AGACAD CNC EXPORTERS

AGACAD has developed several applications for exporting multi-layered frames of timber and steel walls, floors, roof panels, and trusses from Autodesk® Revit® to automated production lines.

AGACAD CNC Exporters automatically assemble all framing members per user definitions and send all necessary data to various CNC machines and CAD/CAM production lines for flexible manufacturing of wood and metal houses.

While AGACAD currently offers CNC Exporters for the most popular CNC machines like **Weinmann**, **Randek, Hundegger** and **EasyFrame** for timber frame prefabrication and **Howick**, **Metroll**, **Scottsdale,** and **Royal CNC** on the steel side, the software can be adapted for any other CNC machines if needed.

AGACAD CNC Exporters must be used with AGACAD Wood Framing BIM software or Metal Framing BIM software, which software creates framing elements with all needed geometric and information data inside the Revit project and then the respective CNC Exporter converts the framed models into a format readable by your CNC machine.

Below is an overview of each **AGACAD CNC Exporter**.

FOR TIMBER PROJECTS:

AGACAD CNC Exporter – Weinmann CAD/CAM Production Line (WUP)

AGACAD CNC Exporter – Weinmann (BTL) and (BTLx)

AGACAD CNC Exporter – Weinmann (BTL) CLT

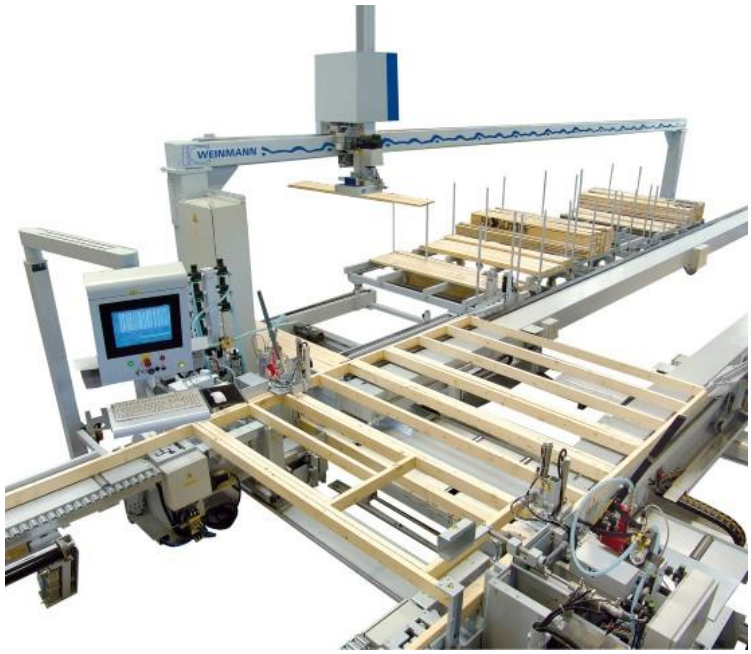
AGACAD CNC Exporter – Randek CAD/CAM Production Line (CDT4)

AGACAD CNC Exporter – Randek (SPL728)

AGACAD CNC Exporter – Hundegger (BVX)

AGACAD CNC Exporter – Hundegger (BVX2 Paneling)

AGACAD CNC Exporter – EasyFrame (SSF)



FOR STEEL PROJECTS:

AGACAD CNC Metal Exporter (Howick, Metroll, Royal CNC, Scottsdale)

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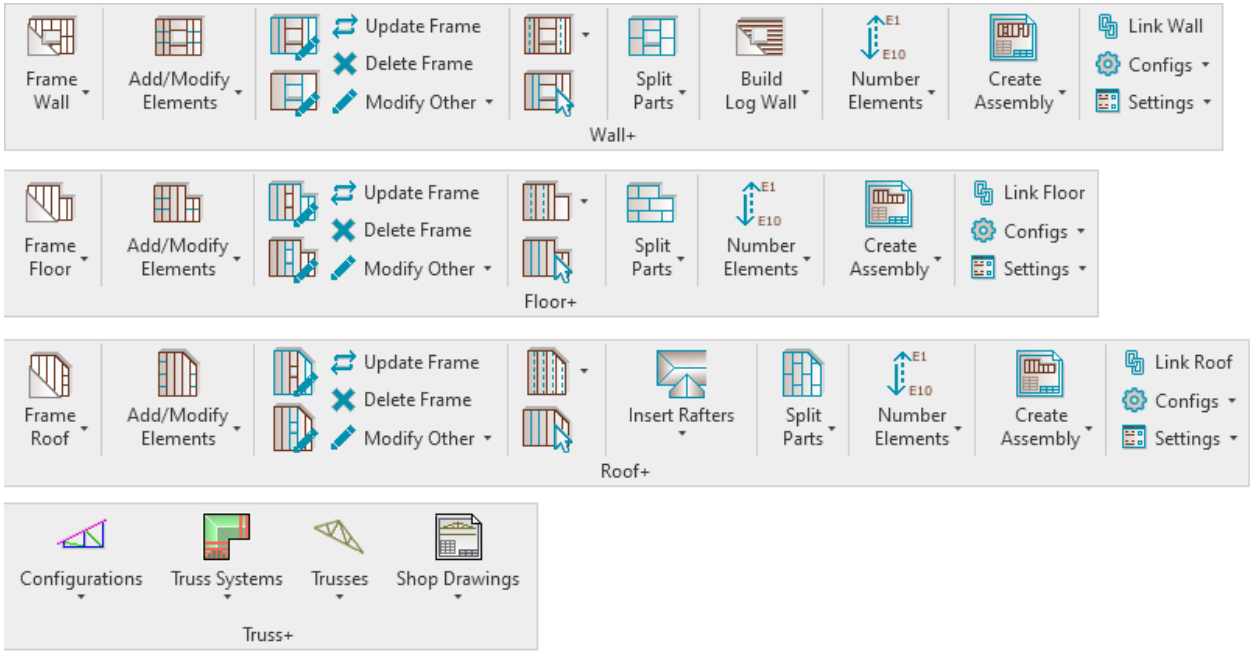
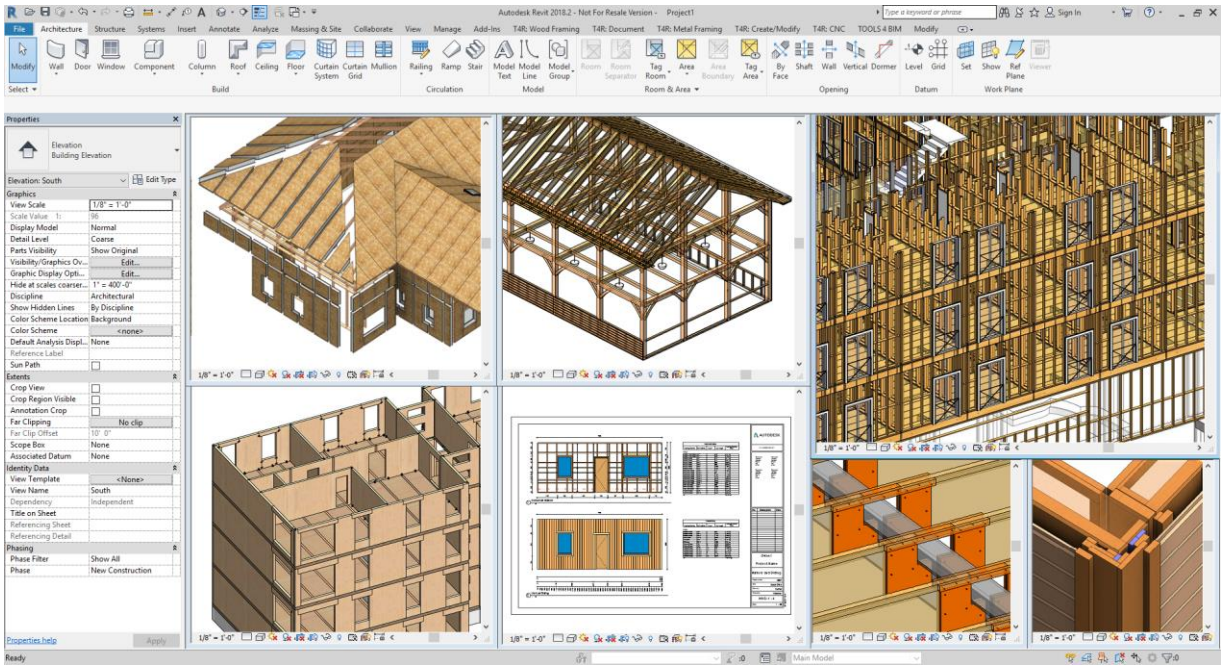
FOR TIMBER PROJECTS:

