



STRUCTURAL TIMBER - STEELWORK MODELLING & AUTOMATIC FABRICATION CREATION

ROB MERRIMAN





Rob Merriman

Structures Technical Specialist

 **AUTODESK. EXPERT ELITE**

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 [@merrimanrobAS](#)

ABOUT THE PRESENTER

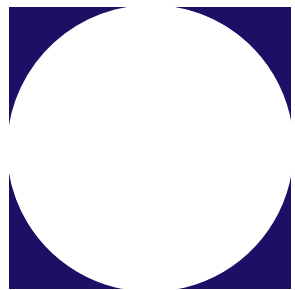
13 years of experience in the construction industry, 8 years as an Architectural Metalwork and Structural Steelwork Draughtman using Autodesk Advance Steel.

Worked in 2 subcontract drawing offices allowing me to work on various projects across multiple different steelwork sectors

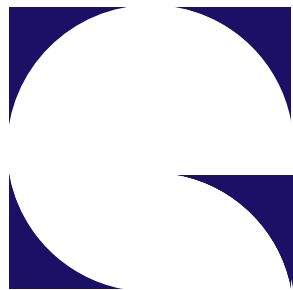
Currently working as a Structures Application Engineer for Graitec UK drawing on first-hand industry experience to provide demonstrations, training, technical support, implementation and customisation for Structural CAD packages

Software packages include:

- Advance Steel
- AutoCAD
- Revit
- Navisworks
- Re-Cap
- Fusion 360



GRAIT
MODELING THE FUTURE



270,000

WORLDWIDE USERS

700

EXPERTS WORLDWIDE

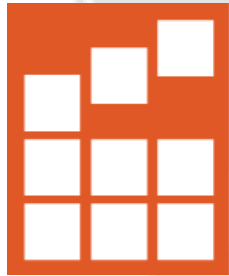
\$300_M

ANNUAL REVENUE



700

EXPERTS WORLDWIDE



**Applied
Software®**

EST
1986

30+
OFFICES

18
COUNTRIES

100
NEW HIRES
2021



Platinum Partner

EUROPE AND NORTH AMERICA

**RANKS AS ONE OF THE
LARGEST AUTODESK
PARTNERS IN THE WORLD**

**AUTODESK™
PARTNER SINCE
1997**

**Autodesk Gold Partner in CANADA*

GRAITEC

 **GRAITEC
POWERPACK**
for Revit

 **GRAITEC
POWERPACK**
for Advance Steel

 **GRAITEC
POWERPACK**
for Inventor

 **GRAITEC
POWERPACK**
for Vault

Empowering **Business Efficiency & Design Quality** with Autodesk and Graitec PowerPack

 **GRAITEC
ADVANCE DESIGN**

Harnessing the power of
Sustainable Engineering

 **GRAITEC
ADVANCE WORKSHOP**

Embracing Industry 4.0 with
Control and Automation

 **GRAITEC
OPENTREE**

Managing and Securing
project data effectively

CONSULTANCY

Leveraging the power of BIM

EDUCATE

All audiences to realise opportunities created by new technologies in the construction world.

FACILITATE

BIM understanding and adoption across all teams worldwide.

FOSTER

Collaboration amongst organizations of all sizes.

ENSURE

Top quality service and satisfaction of all clients.

**Transforming our clients
into experts of modeling,
BIM and industrialization**

TRAINING

TAILORED SOLUTIONS

12,000 days a
year
educating

Industry
Experts

Product
Experts

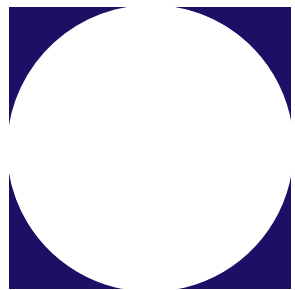
E-Learning
Courses

In-Person
Training

Virtual
Courses



Empowering construction and manufacturing professionals to digitize and industrialize their processes to improve performance and build a sustainable tomorrow



GRAIT
MODELING THE FUTURE

OVERVIEW

▲ What is Advance Steel?

▲ Why Advance Steel for timber?

▲ Timber output

▲ Advance Steel test drives

▲ Graitec BIMUp Conference

▲ Advance Steel content

WHAT IS ADVANCE STEEL?

