

lateral buckling restraint - attaches - steel check - creep - charges climatiques - dynamic analysis - lateral buckling - brandweerstandsanalyse - timber - 1st order - verstijvers - buisverbinding - diseño de planos de armaduras - pandeo lateral - verbindingen - shear connection - verificación - armatures longitudinales - pórtico - unión base columna - voorontwerp - unión tubular - haunch - connexion moment - cimbras - vérification acier - unity check - Eurocode 2 - mesh - retaining wall - raidisseur - Eurocode 3 - longitudes de pandeo - connections - ACI 138 - acero - 2nd ordre - portal frame - Eurocode 8 - andamios - kip - dwarskrachtverbinding - BS 8110 - dalle de fondation - seismische analyse - armaduras longitudinales - BIM - gelaste verbinding - 2de orde - buckling - funderingszool - poutre sur plusieurs appuis - maillage - malla - uniones - 2D raamwerken - fire resistance analysis - voiles - cracked deformation - gescheurde doorbuiging - longueurs de flambement - pandeo - reinforcement - unity check - cantonera - dynamische analyse - hout - ossatures 3D - koudgevormde profielen - placa de extreme - 1er orden - continuous beam - connexion soudée - momentverbinding - praktische wapening - renforts au déversement - fluencia - estribos - déformation fissurée - EHE - beugels - Eurocódigo 3 - platine de bout - análisis dinámico - column base plate - kruip - rigid link - welded connection - charpente métallique - moment connections - estructuras 2D - kniestuk - assemblage métallique - 3D raamwerken - second ordre - beam grid - cargas climáticas - Eurocode 2 - Eurocode 5 - wall - deformación fisurada - lien rigide - enlace rígido - 2D frames - estructuras 3D - éléments finis - vloerplaat - steel connection - scheurvorming - integrated connection design - armatures pratiques - analyse sismique - nieve y viento - practical reinforcement - charges mobiles - dalle - wapening - perfiles conformados en frío - Eurocode 3 - connexion tubulaire - unión a momento - 3D frames - treillis de poutres - roof truss - practical reinforcement design - portique - kipsteunen - análisis sísmico - Eurocode 8 - seismic analysis - B.A.E.L 91 - uniones atornilladas - bolts - ossatures 2D - eindige elementen - losa de cimentación - restricciones para el pandeo lateral - optimisation - wand - kniklengtes - end plate - dakspanten - kolomvoetverbinding - stirrups - acier - staalcontrole - cálculo de uniones integrado - paroi - dessin du plan de ferrailage - stiffeners - mobiele lasten - Eurocódigo 8 - Eurocódigo 5 - longitudinal reinforcement - doorlopende liggers - rigidizador - beton armé - fluage - CTE - connexion pied de poteau - langswapening - connexions - hormigón - neige et vent - elementos finitos -



Release information

Diamonds 2018

armaduras - cold formed steel - jarret - uittekenen wapening - puente grúa - analyse dynamique - flambement - keerwanden - optimisation - steel - cercha - 2º orden - slab on grade foundation - entramado de vigas - Eurocode 5 - prédimensionnement - multi span beam - bouten - armatures - floor slab - poutre continue - pared - staal - 1er ordre - NEN 6770-6771 - connexion cisaillement - losa - déversement - viga continua - predimensionering - 1ste orde - unión metálica - CM 66 - madera - análisis resistencia al fuego - verbindingen - 2nd order - bois - Eurocode 2 - profilés formés à froid - verificación acero - predesign - unión soldada - fisuración - beton - muro de contención - optimalisatie - foundation pads - fissuration - concrete - AISC-LRFD - HCSS - assemblage métallique - Eurocode 3 - viga con varios apoyos - armaduras prácticas - balkenroosters - unión a cortante - buckling length - boulons - cracking - Eurocode 8 - knik - Eurocode 2 - radier - eindplaat - Eurocódigo 2 - FEM - tornillos - NEN 6720 - moving loads - balk op meerdere steunpunten - cargas móviles - funderingsplaat - étriers - analyse resistance au feu - cercha - globale knikfactor - dynamische analyse - wapening - maillage - malla - uniones - radier