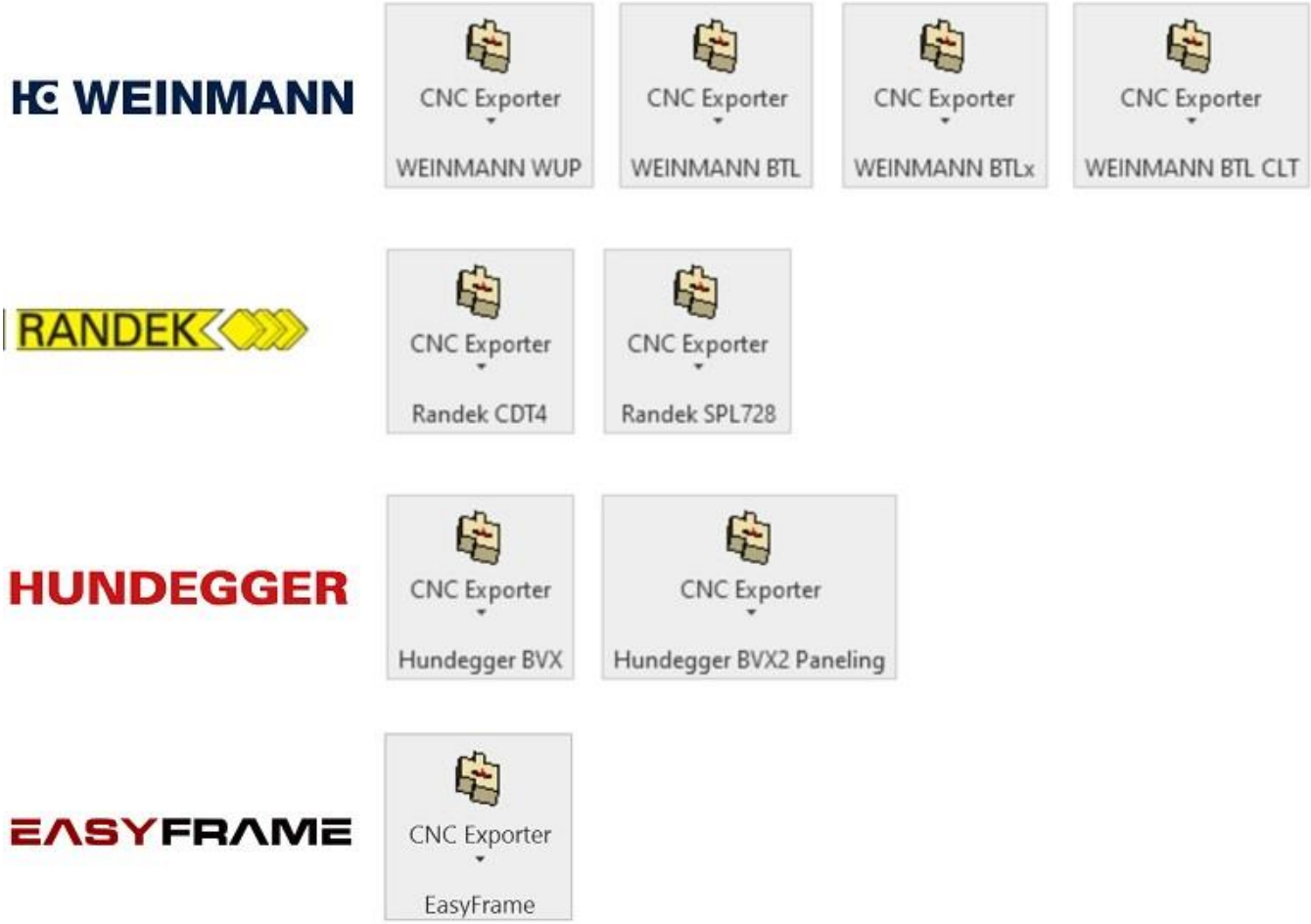
WOOD FRAMING

AGACAD's Wood Framing BIM software makes it fast and easy to frame floors, walls, and truss and rafter roofs in Revit. Advanced automation and built-in best practices help BIM professionals move faster, make optimal choices especially early in the design process, and avoid errors at every stage – from design and documentation to fabrication and construction. There are also solutions made specifically for framing CLT, SIPS, and heavy timber structures.





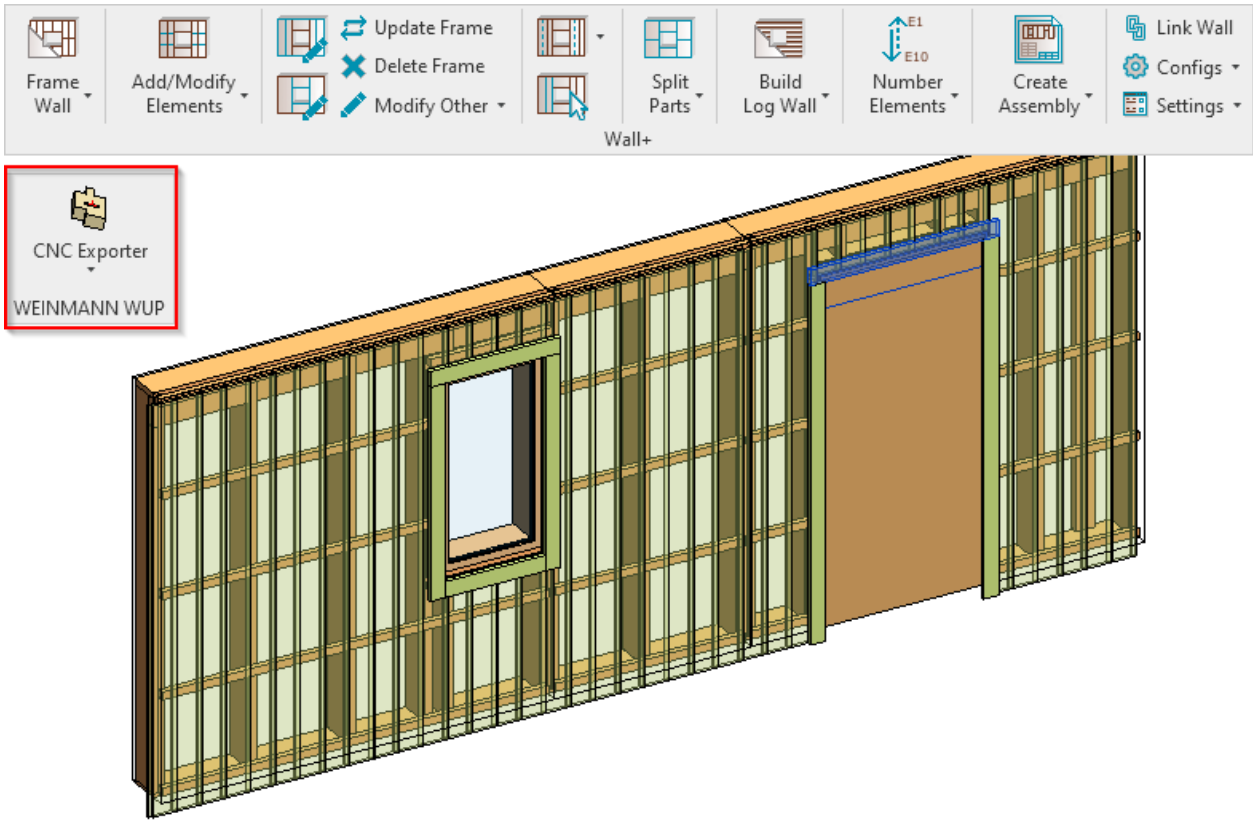
For wooden projects AGACAD currently provides CNC exports for **Weinmann**, **Randek,** and **Hundegger** machines. Existing exports can easily be adapted to other CNC machines if it reads the same file extensions. The BTL file extension, for example, is used worldwide. All exporters are customizable to fit users' needs. AGACAD works one-on-one with clients who need to export to CNC to make sure the final product performs seamlessly and accurately.



AGACAD CNC Exporter – Weinmann CAD/CAM Production Line (WUP)

Weinmann WUP. This exporter generates files for Weinmann CAD/CAM production lines that read WUP extension files. Walls, floors, roof frames, and separate framing elements can be exported using this application. If there is a beam-processing machine included in your production line, then the WUP file can be used for simple processing like pre-cutting lumber for studs and beams for the timber framing.

Here's an example of a wall frame export:

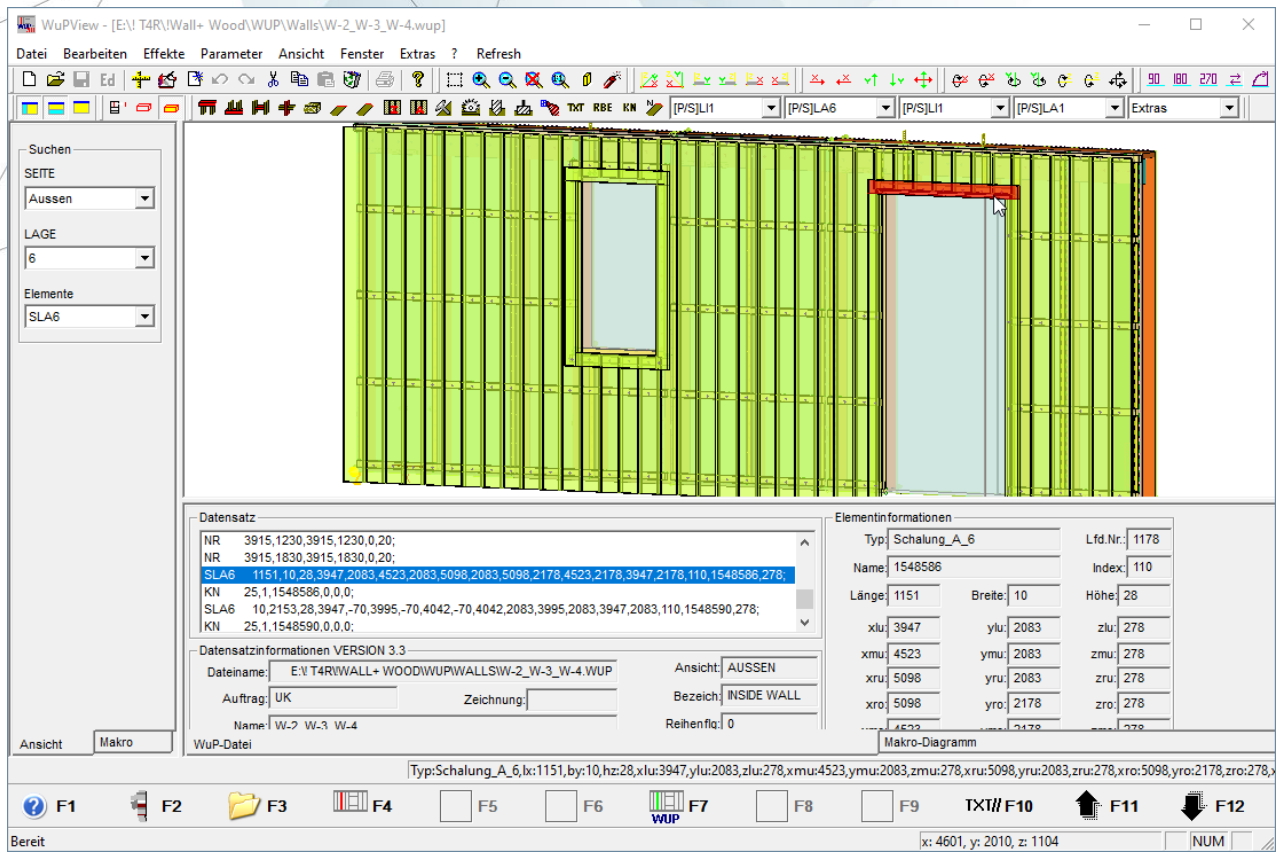


The application allows you to export the main frame only, main frame and external layers, main frame and internal layers, main frame and external layers without siding, or all layers.

Processing definitions include drilling, trimming, sawing, polygon trimming, tenon, joints, longitudinal sawing, identification, and marking and nailing lines.

The exporter installation includes basic and advanced settings. In the advanced settings you can predefine element identification for main frame, secondary frame, vertical/horizontal nailers, siding, sheathing, and membrane. Advanced settings also include membrane nailing, nailing pads for the main frame, interior/exterior sheathing nailing/stapling, sheathing trimming, position marking, siding trimming, and siding nailing settings.

