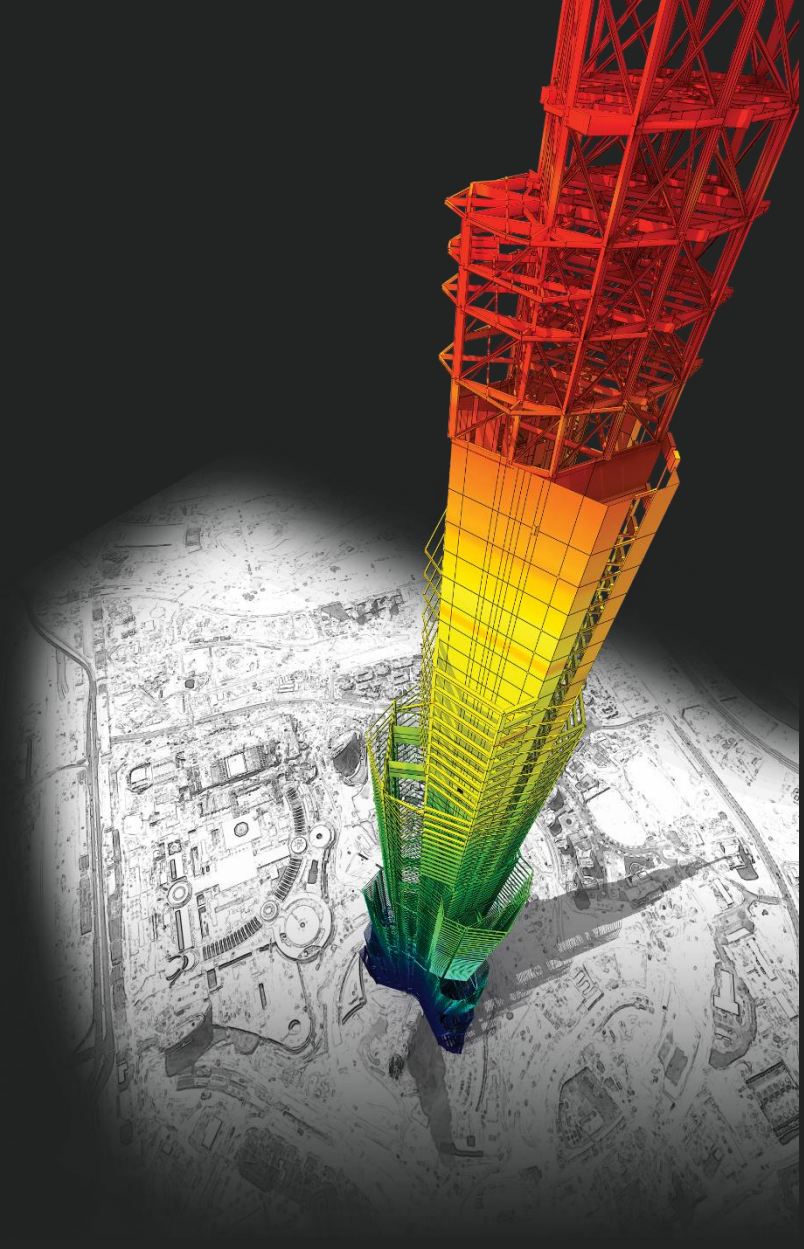
Release Note

Release Date : June. 2024.

Product Ver. : midas Design+ 2024 (v2.1)