Table of contents


1. Work environment	4
1.1. Language	4
1.2. Filter in the section library	4
1.3. Filter in the section dialog	4
1.4. Filter in the material library.....	5
1.5. Filter in the material dialog	6
2. Geometry.....	6
2.1. Import curved surfaces.....	6
2.2. Additional shape in Wizard menu	7
3. Loads.....	7
3.1. Wind and snow.....	7
3.2. Representation of the loads	8
4. Calculation and results	9
4.1. Restart calculation core.....	9
4.2. Resulting reaction.....	9
4.3. Min/max button or envelope results (plates and reactions)	11
5. Design	11
5.1. Steel.....	11
6. Reporting.....	11

1. Work environment

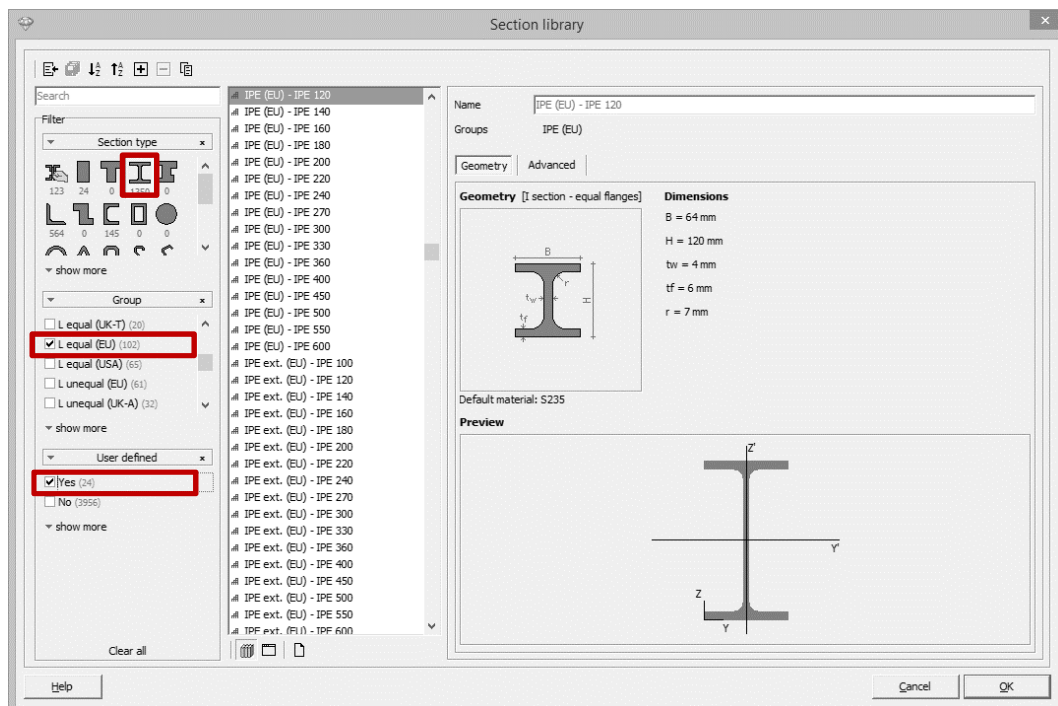
1.1. Language

The Diamonds interface is now also available in Italian.

1.2. Filter in the section library

With the filter in the section library you decide which sections should be visible in the section dialog . The criteria is 'OR'. Used sections (sections assigned to bars in the model) will always be visible, regardless the filter settings.





For example: if the section has an I- or H-shape OR it belongs to the group 'L equal' OR it is user defined, then you will see it in the section dialog. This way you could define a filter that only shows the European/US or UK sections.



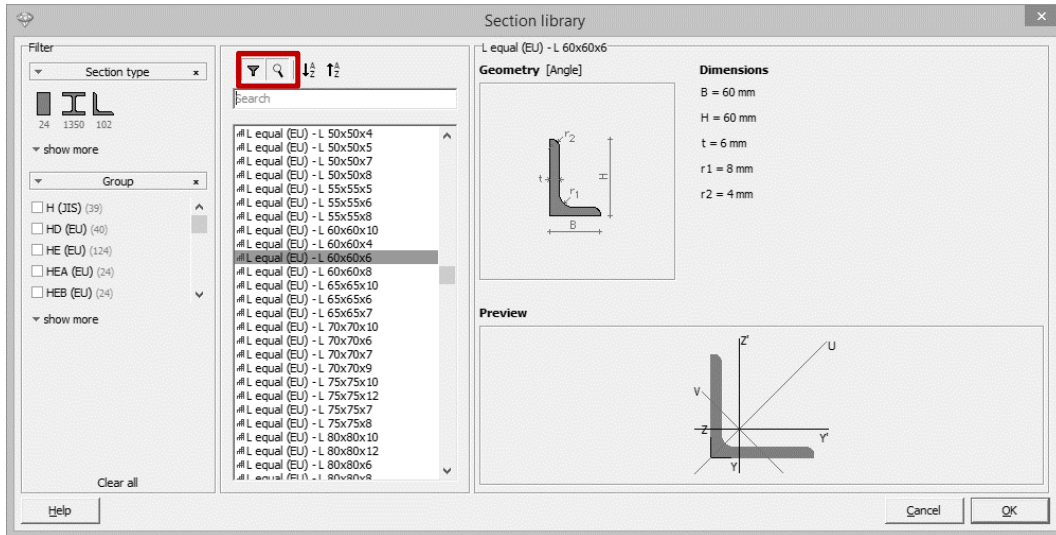
Click on **Clear all** to remove all filters so that the full library will be shown in the section dialog.