The result in WUP viewer:

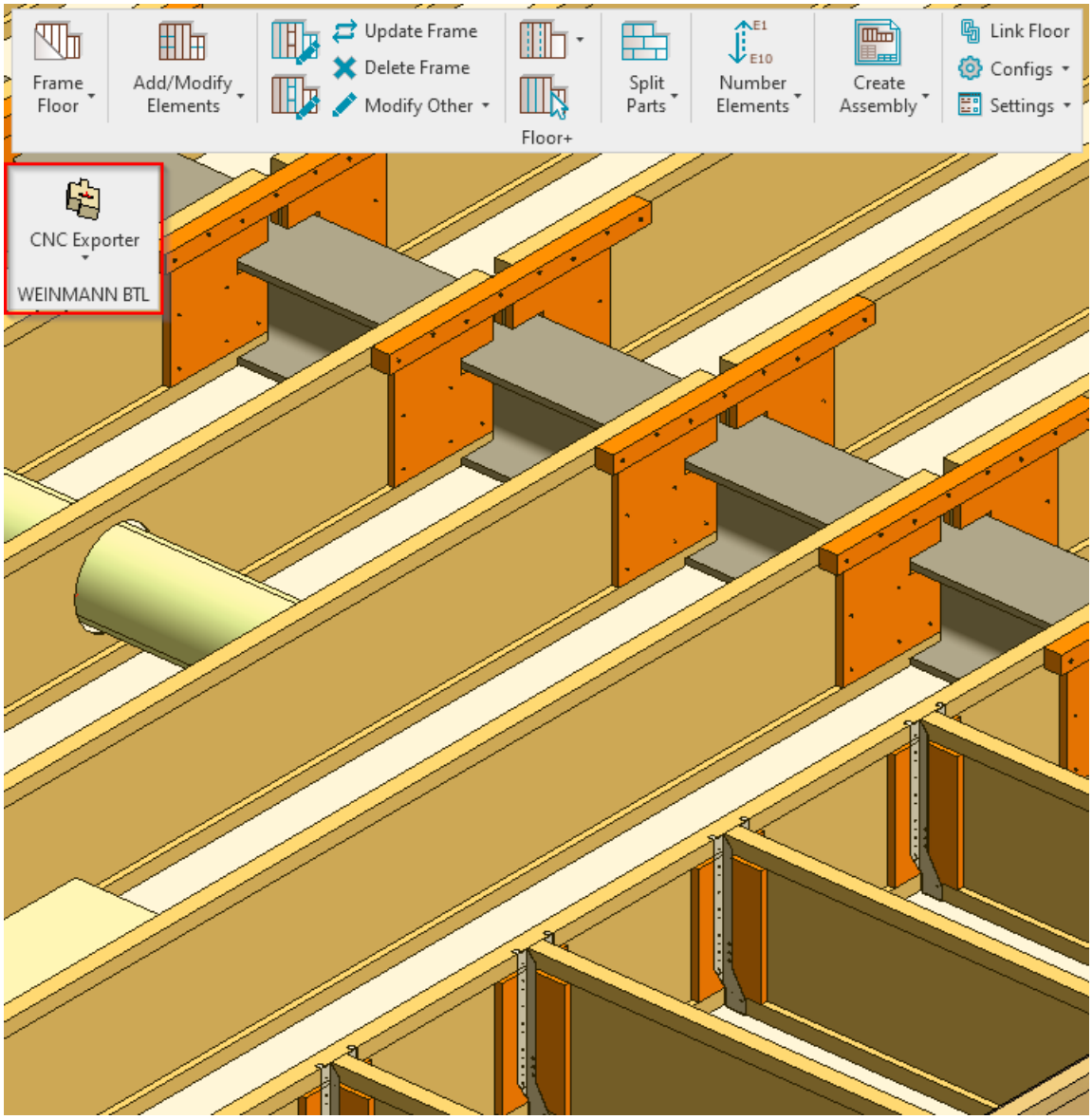


The WUP file contains all needed operations and information allowing the operator to operate the machine without manual intervention.

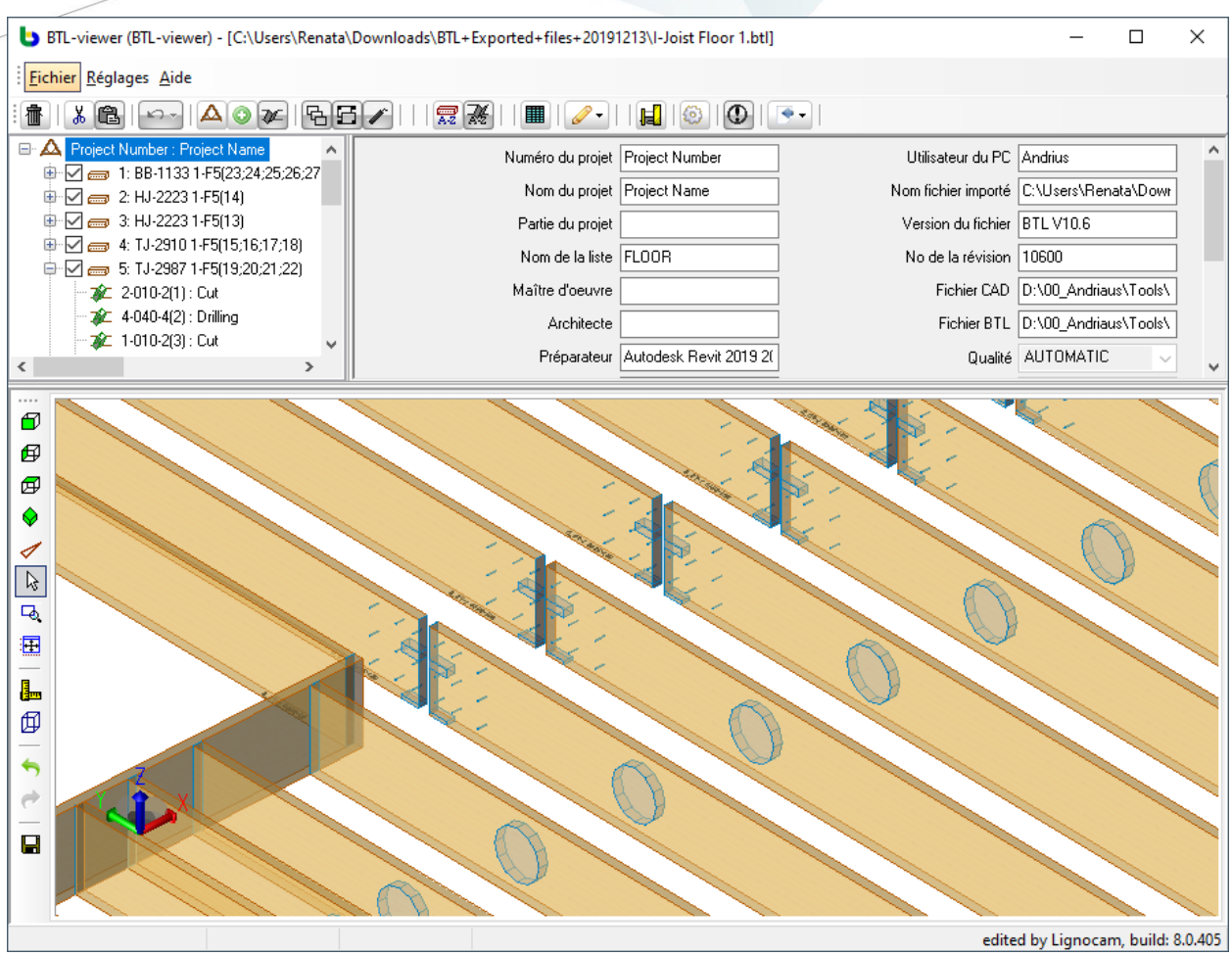
AGACAD CNC Exporter – Weinmann (BTL and BTLx)

Weinmann BTL or **BTLx.** This exporter generates files for Weinmann CNC machines that read the respective extension file. BTL file extensions are widely used around the world and in other machines too, so our existing installation can easily be adapted. Walls, floors, roof framing members, trusses, and separate framing elements can be exported using this application. Usually BTL and BTLx format processing goes for highly detailed and complex beams. BTLx is a newer format, whose use is not yet widespread.

Here's an example of a floor frame export:



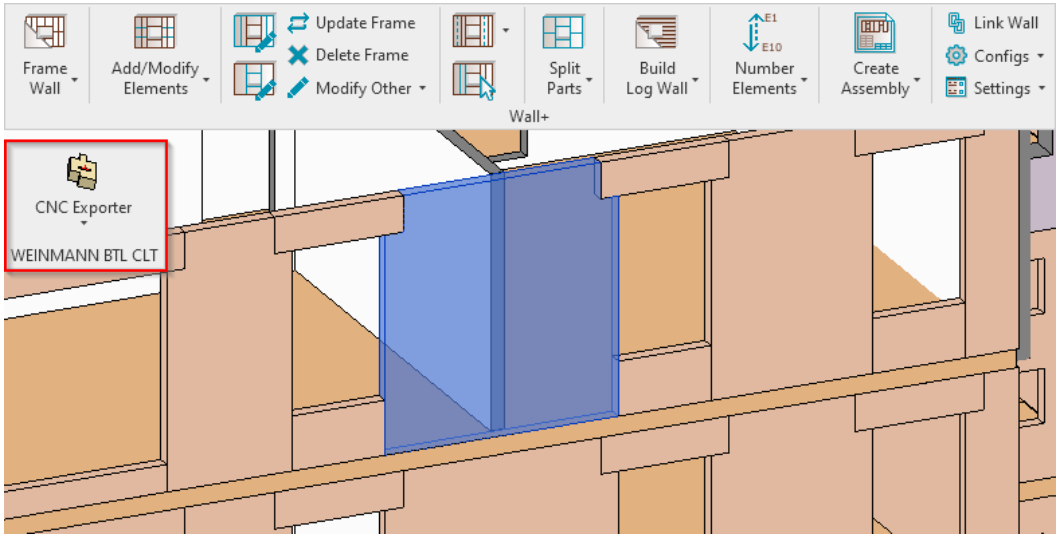
BTL or BTLx result can be checked in the free BTL viewer:



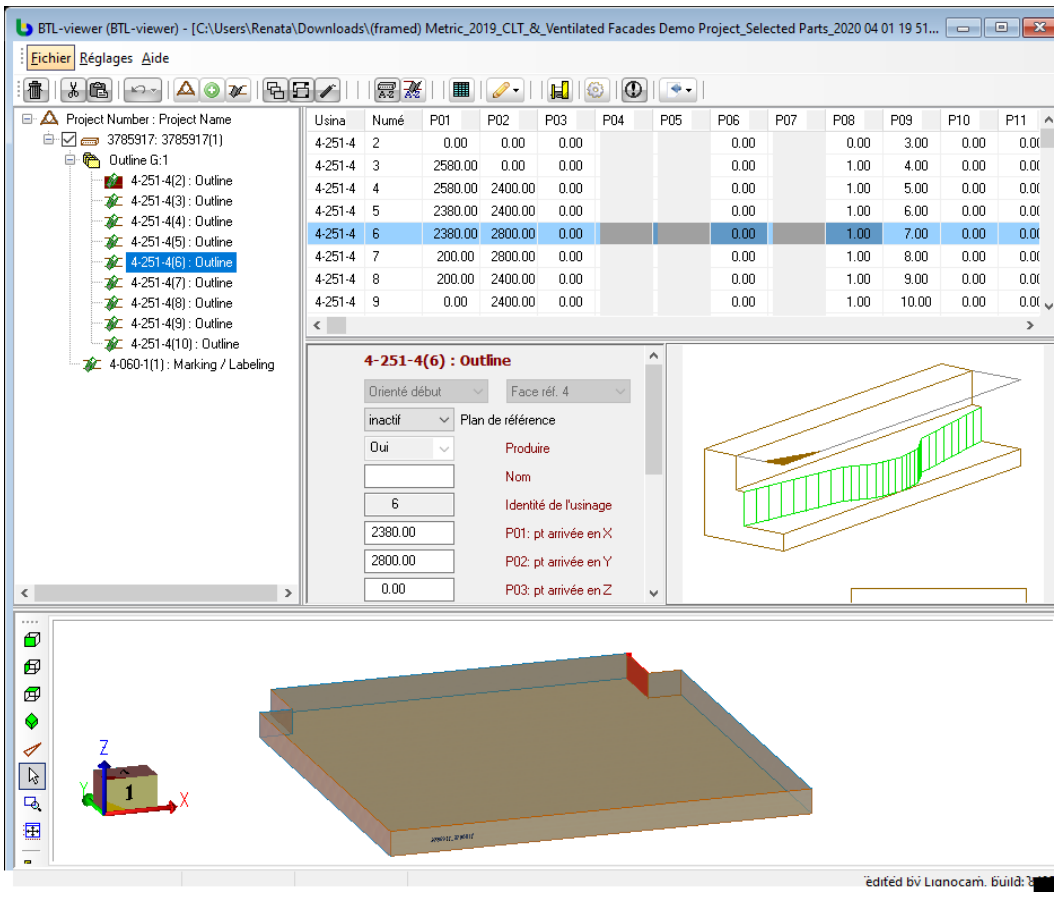
AGACAD CNC Exporter – Weinmann (BTL) CLT

Weinmann BTL CLT. This exporter generates files for Weinmann CNC machines that read BTL files for processing CLT (cross-laminated timber) panels. CLT models that have been framed using AGACAD's Wood Framing CLT software can be exported to Weinmann's using this application.