DESIGN OF General Structures

Integrated Design System for Building and General Structures

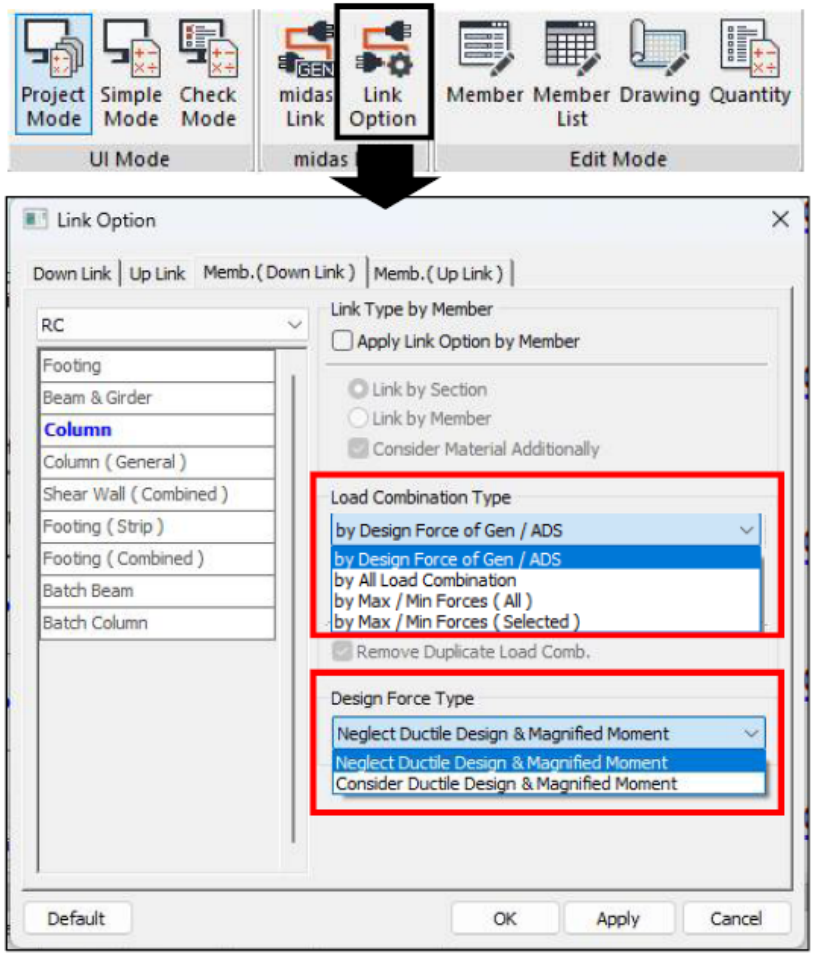
INDEX

Design+

- Added Member Design Module for IS :456-2000. (Column, Basement Wall, Shear Wall Module) 新增印度規範設計模組 (柱、地下外牆、剪力牆)
- Improved Link Option 改善 Link 項目
- Added Eurocode 2 in Batch Design 新增歐規批次設計
- Improved Batch Wall Design 改善批次牆設計
- Improved Anchor Bolt Design in Base Plate 改善基座鈑的螺栓設計
- Improved Start Page 改善起始頁顯示

midas Design+

Improvement of Link Option 改善Link項目



"Memb.(Down Link) " > Load Combination Type

[Column & Column(General)& Shear Wall & Footing]

- By Design force of Gen / ADS : Import the design forces used in Gen's design.
- By All Load Combination : Results for all load combinations are imported individually.
- By Max/Min Forces (All) : Import only the Max. and Min. values among member forces from all load combinations.
- By Max/Min Forces (Selected) : Import only the design forces for the selected design components.

[All Batch Design]

- By Design force of Gen / ADS : Import the design forces used in Gen's design.

"Memb.(Down Link) " > Design Force Type

[Column & Column(General) & Shear Wall &Shear Wall (Combined) & Batch Column & Batch Wall]

- Neglect Ductile Design & Magnified Moment
  : Design forces by strong column-weak beam are not considered
  : Design forces by 2nd Order Effect (by moment magnification method) are not considered.
- Consider Ductile Design & Magnified Moment
  : Design forces by strong column-weak beam are considered
  : Design forces by 2nd Order Effect (by moment magnification method) are considered.
  * Moment magnification method is not reflected : "2nd Order Effect" option is checked off when importing from Gen.

[Footing & Footing(Combined)]

- Design force of Column : Use the Design forces of column.
- Reaction of Support : Use the forces of reaction result.