1.3. Filter in the section dialog


The section dialog has been extended with a subfilter to quickly find the desired section. It contains 3 parts:

- In the middle there's a list with sections. Only the selected sections from §1.1 are visible.
- Click on  to see the dimensions and a preview of the section. Click again on  to hide it.
- Click on  to open the subfilter. Click again on  to close it.

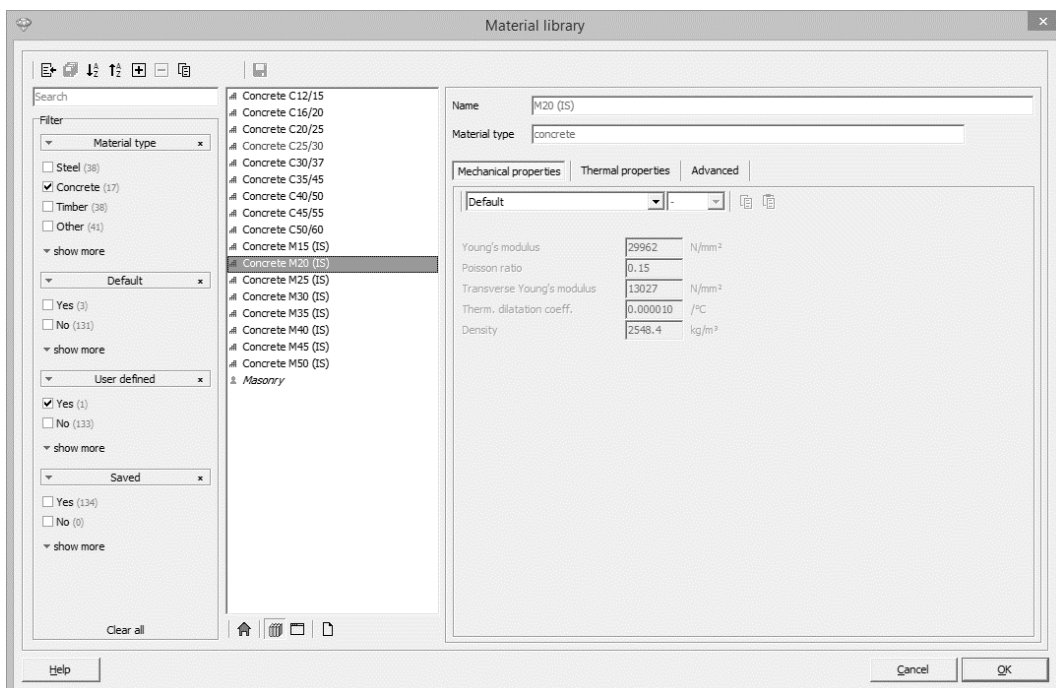
- Only relevant icons and groupnames will be visible in correspondence with the selection in §1.1. and with the selected subfilters. These subfilters work also according to the OR statement.
- Each time you open this window the settings are reset.



1.4. Filter in the material library

With the filter in the material library you decide which materials should be visible in the material dialog . The criteria is 'OR'. Used materials (materials assigned to bars in the model) will always be visible, regardless the filter settings.



For example: if the material is of the type 'concrete' OR it is user defined, then you will see it in the material dialog. This way you could define a filter that only shows these materials.



Click on **Clear all** to remove all filters so that the full library will be shown in the material dialog.