Here's an example of a wall panel export:



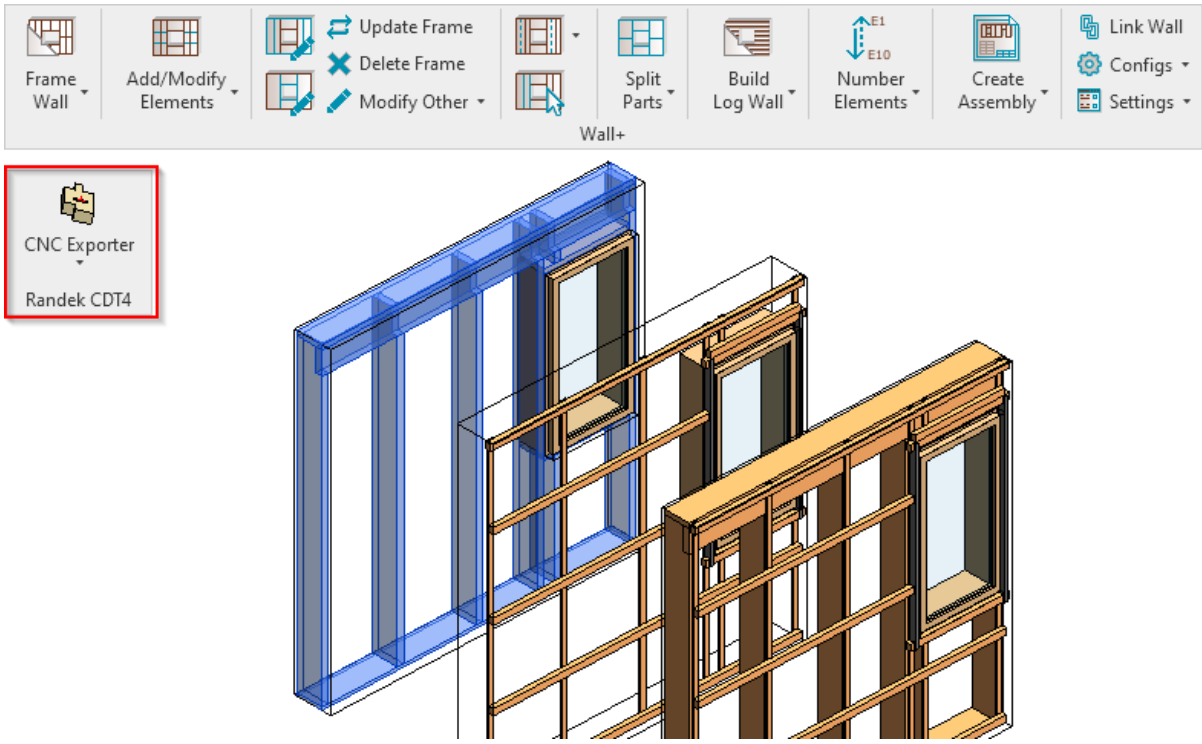
BTL result can be checked in the free BTL viewer:



AGACAD CNC Exporter – Randek CAD/CAM Production Line (CDT4)

Randek CDT4. This exporter generates files for automated Randek CAD/CAM production lines that read CDT files. Wall and floor frames can be exported using this application.

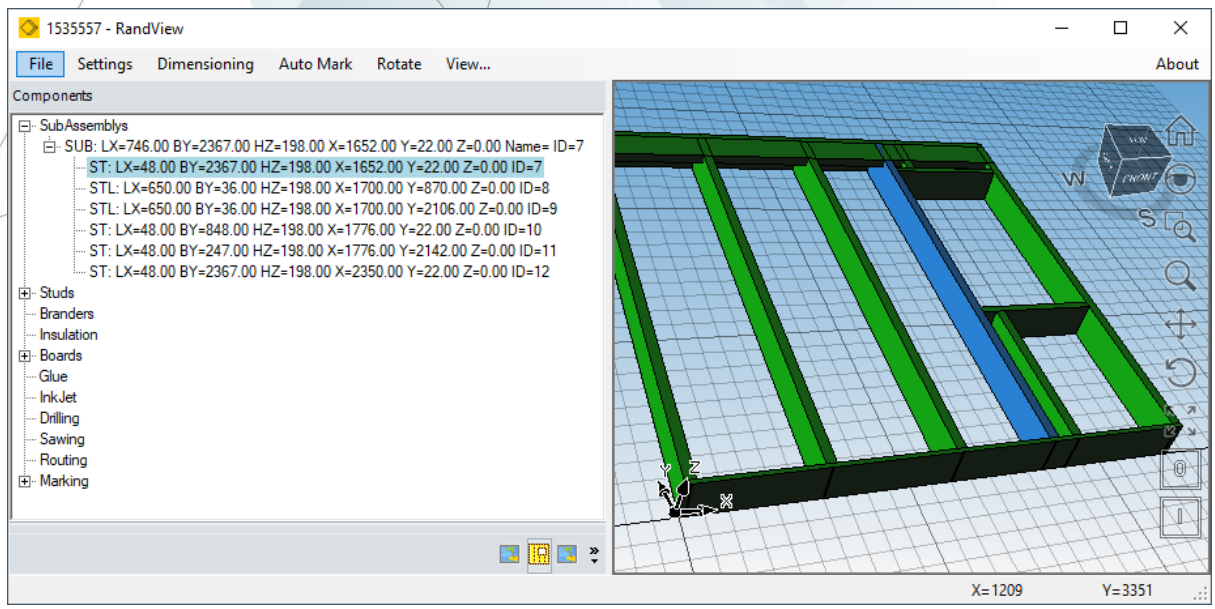
Here's an example of a wall frame export:



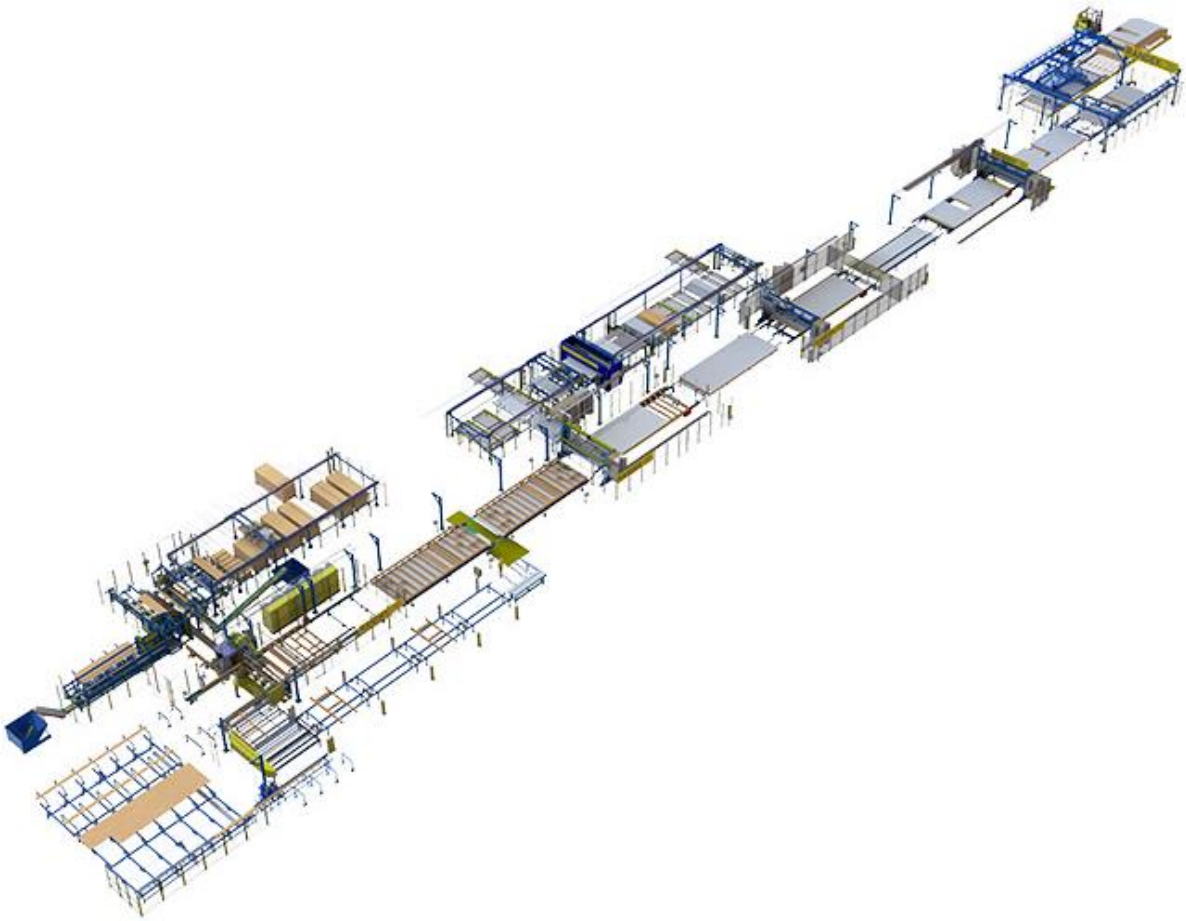
The application allows you to export the main frame only, main frame and external layers, main frame and internal layers, main frame and external layers without siding, or all layers.

The installation comes with basic and advanced settings. Advanced settings include interior/exterior sheathing nailing/stapling, sheathing trimming, siding trimming, and siding nailing settings.

The result in **Randek** CDT viewer:



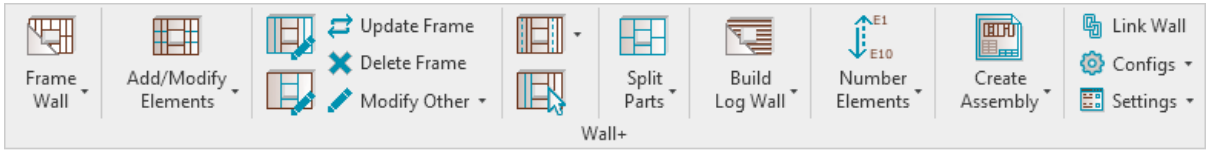
The CDT file contains all needed operations and information allowing the operator to operate the machine or production line without manual intervention.