Add Eurocode 2 in Batch Design 新增歐規批次設計

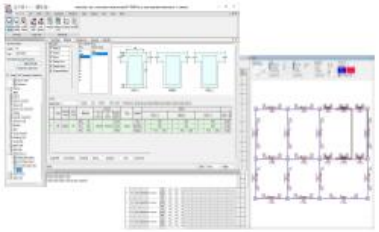
- There are many inconveniences when performing design in Gen. For example, when a section needs to be added when grouping members or when the cross section needs to be increased according to design results, analysis and design should be performed again. Since these cases must be performed repeatedly, a lot of time and effort are required depending on the magnitude of the building.
- Batch Design is a design feature to provide convenience for these repetitive parts in Gen, and the procedure is as follows.

[Gen] Modeling & Analysis & Design

- Create a model with simple section in Gen
- Perform an analysis
- Set a design condition and perform a design.

[Design+] Import Design Data of Gen

- Section Name, Material, Section Size, Rebar.
- Design force.
- Design Setting (cover, design type).
- Design Condition (Seismic design).



[Design+] Set Story & Design Option

- Set Story Group
- Set Smart Design Option
  (Design as per EN or IS code is not supported)

[Design+] Member Grouping & Design

- Auto-Design by "Smart Design".
- Do the grouping work for beam according to Design force
- Auto-Design of member list drawing and quantity.

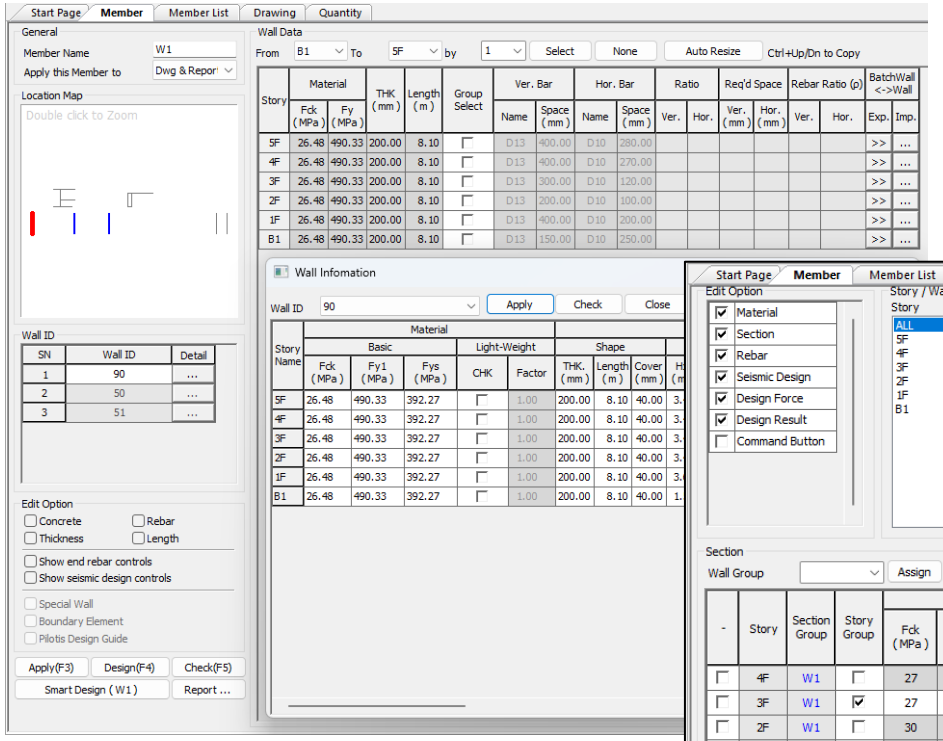
[Gen] Export Design data to Gen

- Create Sections by Group Name, Materials, Rebar information
- Run 'Code Check' in Gen