1.5. Filter in the material dialog

The material dialog has been extended with a subfilter to quickly find the desired material. It contains 2 parts:

- In the middle there's a list with materials. Only the selected materials from §1.4 are visible.
- Click on  to open the subfilter. Click again on  to close it.
 - Only relevant (group)names will be visible in correspondence with the selection in §1.3. and with the selected subfilters. These subfilters work also according to the OR statement.
 - Each time you open this window the settings are reset.

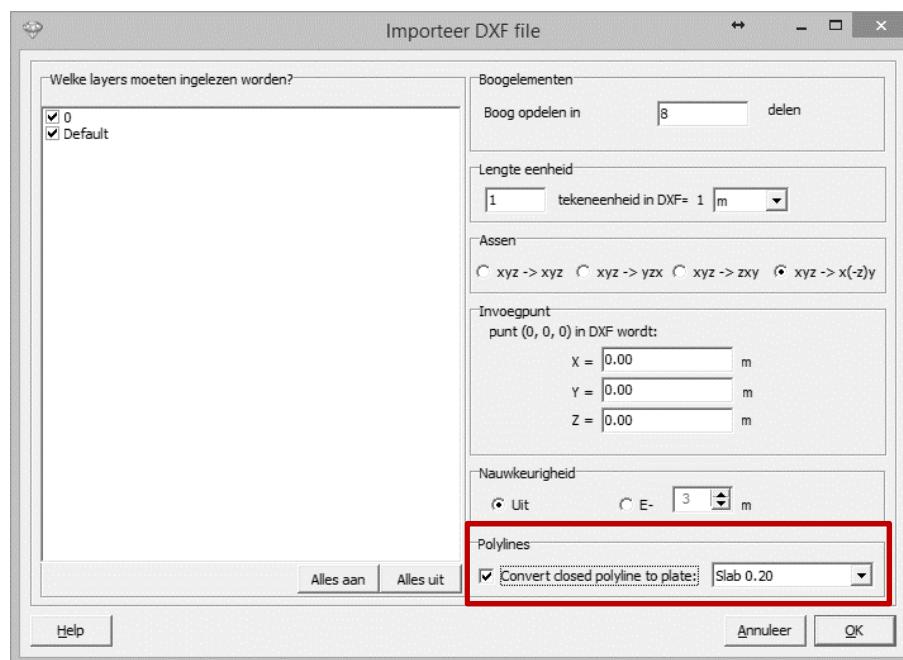
2. Geometry

2.1. Import curved surfaces

Diamonds 2018 (and 2017r06) has the possibility to import a curved surface and automatically generate the plates. The curved surface for example can be made in Rhinoceros or Grasshopper.

A demo can be found on YouTube:




- [How to import a random surface from Rhino to Diamonds using closed polylines](#)
- [How to import a random surface from Grasshopper to Diamonds using closed polylines](#)



2.2. Additional shape in Wizard menu

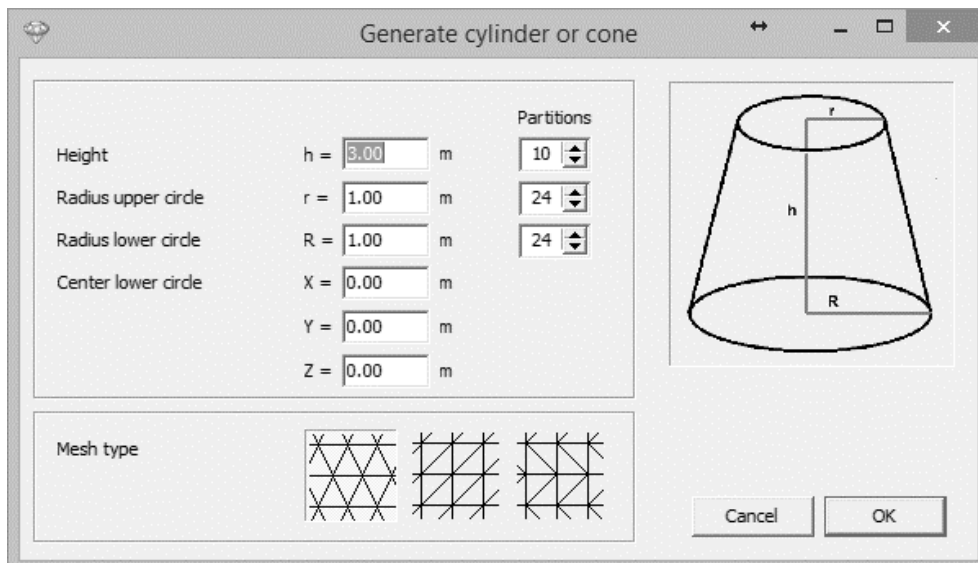
The wizard menu now offers the possibility to model vessels/tanks. The advantage of this tool is that all local coordinate systems of the plates will automatically point outward. This allows you to easily define horizontal loads like (water)pressure.

