Drawing Module UNDO System

To safeguard engineering time and reduce repetitive tasks, ProtaSteel 2027 rolls out a highly requested, robust recovery and undo framework tailored specifically for the detailing module.

Full contextual Undo/Redo capabilities are now available directly within the drawing environment, allowing detailers to instantly revert drafting, dimensioning, or layout changes without risking sheet integrity.

A specialized safety net has been implemented to protect project data. If an entire drawing sheet or document is deleted, the new backup system retains a secure temporary copy, allowing full restoration of the deleted asset and preventing accidental data loss.



Thank You

Thank you for choosing the ProtaStructure Suite product family.

At Prota, our continual aim is to provide you with user-friendly, industry-leading technology for building design and documentation.

Should you have any technical support requests or questions, please do not hesitate to always contact us through globalsupport@protasoftware.com or asiasupport@protasoftware.com (Asia Pacific)

Our dedicated online support center is available to help you get the most out of Prota's technology solutions with our responsive technical support team.

The Prota Team