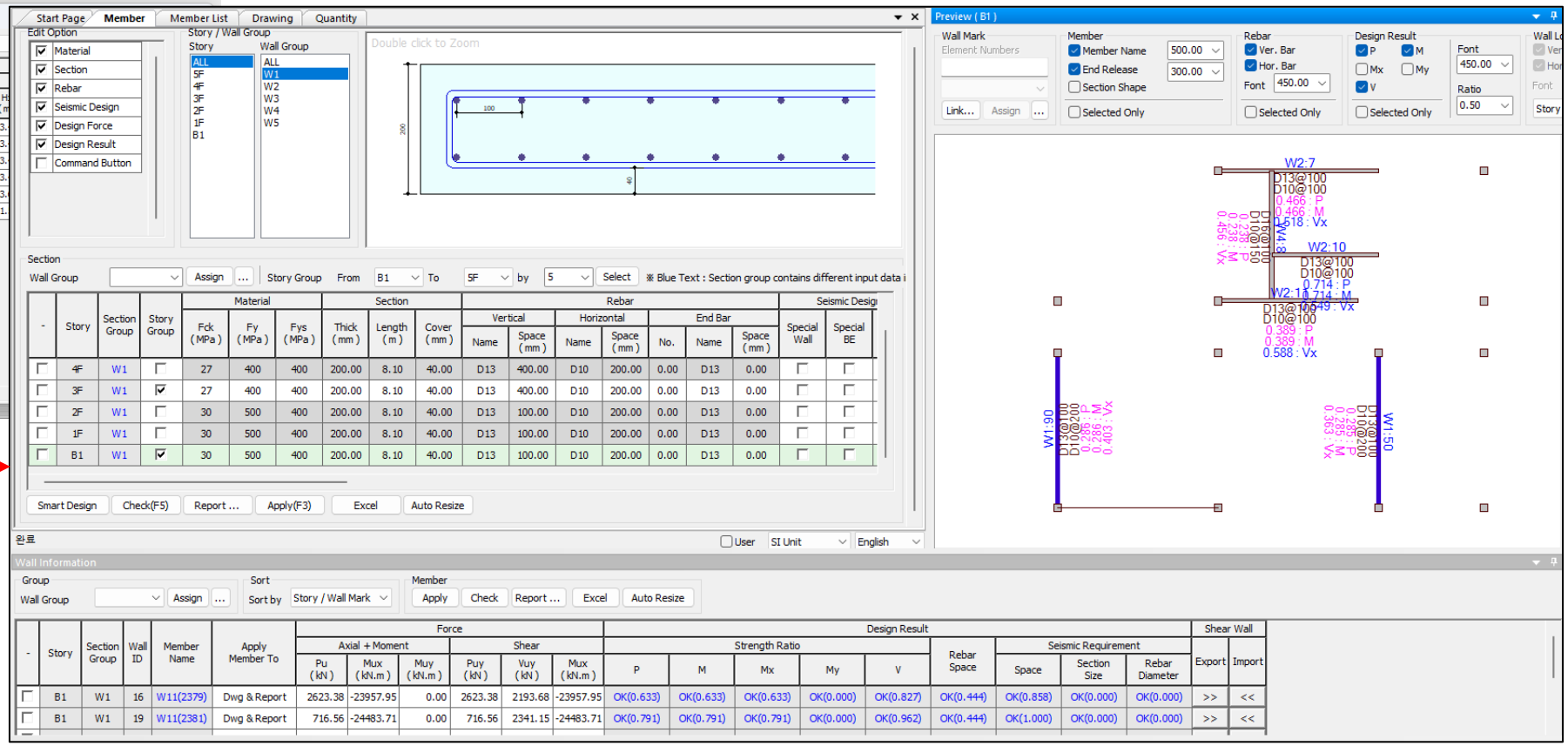
- The purpose of Batch Design is to quickly create and link the material, cross-section, and rebar information to Gen for analysis and design in Gen. Please use this product with the understanding that design results may differ slightly due to internal differences in design settings for Gen and Design+.
- Design as per EN or IS code is not supported.

❖ ***Batch Design Guide : [Download]***

Improved Batch Wall Design 改善批次牆設計功能



Design+ 2024 (v1.1)



Batch Design Guide : [Download]

Design+ 2024 (v2.1)

- Improved UI identical to Batch Beam/Column Design
- For detailed modifications, please refer to the Batch Design Guide.