To use this functions:

- Click on the icon  in the geometry configuration .
- Select the icon .



- Define the dimensions and the type of mesh.



- Hit 'OK'.

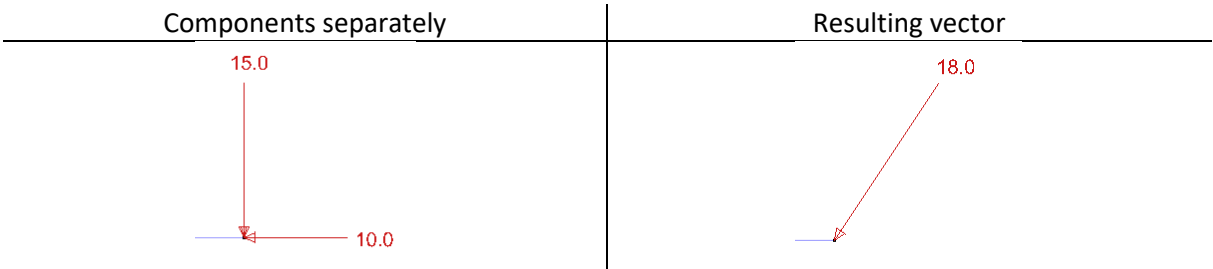
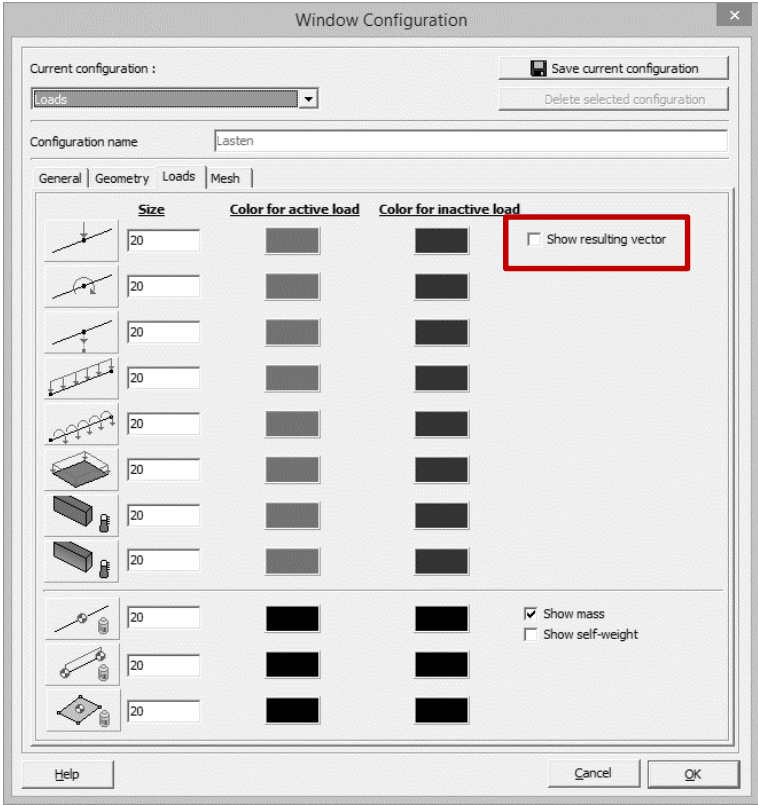
3. Loads

3.1. Wind and snow

The Swiss code SIA 261 for snow and wind are implemented.

3.2. Representation of the loads


In the Loads configuration you can now choose to show the components of the loads separately or the resulting vector.