Autodesk's solution for modelling structural steelwork & architectural metalwork

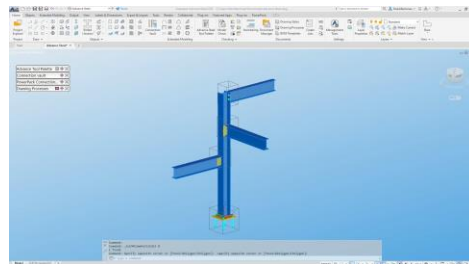
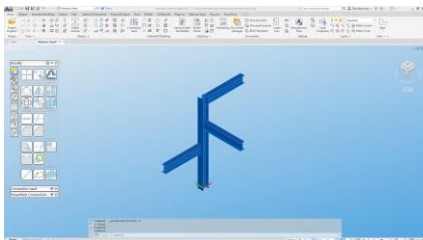
Part of the AEC Collection

Built in the AutoCAD environment

Automatically place over 200 parametric steel connections

Once modelling is complete run piece part & assembly drawings in minutes for the whole project

Generate CNC data for members & plates automatically with a click of a button



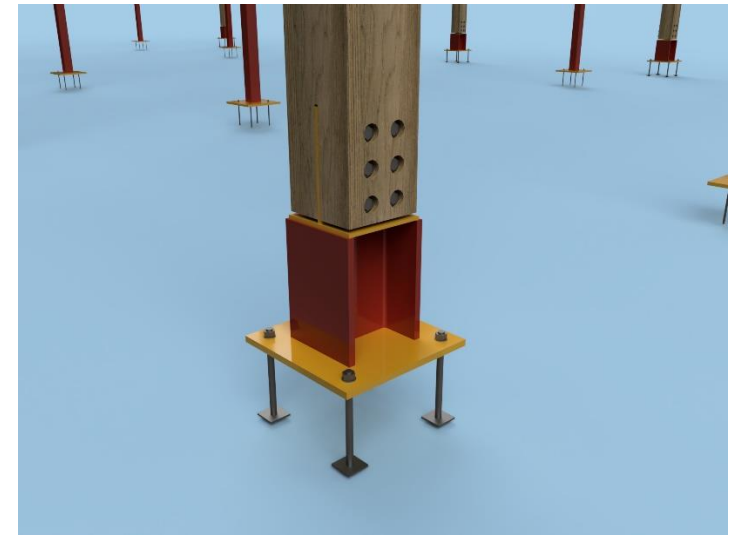
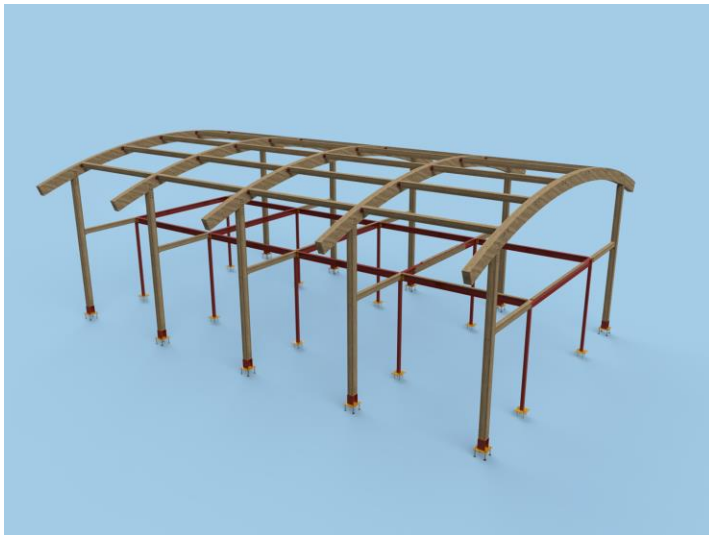
WHY ADVANCE STEEL FOR TIMBER?