Improved Design Module according to IS Code (India)

改善印度規範設計模組相關功能

The items below have been updated. If you want to know more details, please click on [Here]

- ***Added Design Module for IS :456-2000.***

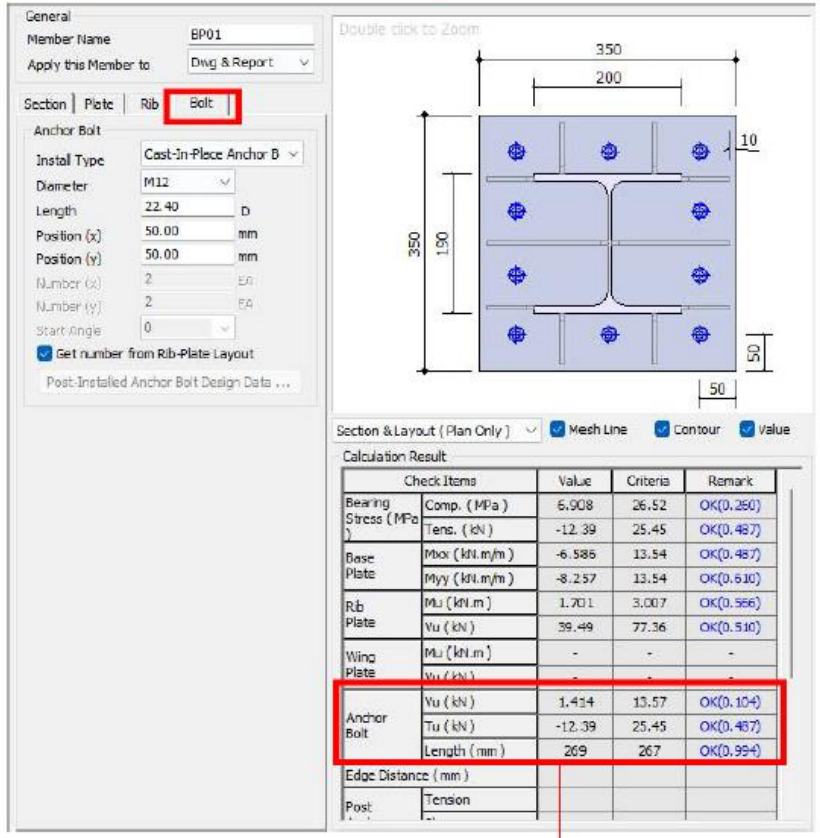
1. *Column Module*
2. *Basement Wall Module*
3. *Shear Wall Module*

Improvement of Anchor Bolt Design in Base Plate 改善基座鈑的螺栓設計

MIDAS

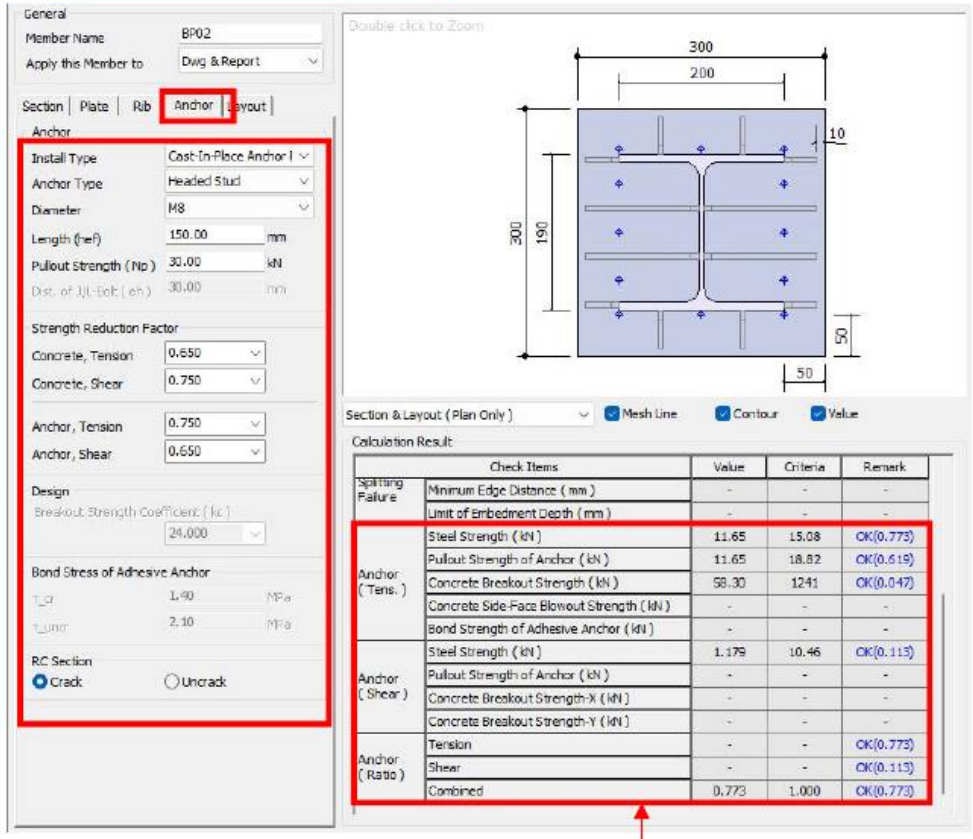
- The anchor design of the base plate was modified to be designed according to the design process of "RC>Anchor Bolt Design".