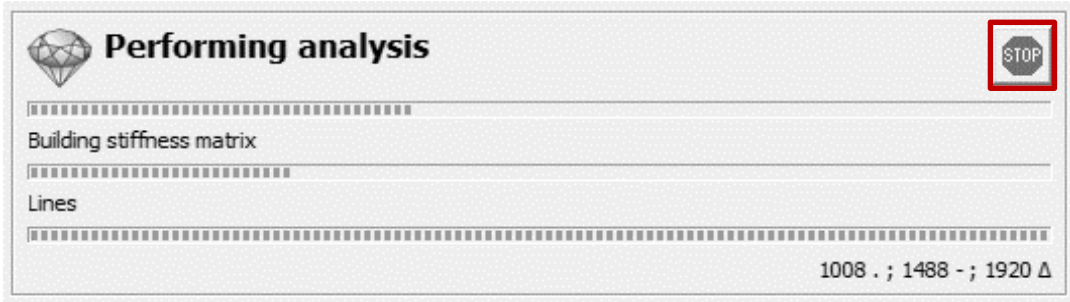


4. Calculation and results

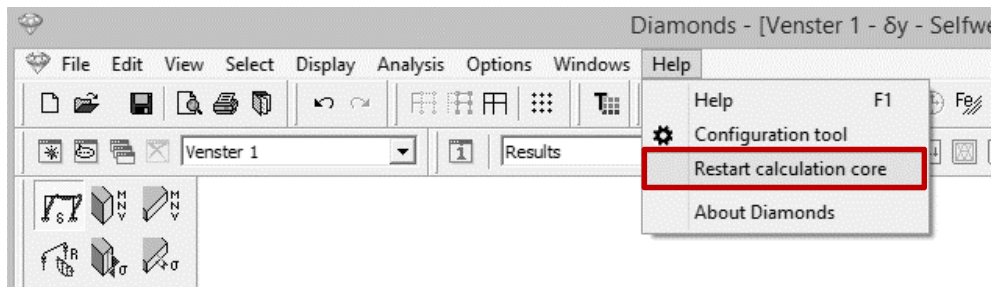
4.1. Restart calculation core

If it would occur that the calculations seem to be stuck or blocked:

- Hit the button . The calculation will be ended.

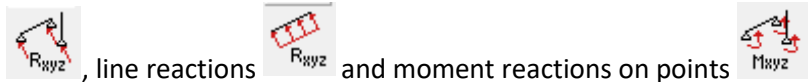


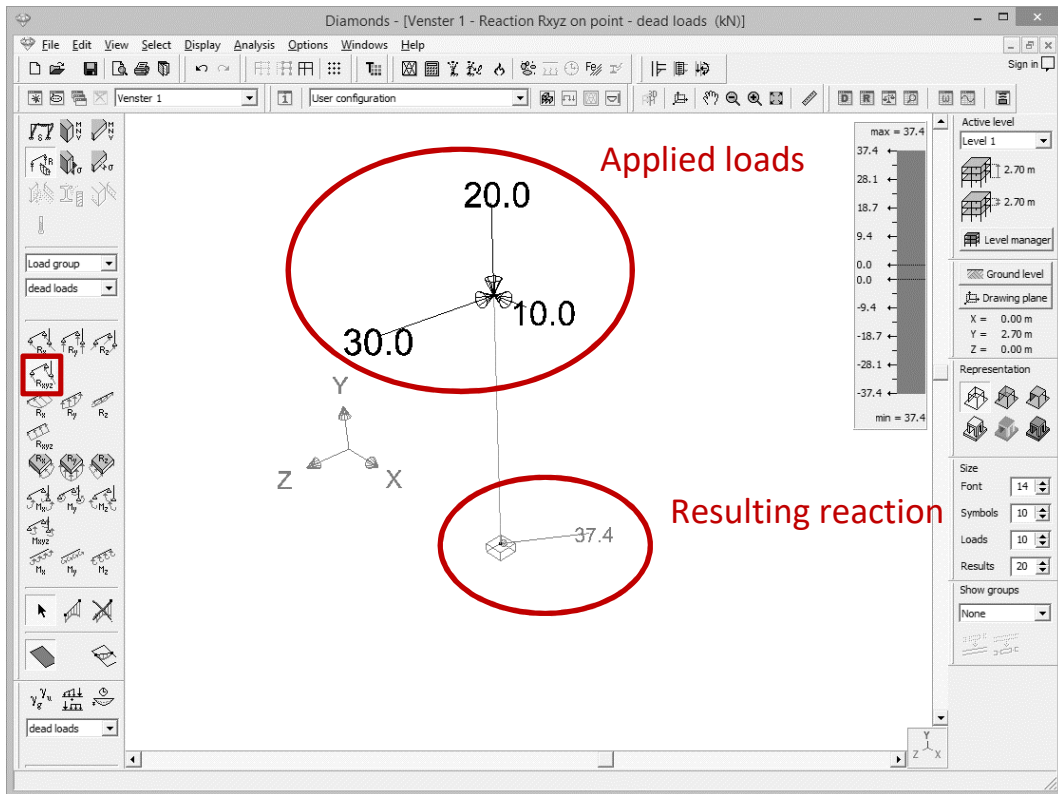
- Go to 'Help' → 'Restart calculation core' and try again to calculate.