Structural timber models are simply beams & columns

There are already timber sections defined in Advance Steel

Connected with plates, bolts, anchors & welds

You need to produce fabrication drawings, CNC data & bills of materials



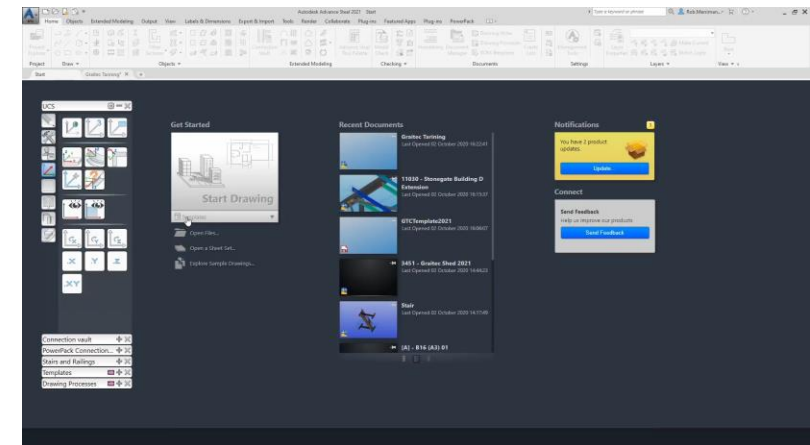
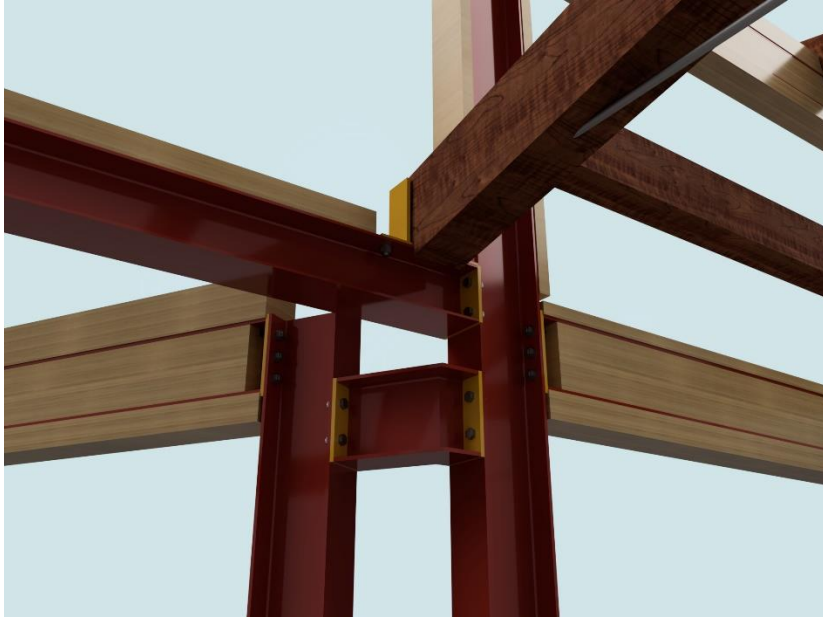
WHY ADVANCE STEEL FOR TIMBER?