Design+ 2024 (V1.1)



Check Items		Value	Criteria	Remark
Bearing Stress (MPa)	Comp. (MPa)	6.908	26.52	OK(0.260)
	Tens. (kN)	-12.39	25.45	OK(0.487)
Base Plate	Mxx (kN.m/m)	-6.586	13.54	OK(0.487)
	Myy (kN.m/m)	-8.257	13.54	OK(0.610)
Rib Plate	Mu (kN.m)	1.701	3.007	OK(0.566)
	Vu (kN)	39.49	77.36	OK(0.510)
Wing Plate	Mu (kN.m)	-	-	-
	Vu (kN)	-	-	-
Anchor Bolt	Vu (kN)	1.414	13.57	OK(0.104)
	Tu (kN)	-12.39	25.45	OK(0.487)
	Length (mm)	269	267	OK(0.994)
Edge Distance (mm)				
Post	Tension			

Design+ 2024 (V2.1)

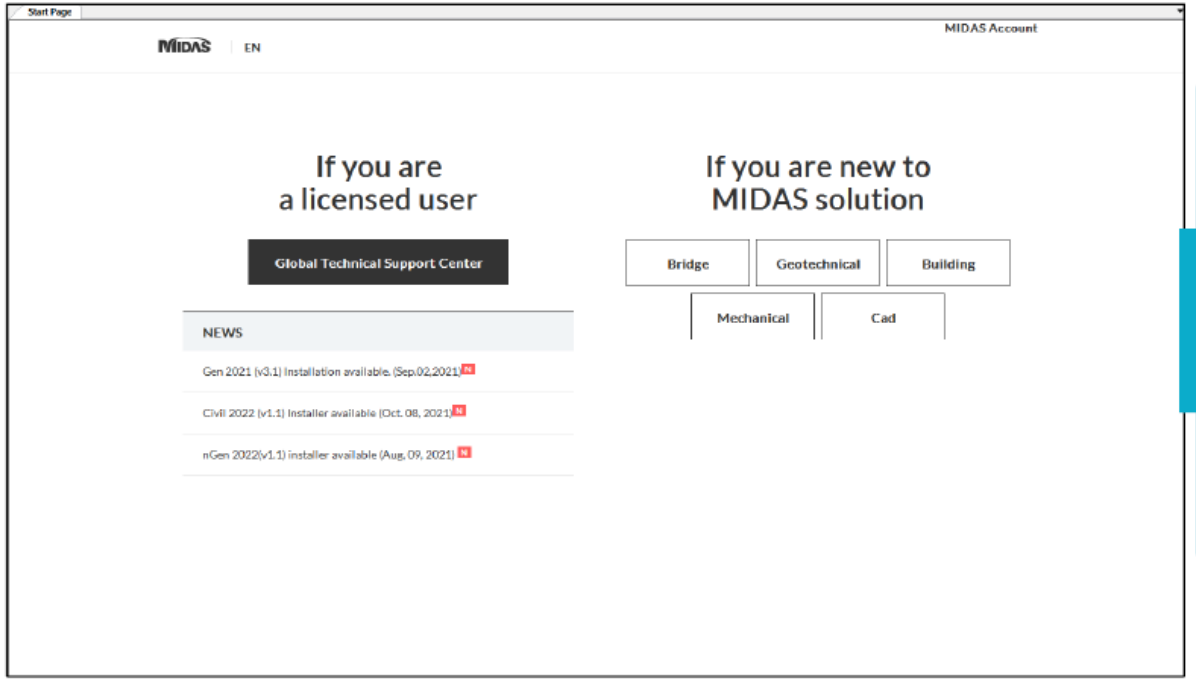


Check Items		Value	Criteria	Remark
Splitting Failure	Minimum Edge Distance (mm)	-	-	-
	Limit of Embedment Depth (mm)	-	-	-
Anchor (Tens.)	Steel Strength (kN)	11.65	15.08	OK(0.773)