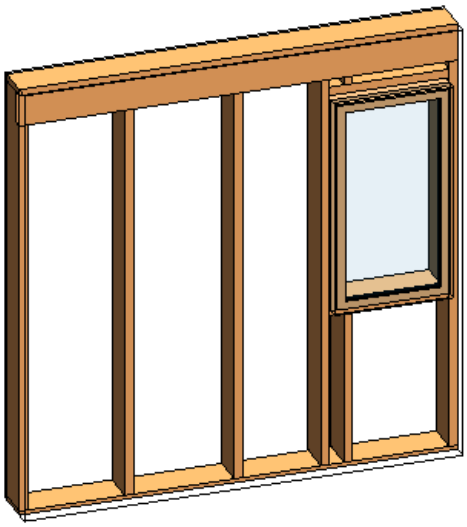


AGACAD CNC Exporter – Randek (SPL728)

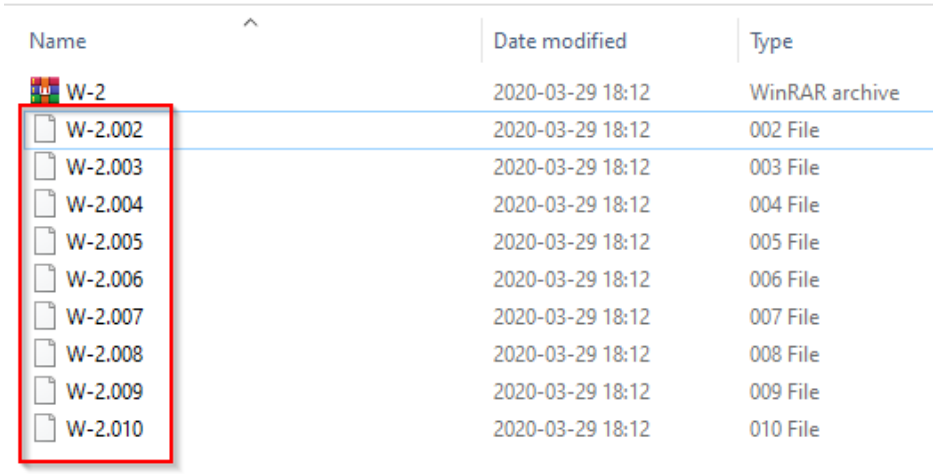
Randek SPL728. This exporter generates special extension files for Randek's SP700 series automatic cut saws. Wall and floor frames can be exported using this application. It currently works with main frames, but it can be adjusted for additional framing layers if needed.

Here's an example of a wall frame export:





Every frame element is in a separate file:



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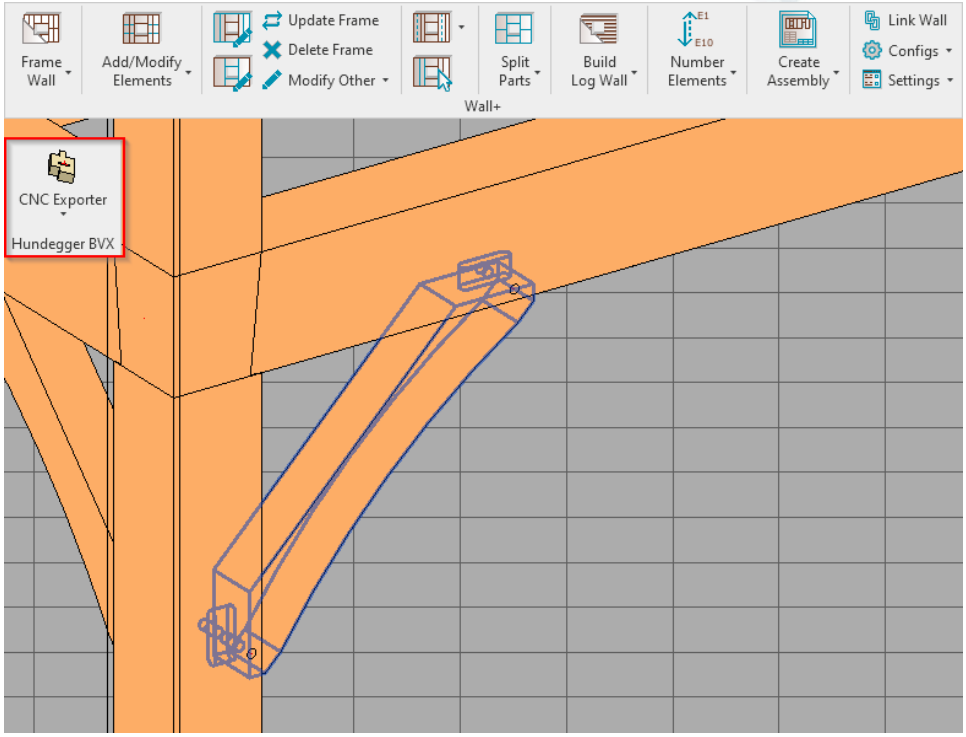
W-2.003	2020-03-29 18:12	003 File
W-2.004	2020-03-29 18:12	004 File
W-2.005	2020-03-29 18:12	005 File
W-2.006	2020-03-29 18:12	006 File
W-2.007	2020-03-29 18:12	007 File
W-2.008	2020-03-29 18:12	008 File
W-2.009	2020-03-29 18:12	009 File
W-2.010	2020-03-29 18:12	010 File

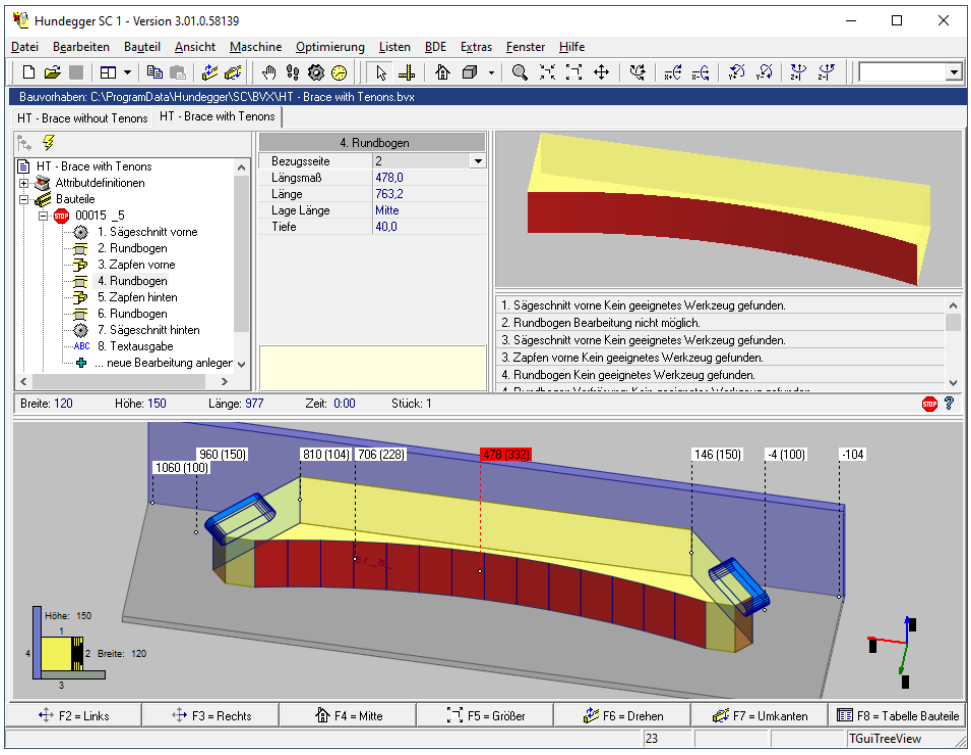
AGACAD CNC Exporter – Hundegger (BVX)

Hundegger BVX. This exporter generates files for automated Hundegger CNC machines that read BVX files. Walls, floors, roof framing members, trusses, and separate framing elements can be exported using this application.

Here's an export example of heavy timber framed using our [Wood Framing OAK] BIM software:



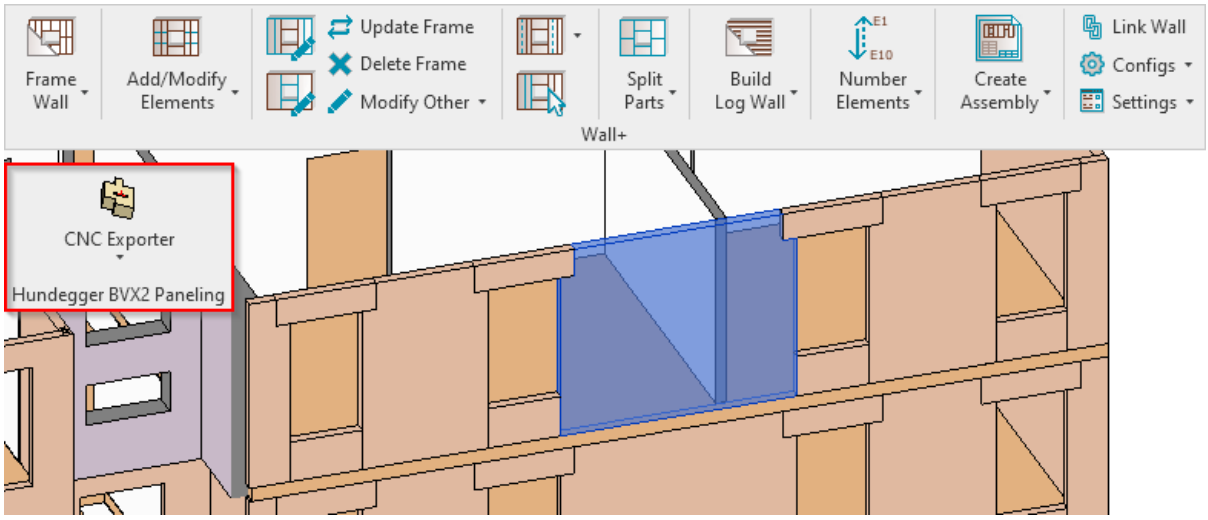
The result in **Hundegger** viewer:



AGACAD CNC Exporter – Hundegger (BVX2 Paneling)

Hundegger BVX2 Paneling. This exporter generates files for automated **Hundegger** CNC machines that read BVX files. CLT (cross-laminated timber) panels and sheathings can be exported using this application, though, the CLT panels must have been created using AGACAD [Wood Framing CLT](#) BIM software (as with our exporter for Weinmann BTL CLT above).

Here's an example of a wall panel export:



L-4_EW-18_Frame_Cherry Main Vertical.bvx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AGACAD CNC Exporter – Easy Frame (EstiFrame) SSF

Easy Frame (EstiFrame) SSF. This CNC exporter generates files for automated **EasyFrame** CNC machines that read SSF files. Walls, floors, roof framing members, and separate framing elements can be exported using this application.