Create custom connections for timber–steel or timber-timber connections

Its possible to model timber packed steel

This packing can be modelled as plate elements for thickness control

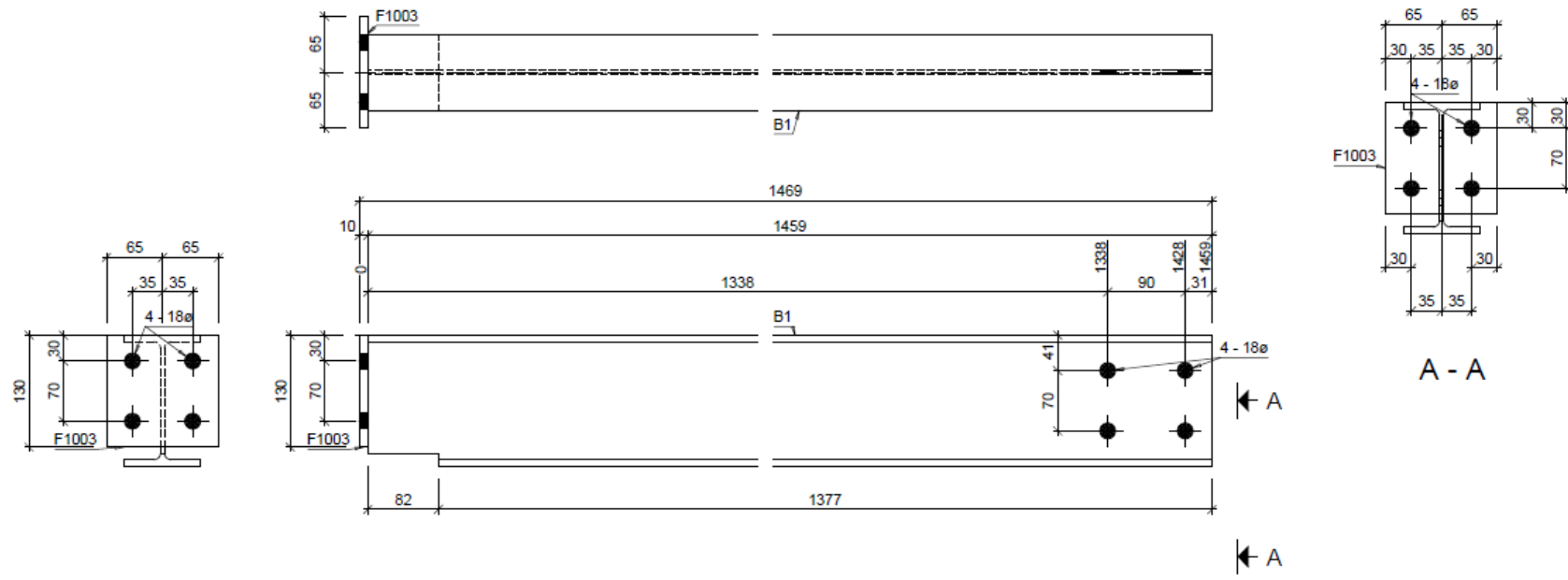
Or from stock sizes as beam elements



TIMBER OUTPUT

With customisation of the drawing output its possible to create a steel drawing then a separate packing drawing

LOT	QTY
	1



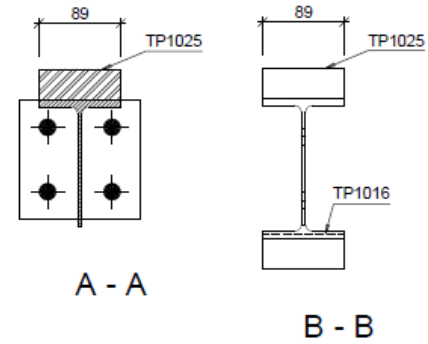
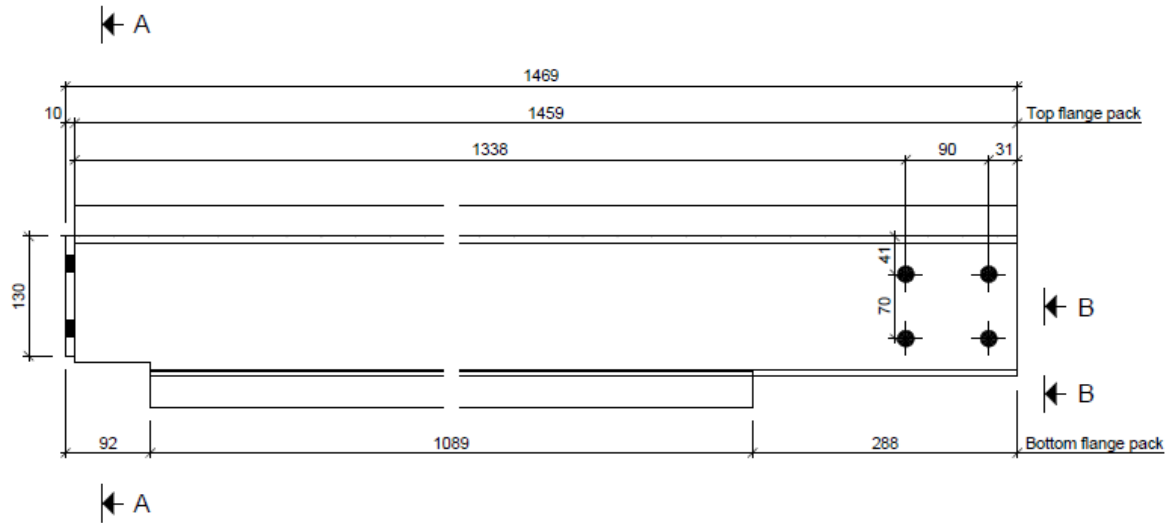
Steel fabrication for 1 No. Mkd B1 (Galvanised)
For Timber Packing information refer to TMB-B1

Mark	Quantity	Profile	Length	Material	Area (m ²)	Weight (kg)
B1	1	UB152x89x10	1458.6	S355JR	0.96	23.24
F1003	1	FL130X10	130.0	S275JR	0.04	1.33
Totals for ONE assembly					0.99	24.57

- General Notes**
1. All holes 220 U.N.O.
 2. All welds continuous 6mm fillet U.N.O.
 3. This drawing must not be scaled.