	Pullout Strength of Anchor (kN)	11.65	18.82	OK(0.619)
	Concrete Breakout Strength (kN)	58.30	1241	OK(0.047)
	Concrete Side-Face Blowout Strength (kN)	-	-	-
	Bond Strength of Adhesive Anchor (kN)	-	-	-
Anchor (Shear)	Steel Strength (kN)	1.179	10.46	OK(0.113)
	Pullout Strength of Anchor (kN)	-	-	-
	Concrete Breakout Strength-X (kN)	-	-	-
	Concrete Breakout Strength-Y (kN)	-	-	-
Anchor (Ratio)	Tension	-	-	OK(0.773)
	Shear	-	-	OK(0.113)
	Combined	0.773	1.000	OK(0.773)

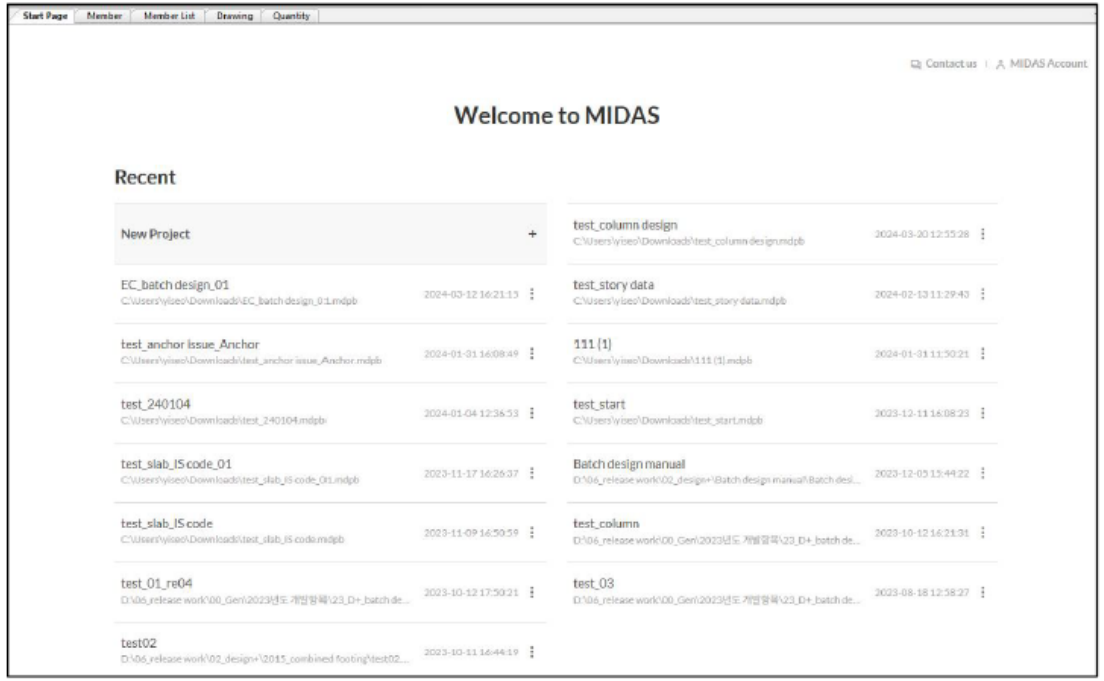
Improvement of Start Page 改善起始頁顯示

- Supports recent project list

Design+ 2024 (V1.1)



Design+ 2024 (V2.1)



Thank you

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