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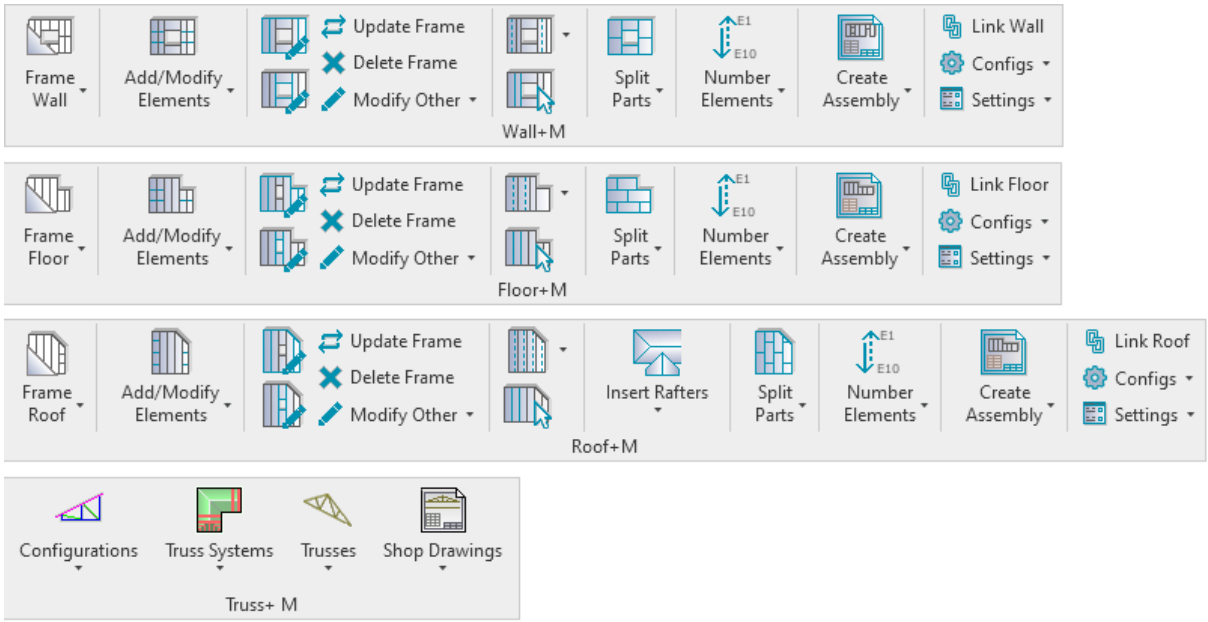
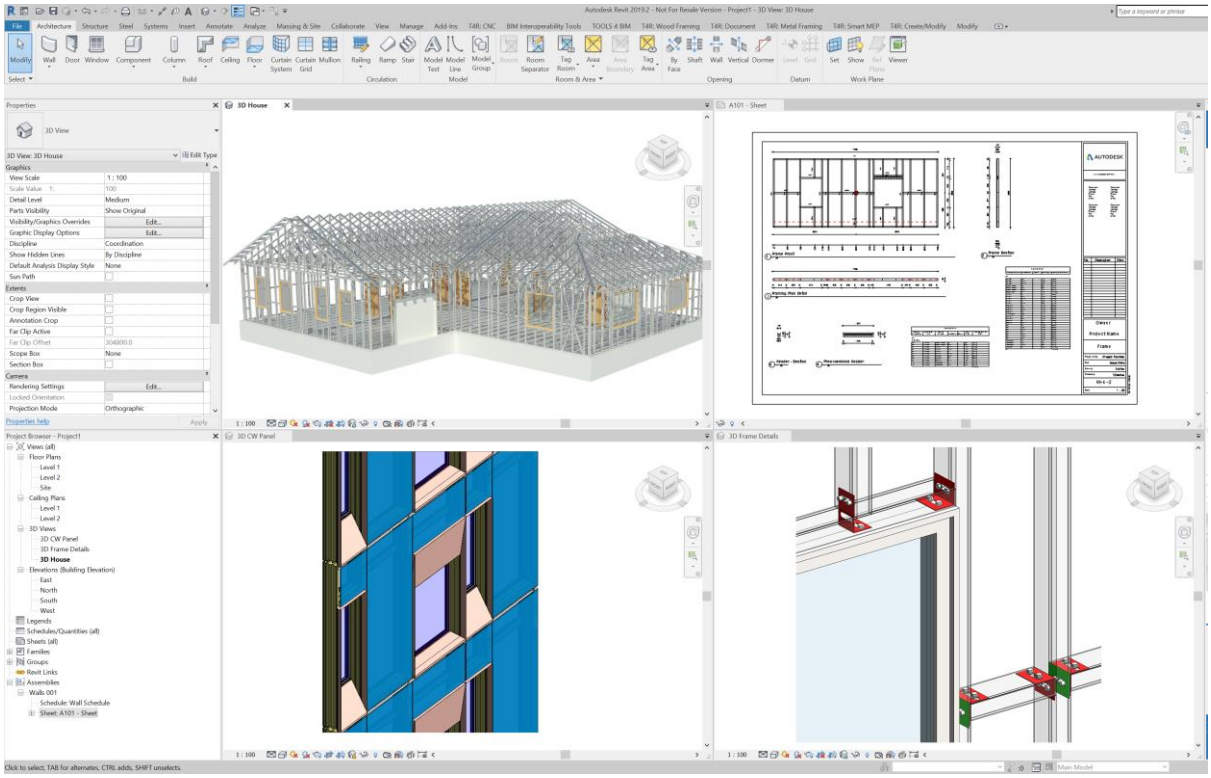
FOR METAL PROJECTS:

METAL FRAMING

AGACAD's Metal Framing BIM software makes framing single or multi-layer LGS walls, floors, and roofs, including prefabricated panels, rafters, and trusses. Sophisticated solutions are also available for framing detailed curtain wall and ventilated facade designs.





For steel projects, AGACAD currently provides CNC exporters for **Howick**, **Metroll**, **Scottsdale,** and **Royal CNC** machines.

AGACAD CNC Metal Exporter (Howick, Metroll, Royal CNC, Scottsdale)

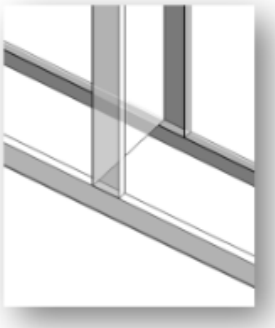
Howick 4200, **Howick CNC Configuration**, **Howick CNC Configuration CSV2.** These exporters generate CSV extension files for Howick machines. Wall, floor, roof frames, and trusses can be exported using this application.

The difference between **Howick 4200** and **Howick CNC configuration** is in the coding. For example, **Howick 4200** uses the FLANGE1 command instead of the DIMPLE command used in the **Howick CNC configuration**. **Howick CNC Configuration CSV2** has a different coding format, and it writes the coordinates of beam corners.

Howick framing system is based on a **C+C** (incl. **C+C Chamfered**) framing system.

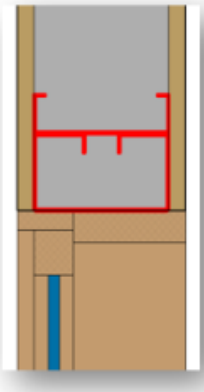
C+C system samples:

C+C stud and bottom plate (3D view):



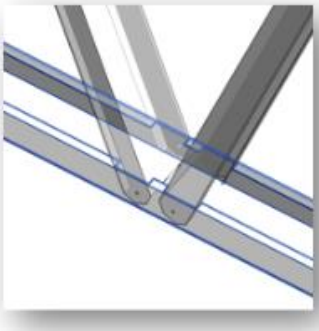
C+C simple header (3D view):

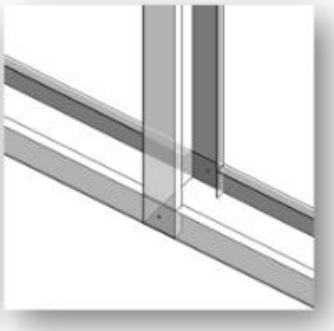
C+C complex header (Section view):



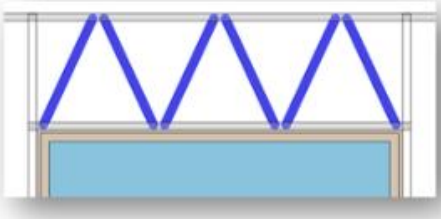
C+C Chamfered system samples:

C+C with cuts and chamfered ends if needed (3D view):

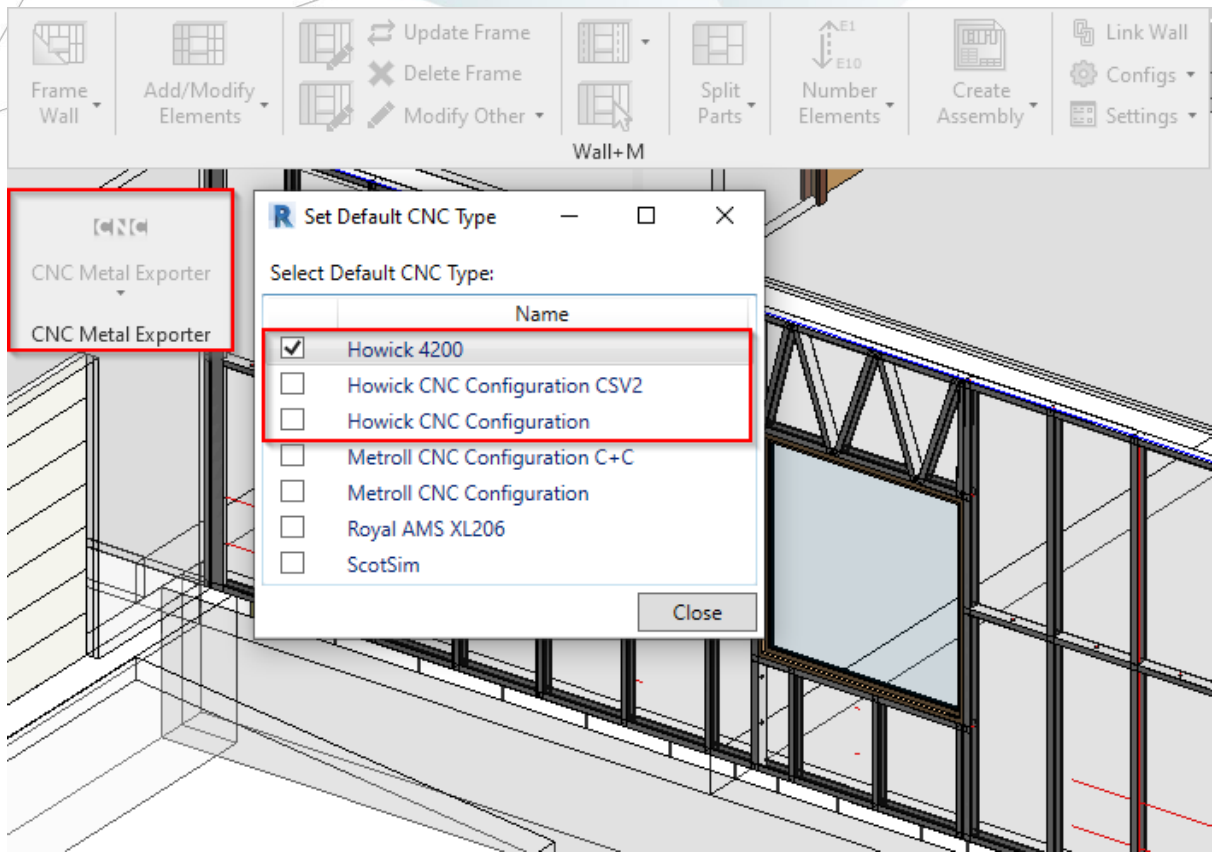




C+C **Chamfered** warren diagonal cripples above the window (Front side view):