Index	Date	Description	Author
Autodesk			
CONTRACT	3262		
DESCRIPTION	Beam		
DRAWN BY	DATE	SCALE	JOB No. / DRG No. / Rev.
CH	25/08/2020	1:5	RMJ1916 / STL-A-B1 / Rev0

LOT	QTY
	1



Timber packing for 1 No. Mkd B1
For steel fabrication information refer to STL-B1

Mark	Quantity	Profile	Length	Material	Area (m ²)	Weight (kg)
B1	1	Values for ONE assembly				
F1003	1	FL130X10	130.0	S275JR	0.04	1.33
TP1016	1	PLT38x88.7	1089.1	Timber	0.28	1.84
TP1025	1	PLT33x88.7	1458.6	Timber	0.36	2.13
Totals for ONE assembly					0.68	5.30

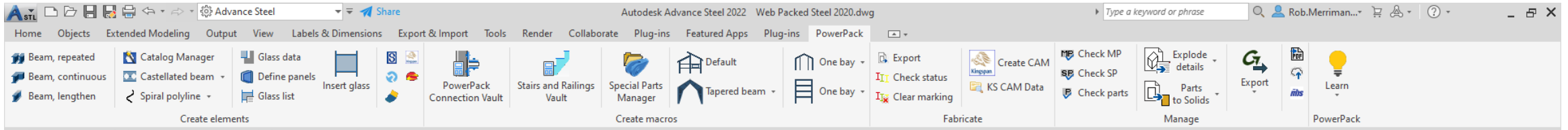
- General Notes**
- All holes 22Ø U.N.O.
 - All welds continuous 6mm fillet U.N.O.
 - This drawing must not be scaled.

Index	Date	Description	Author
Autodesk®		CONTRACT 3262	
		DESCRIPTION Beam	
DRAWN BY CH	DATE 25/08/2020	SCALE 1:5	JOB No. RMJ1916
		DRG No. TMB-A-B1	Rev. Rev0

TIMBER OUTPUT

For timber CNC we can export NC Files

With the Graitec PowerPack for Advance Steel its possible to export parts to STEP, IGES, SAT OR DWG format



ADVANCE STEEL TEST DRIVES

Do you or your team want to try Advance Steel?

We have 2 test drive events

May 24th in Bradford

May 26th in Southampton

Morning sessions 9am – 12.30pm

Afternoon sessions 1pm – 4.30pm

Only 6 spaces per session

Click the link in the Q&A or search **“Graitec UK Advance Steel test drive”**

BIMUP CONFERENCE

▲ 10th, 11th & 12th May

▲ 200+ classes over the 3 days

▲ Showcasing Autodesk & Gritec tips, tricks & workflows

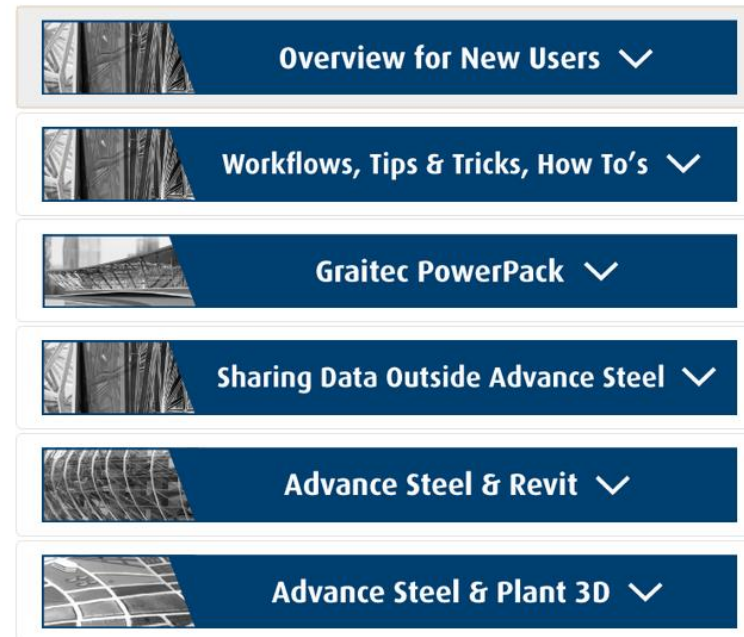
▲ All online, all FREE

▲ Click the link in the Q&A or search “**Graitec BIMUp Conference 2022**”

ADVANCE STEEL CONTENT

Do you want to explore Advance Steel in your own time

In our **Graitec Advance Steel content portal** we have 60+ sessions



Click the link in the Q&A or search **“Graitec UK Advance Steel content portal”**



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THANK YOU!

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