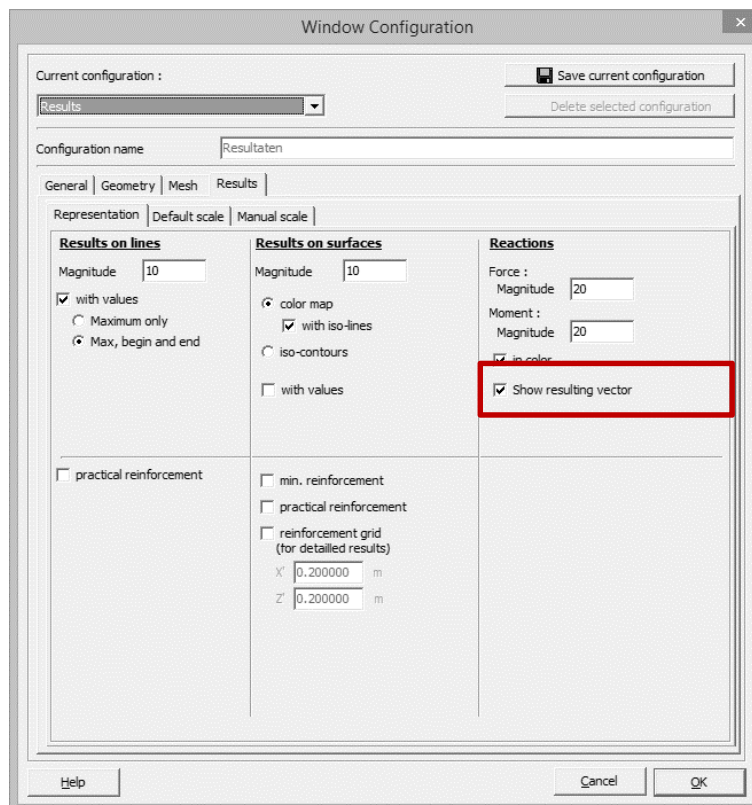
4.2. Resulting reaction

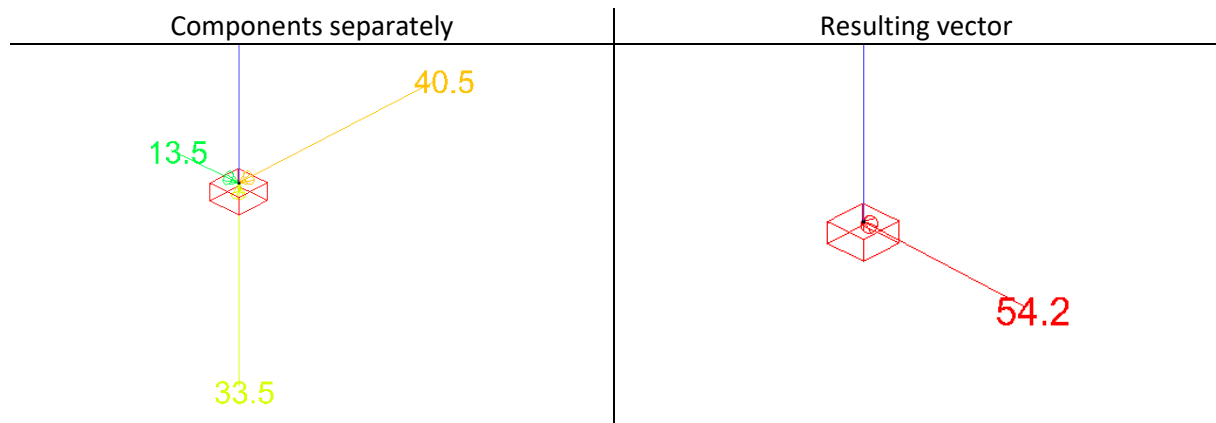
Next to the components individually, you can now also ask the resulting vector for point reactions





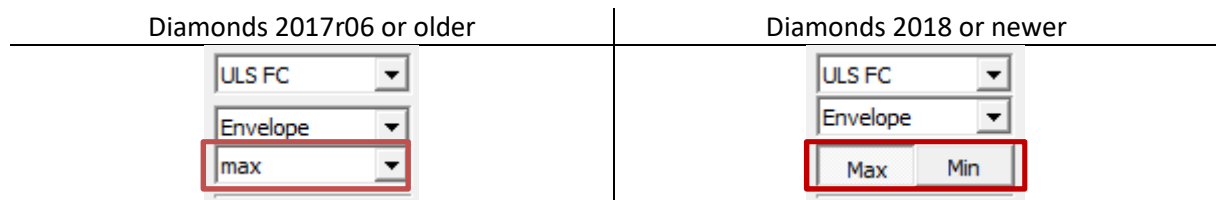
In the Results configuration you can choose to show the components of the loads separately or the resulting vector.





4.3. Min/max button or envelope results (plates and reactions)

For envelope results on plates and reactions, you can now request the minimum and maximum results using buttons instead of a pull down list.



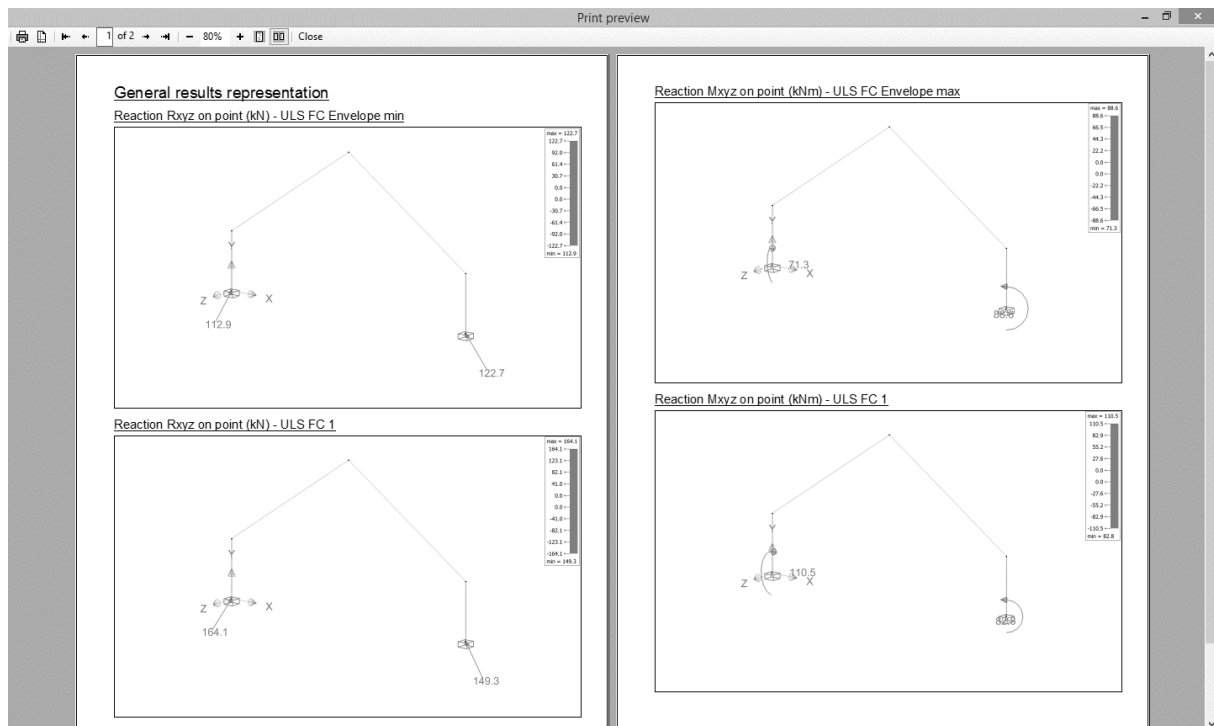
5. Design



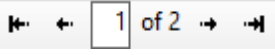




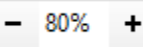


5.1. Steel

The old British standard BS5950-1:2000 and Swiss code SIA 263 for steel are implemented.

6. Reporting

The print preview has a new layout.



- The button  will send the preview to the printer.
- The button  will open the page setup.
- Using  you can scroll through the pages.
 -  goes to the first page
 -  goes to the previous page
 -  goes to the next page
 -  goes to the last page
- With the button  you can zoom in and out according to a chosen percentage.
- With the buttons  you can show one or two pages simultaneously.
- Click on  to close the print preview.