Here’s an example of a wall frame export:



The result can be checked in any text reader:

Wall_W-55-43.csv

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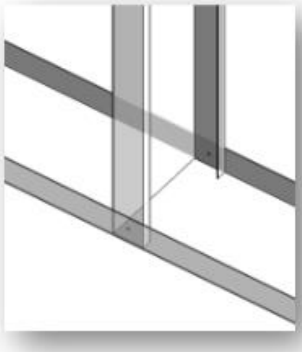
COMPONENT,VS-7,LABEL_NRM,1,119.910,FLANGE1,0.767,SWAGE,1.083,FLANGE1,59.955,SWAGE,59.955,SWAGE,118.827,FLANGE1,119.142
COMPONENT,VS-8,LABEL_NRM,1,119.910,FLANGE1,0.767,SWAGE,1.083,FLANGE1,59.955,SWAGE,59.955,SWAGE,118.827,FLANGE1,119.142
COMPONENT,VS-9,LABEL_NRM,1,119.910,FLANGE1,0.767,SWAGE,1.083,FLANGE1,59.955,SWAGE,59.955,SWAGE,118.827,FLANGE1,119.142
```

Metroll CNC Configuration C+C, **Metroll CNC Configuration.** These exporters generate TXT extension files for Metroll machines. The two exporters use different coding read by different machines. Wall, floor, roof frames, and trusses can be exported using this application. Studs and plates are exported to separate files.

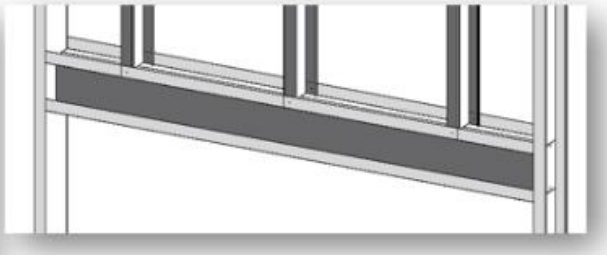
Metroll framing system is based on a **C+U** (incl. **C+U Special**) framing system.

C+U system samples:

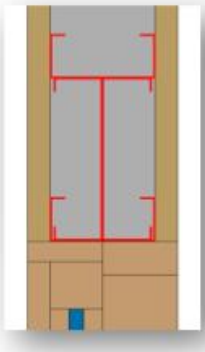
C+U stud and bottom track (3D view):



C+U window header (3D view):



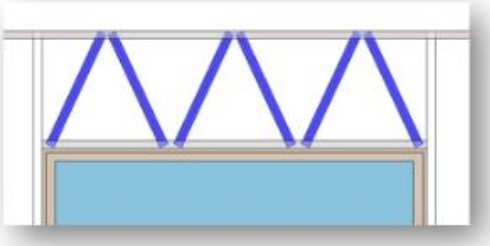
C+U window header (Section view):



C+U Special system samples:

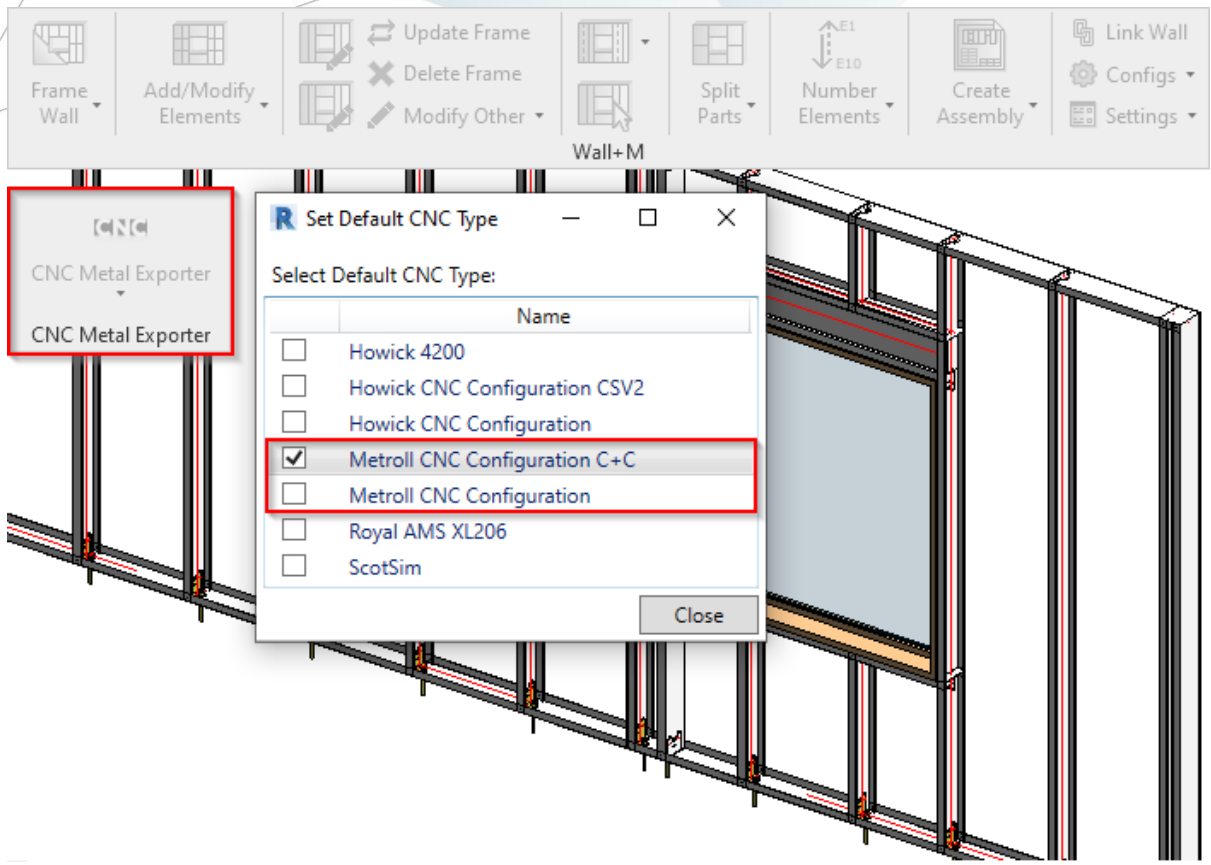
C+U Special window header (3D view):

C+U Special warren diagonal cripples above the window (Front side view):

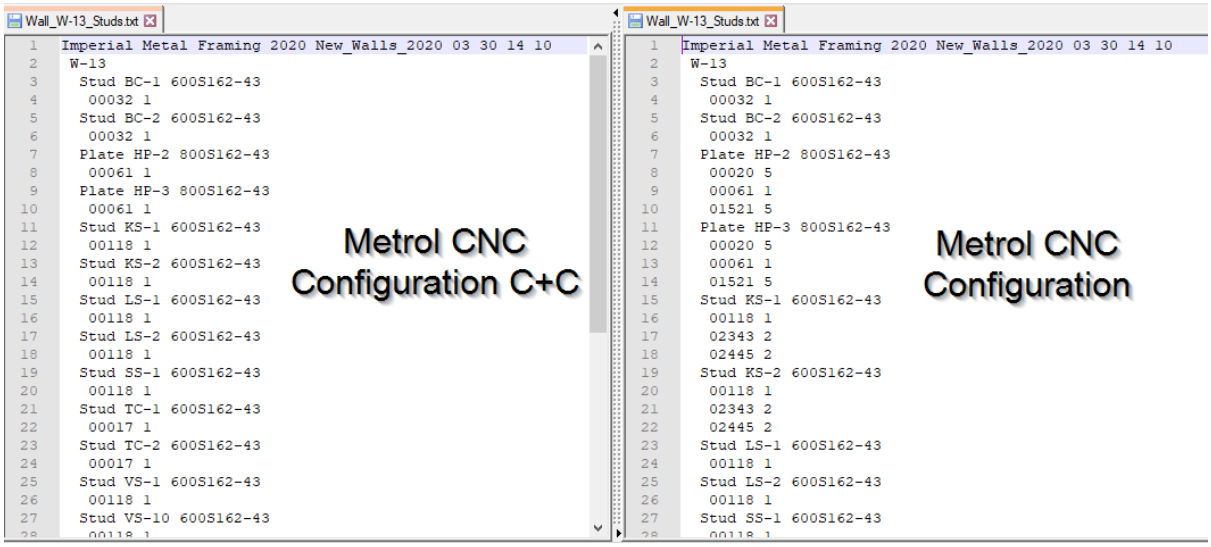


C+U Special warren diagonal cripples above the window (3D view):

Here’s an example of a wall frame export:

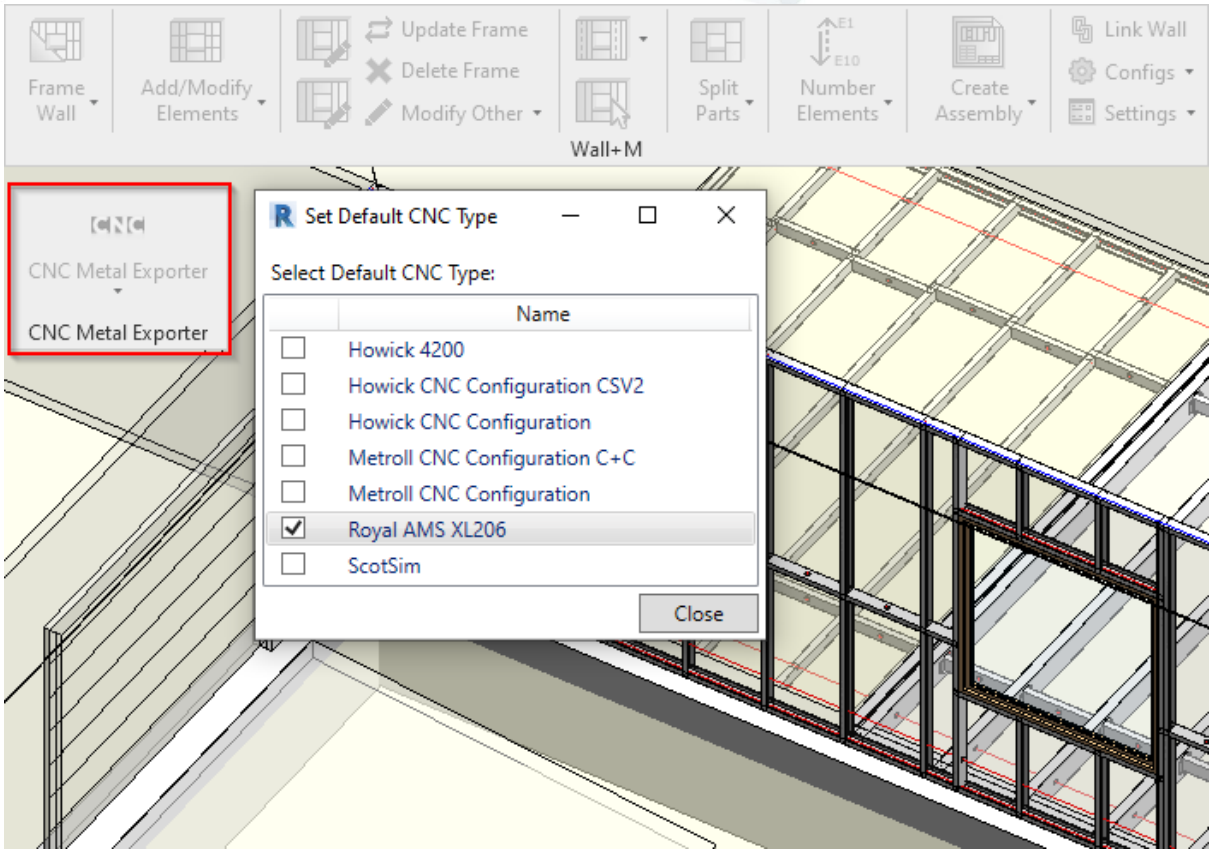


The result with studs can be checked in any text reader:



Royal AMS XL206. This exporter generates TXT extension files for Royal machines. Wall, floor, roof frames, and trusses can be exported using this application. Studs and plates are exported to separate files.

Here's an example of a wall frame export:



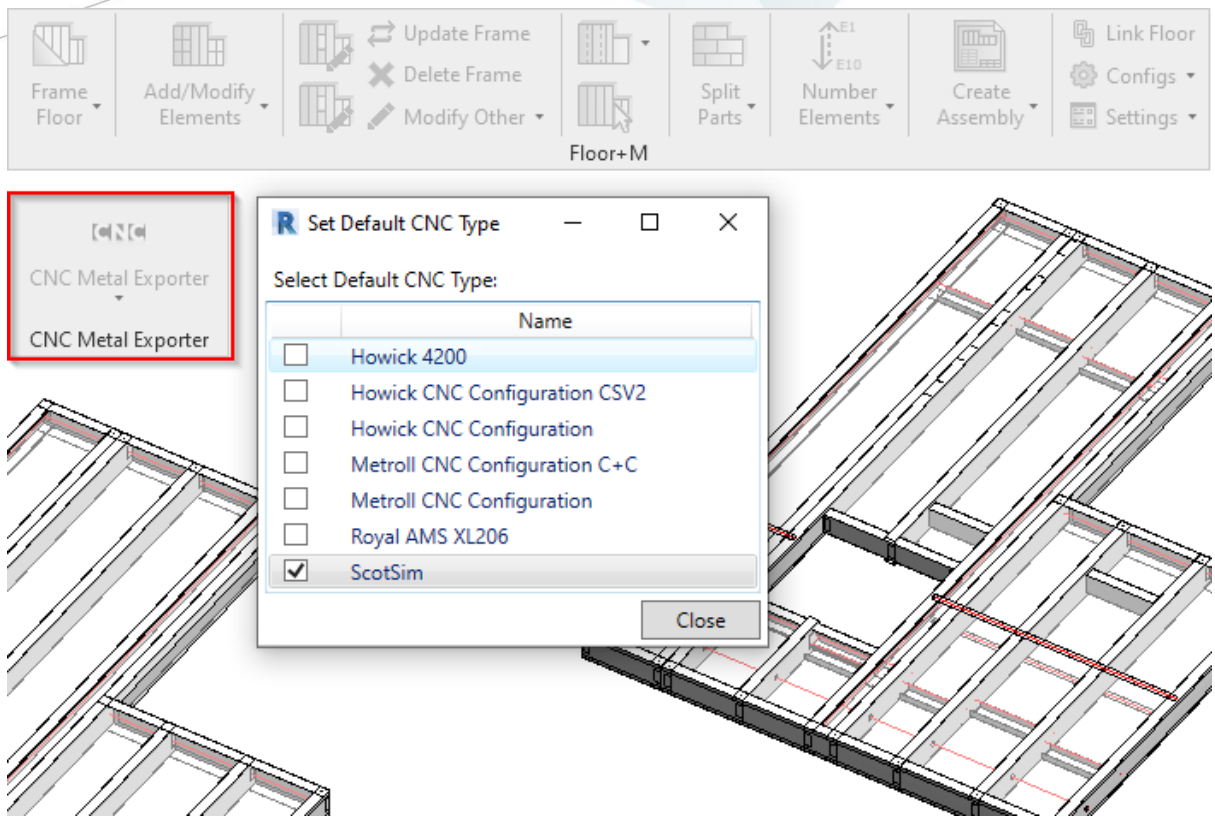
The result with studs or plates can be checked in any text reader:

Project Number_W-55_C08941-10-1.00 Studs.csv

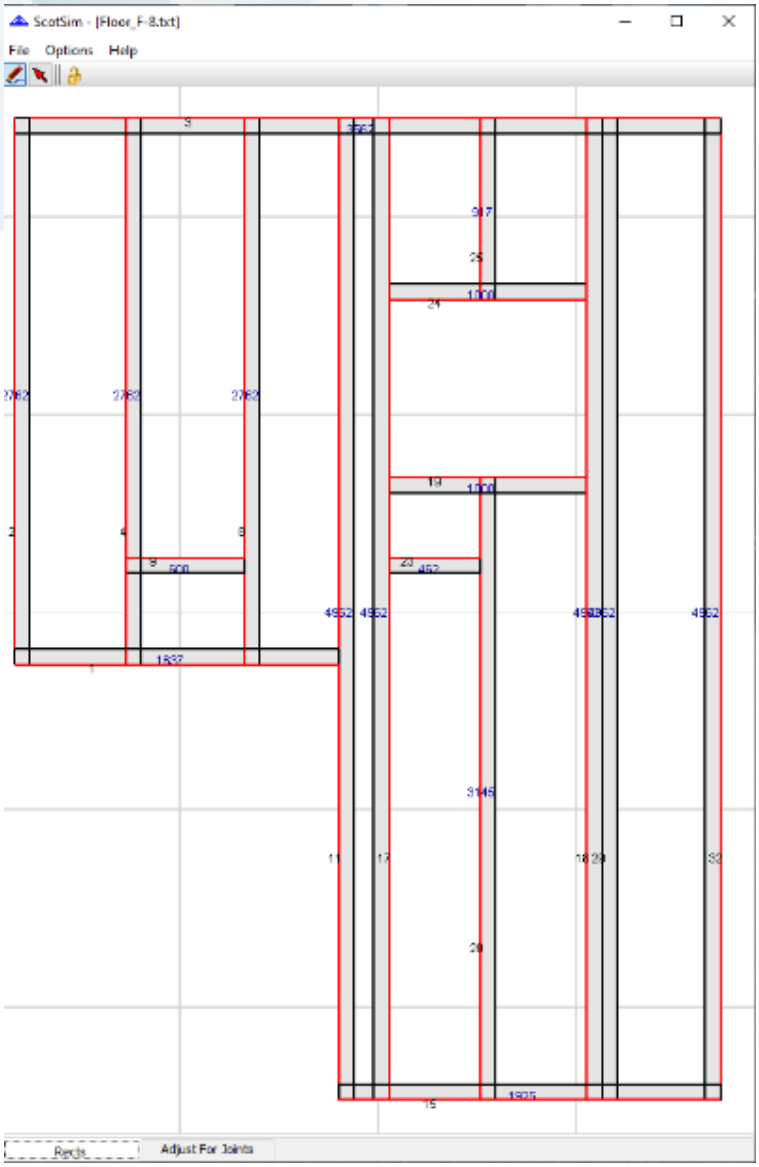
```
DETAILS,W-55,Project Number
COMPONENT,BC-1,C08941-10,Stud,NORMAL,1,858.00,4923.50,1.00,4923.50,859.00,41.30,DIMPLE,19.65,DIMPLE,838.35
COMPONENT,BC-2,C08941-10,Stud,NORMAL,1,858.00,5523.50,1.00,5523.50,859.00,41.30,DIMPLE,19.65,DIMPLE,838.35
COMPONENT,KS-1,C08941-10,Stud,INVERTED,1,2998.00,4452.85,1.00,4452.85,2999.00,41.30,DIMPLE,19.65,DIMPLE,838.35,DIMPLE,1249.00,
COMPONENT,KS-2,C08941-10,Stud,NORMAL,1,2998.00,5994.15,1.00,5994.15,2999.00,41.30,DIMPLE,19.65,DIMPLE,838.35,DIMPLE,1249.00,DI
COMPONENT,LS-1,C08941-10,Stud,NORMAL,1,2998.00,20.65,1.00,20.65,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,SS-1,C08941-10,Stud,INVERTED,1,2998.00,7832.85,1.00,7832.85,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,TC-1,C08941-10,Stud,NORMAL,1,638.00,4923.50,2361.00,4923.50,2999.00,41.30,DIMPLE,19.65,DIMPLE,618.35
COMPONENT,TC-1,C08941-10,Stud,NORMAL,1,638.00,5523.50,2361.00,5523.50,2999.00,41.30,DIMPLE,19.65,DIMPLE,618.35
COMPONENT,VS-1,C08941-10,Stud,NORMAL,1,2998.00,600.00,1.00,600.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-2,C08941-10,Stud,NORMAL,1,2998.00,1200.00,1.00,1200.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-2,C08941-10,Stud,NORMAL,1,2998.00,3600.00,1.00,3600.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-2,C08941-10,Stud,NORMAL,1,2998.00,6600.00,1.00,6600.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-2,C08941-10,Stud,NORMAL,1,2998.00,4200.00,1.00,4200.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-3,C08941-10,Stud,NORMAL,1,2998.00,1800.00,1.00,1800.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-4,C08941-10,Stud,NORMAL,1,2998.00,2400.00,1.00,2400.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-4,C08941-10,Stud,NORMAL,1,2998.00,3000.00,1.00,3000.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-5,C08941-10,Stud,NORMAL,1,2998.00,7791.55,1.00,7791.55,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-6,C08941-10,Stud,NORMAL,1,2998.00,7200.00,1.00,7200.00,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
COMPONENT,VS-7,C08941-10,Stud,NORMAL,1,2998.00,6035.45,1.00,6035.45,2999.00,41.30,DIMPLE,19.65,DIMPLE,1249.00,DIMPLE,2978.35
```

ScotSim. This exporter generates TXT extension files for Scottsdale machines. Wall, floor, roof frames and trusses can be exported using this application.

Here's an example of a floor frame export:



The result can be checked in **Scottsdale** viewer:



The result can also be loaded into a machine simulator that makes a virtual frame and lets the user know if there are any issues: