



CONSTRUCTION ENGINEERED

CLIENT GUIDE – STRUCTURAL STEEL DETAILING

Detailed once. Fabricated right.

What a Tekla fabrication package from OD3 gives you — and the rework it takes out of the shop before a single plate is cut.

Tekla Structures

NSSS 5th Edition

Connections to EC3

UK & Ireland

SCOPE MY PACKAGE

DOWNLOAD THE PDF

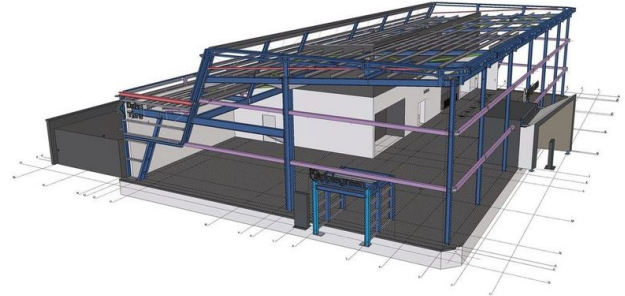
01 — THE SHORT VERSION

What you are actually buying

Not a set of drawings. A complete fabrication package generated from one Tekla model, where the drawings, the NC files and the lists cannot disagree with each other.

The expensive failures in steel are rarely design failures. They are information failures: a drawing that no longer matches the model, a file cut to a superseded revision, a connection detailed from someone else's calculation.

One model, one issue, one source of truth. **Steel is cheap to change on a screen and expensive to change in a workshop.**



● THE TEKLA MODEL EVERY DRAWING AND NC FILE COMES FROM

02 — HOW IT WORKS

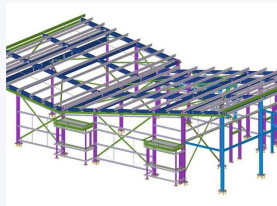
One model. Five stages.

Stages 01–03 are the detailing package. Connection design and site set-out run from the same model as additional services, available on request.



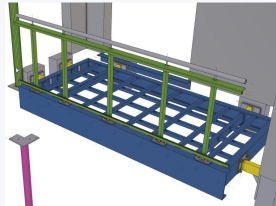
01 Model set-up

Grids, datums, section sizes and Execution Class agreed before modelling starts.



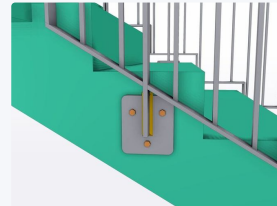
02 Detailing

Members, connections and assemblies modelled in Tekla to NSSS working practice.



03 Checking & issue

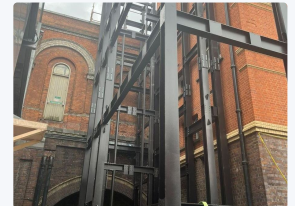
Drawings, NC files and lists checked, then issued through Trimble Connect.



04 Connection design

ON REQUEST

Standard joints to the SCI Green Book, non-standard checked in IDEA StatiCa.



05 Setout & verify

ON REQUEST

Robotic total station setout from the model, then as-built verification.

03 — THE STANDARDS

Detailed to the specs your contract names

Steel detailing is only as good as the specification behind it. These are the documents the work is carried out to, not a house style.

8 detailers

Concurrent in one live model through Tekla Model Share, added on demand.

2012

Detailing steel for fabricators and contractors across the UK and Ireland since.

±2mm

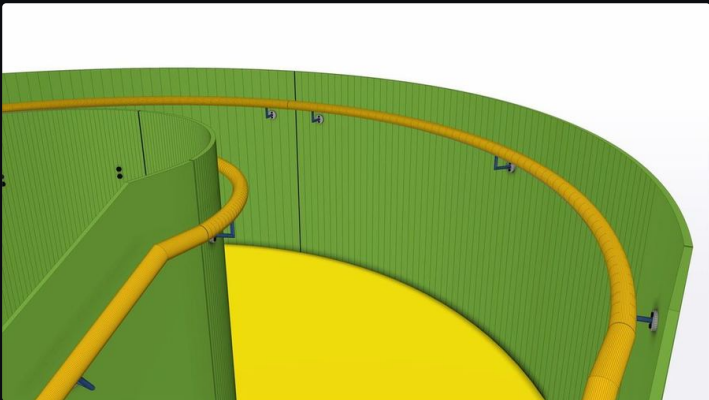
As-built accuracy when the model starts from our own point-cloud survey.

Specified, not assumed

Every detailer is Trimble-certified across Model Management, Steel Drawings and System Customisation, so adding capacity does not mean adding inconsistency. The practice carries £1m professional indemnity insurance, with membership of the SCI, Constructionline and the Irish Association of Steel Fabricators.

STANDARD	WHAT IT GOVERNS
NSSS 5th Edition	Working practice, tolerances and workmanship
EN 1993	Eurocode 3 — steel design and connections
EN 1090	Execution Class, agreed per project
SCI Green Book	Standard connection capacities

Execution Class is agreed at scope stage. Connection calculation reports are issued where OD3 has carried out the connection design.



● BALUSTRADE AND HANDRAIL, MODELLED TO FABRICATION DETAIL

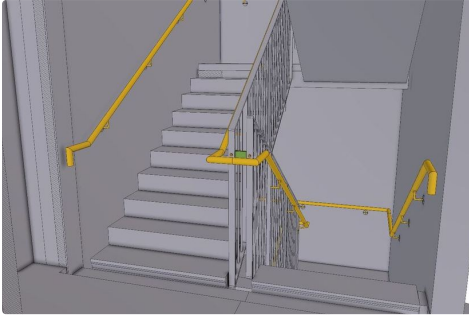
Want a fixed price against your drawings and programme?

REQUEST A SCOPE

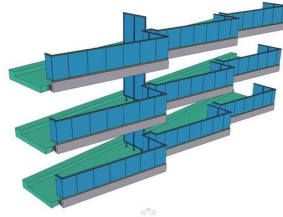
04 — MODEL TO FABRICATION

What it looks like

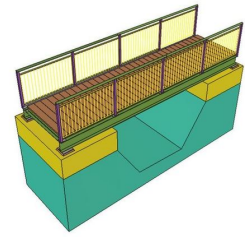
Real OD3 models and the steel that came out of them — frames, stairs, balconies, footbridges and architectural metalwork.



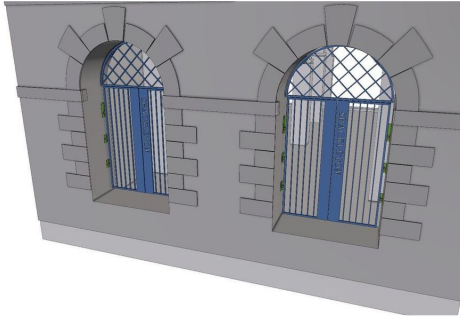
● STAIR AND LANDING, DETAILED FOR THE SHOP



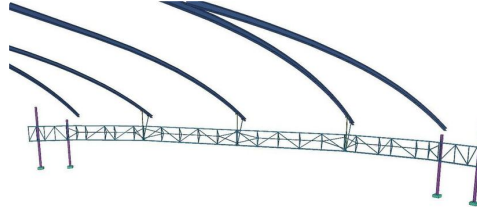
● BALCONY RUNS, REPEATED TO A FIXING GRID



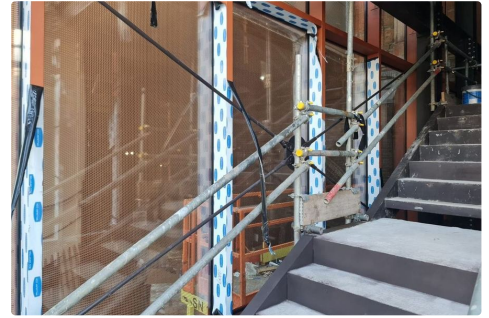
● FOOTBRIDGE, MODELLED FOR ERECTION



● HERITAGE GATES AND ARCH METALWORK



● ROOF TRUSS AND SUPPORT STEEL



● STAIR AND GLAZING INTERFACE, BUILT

If it is steel, we detail it.

Structural frames, architectural metalwork, stairs, balustrades, balconies and plant enclosures — drawn for the shop that has to make them.

05 — CONNECTION DESIGN IN-HOUSE

The details on your drawings passed their own

checks



● FIXING DETAIL, DESIGNED AND DETAILED IN ONE PRACTICE

One practice

Connection design and detailing under the same roof, in IDEA StatiCa and Tekla.

No interpretation

The detailer is not reading someone else's calculation and guessing intent.

Reports included

Full calculation reports issued where we carried out the connection design.

Clean responsibility

You send member forces; we return designed, checked, documented connections.

DESIGN AND DETAILING SPLIT	WITH OD3
• Detailer interprets a connection someone else designed • Queries bounce between two parties on a programme • Fabrication-stage rework when intent was misread • Nobody owns the gap between calculation and drawing	• The detail drawn is the detail that was checked • Queries resolved inside one practice, same day • Calculation reports issued alongside the drawings • One accountable party from forces to fabrication

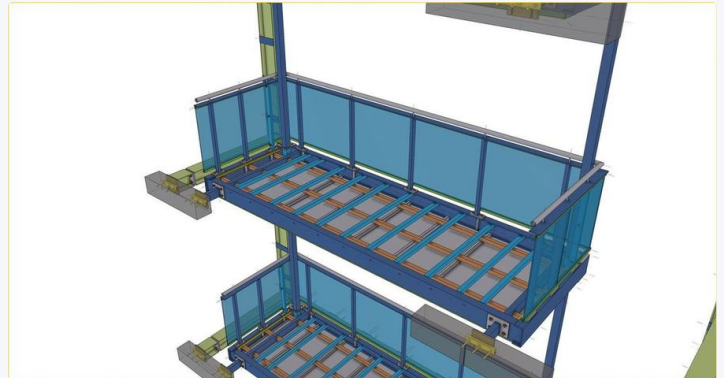
06 — CAPACITY

Capacity that scales with your programme

Detailing capacity is usually what decides whether a steel package hits its fabrication slot.

Using Tekla Model Share we can put up to eight detailers into a single live model on demand, working concurrently rather than in sequence. Because the team works in one shared model rather than splitting drawings between offices, scaling up does not fragment the package or introduce interface errors between detailers.

Projects are backed up and encrypted in the cloud, with secure access through Trimble Connect — your project manager sees the same model we do.



● REPEATING BALCONY FRAMES, DETAILED CONCURRENTLY

07 — WHERE IT EARNS ITS MONEY

Sectors and use cases

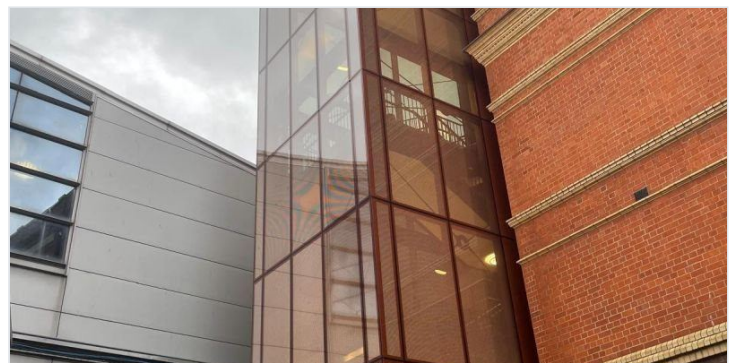


Steel fabricators

- Portal frames, warehouses and industrial units
- Overflow detailing at peak workload
- NC and DSTV output straight to your machinery
- Material lists and delivery schedules

WHAT WE NEED

Structural GAs, the engineer's design information, the connection design (or we carry it out), and your fabrication date.

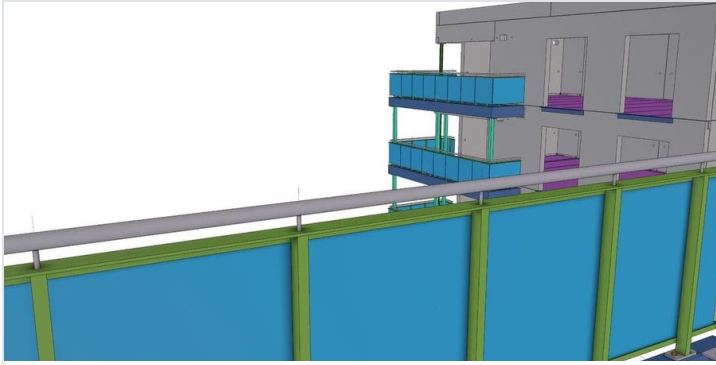


Main contractors & commercial build

- Frames, mezzanines and structural alterations
- Extensions and annexes to existing buildings
- Erection drawings sequenced for site
- Coordination against other trades before fabrication

WHAT WE NEED

Structural GAs and the engineer's design information — plus access to survey, where we are modelling against an existing building.



Balconies & architectural metalwork

- Balcony frames and soffits, repeated to a fixing grid
- Screens, louvres and feature metalwork
- Interfaces with cladding and glazing
- Finish and fixing detail drawn for the shop

WHAT WE NEED

The architect's details, the supporting structure, and the cladding, glazing and slab-edge interfaces.



Stairs & balustrades

- Straight, dog-leg and helical flights
- Balustrade, handrail and infill detail
- Landings, stringers and support steel
- Building Control-facing dimensional detail

WHAT WE NEED

Opening sizes, floor-to-floor levels, the balustrade specification and the finishes.

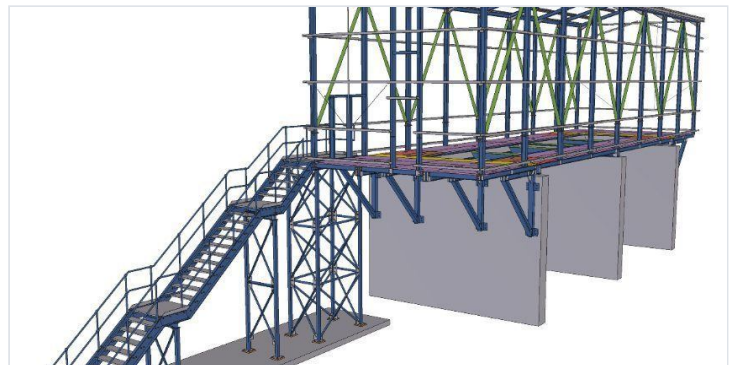


Heritage & conservation

- Replica and repair metalwork
- Gates, railings and architectural ironwork
- New steel into listed and historic fabric
- Detailed from measured survey, not record drawings

WHAT WE NEED

A measured survey — or access for us to scan it — and any conservation constraints on the fabric.



Plant, process & machinery

- Enclosures, frames and support steel
- Access platforms, walkways and guarding
- Machinery bases and skids
- Steel detailed around live process equipment

WHAT WE NEED

Equipment loads and layout, the existing structure, and any shutdown or access windows.

08 — DELIVERABLES

What lands in your inbox

Drawings, files and lists are standard, generated from one Tekla model.

Connection calculations and setout data are additional services, available on request.

Workshop drawings

Fabrication drawings for every assembly and single part, to NSSS working practice.

GA & erection drawings

General arrangements and erection drawings, sequenced for the site team.

NC & DSTV files

Machine files generated straight from the model for your CNC line.

Material lists

Assembly and part lists, bolt lists and delivery schedules from the same source.

Connection calculations

ON REQUEST

Full IDEA StatiCa reports where OD3 has carried out the connection design.

Setout data

ON REQUEST

Coordinates and as-built verification driven from the same model on site.

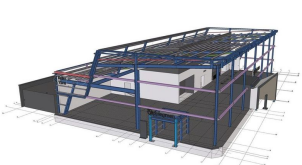
Everything is issued through Trimble Connect, so revisions are controlled and your team always works from the current issue.

Send your GAs and a programme — you get a fixed price and a return date back.

EMAIL [INFO@OD3.CO.UK](mailto:info@od3.co.uk)

09 — FULL CAPABILITY**Everything else OD3 does**

Detailing sits in the middle of a single digital thread — capture, model, design, detail, build, verify. Take any part of it, or all of it.



01

Steel Detailing

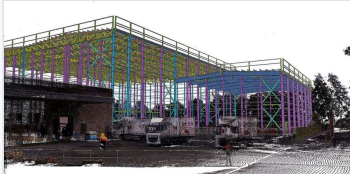
Tekla fabrication packages, workshop and erection drawings, NC/DSTV output, material lists and delivery schedules.



02

Connection Design

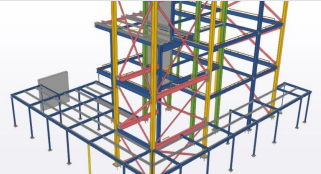
Delegated connection design to Eurocode 3 in IDEA StatiCa, with full calculation reports and PI-backed sign-off.



03

Survey & Reality Capture

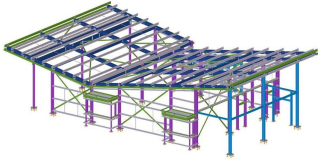
Trimble X7 scanning, measured building survey, point-cloud-to-Tekla and as-built verification.



04

BIM & Digital Construction

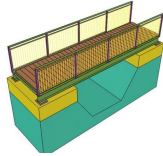
Scan-to-BIM, federation, clash detection, MEP and plant coordination, digital twins.



05

Cladding & Facade Detailing

Cladding, facade and secondary steel detailing, coordinated against the frame before fabrication.



06

Digital Estimation & Take-off

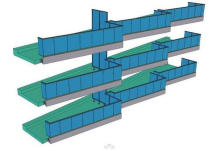
Model-based take-off and tender estimation from drawings or a Tekla model.



07

Construction Set-Out

Robotic total station setout direct from the model, holding-down bolts, grids and as-built sign-off.



08

Project Delivery

4D planning, RAMS administration, bid visuals and construction technology, delivered on Redpen, our own platform.

10 — STRAIGHT ANSWERS

The questions clients ask first

What does a fabrication package include?

Workshop fabrication drawings, GA and erection drawings, NC files for your machinery, and material lists — all from a single Tekla model. Connection calculation reports are included where we carried out the connection design.

What standards do you detail to?

NSSS 5th Edition working practice, with connection design to Eurocode 3 — standard joints to the SCI Green Book, non-standard connections checked in IDEA StatiCa.

How is the model shared?

Through Trimble Connect, with projects fully backed up and encrypted in the cloud, so your engineers and site team access the current model securely from anywhere.

How do you handle tight programmes?

Through Tekla Model Share we scale up to eight detailers working concurrently in one live model, on demand. Scaling up does not fragment the package or introduce interface errors between detailers.

Can you detail against an existing building?

Yes. We carry out our own 3D laser scanning and produce as-built models accurate to ± 2 mm, then detail the new steelwork against that captured geometry rather than record drawings.

Is the engineering insured?

Yes — £1m professional indemnity, with connection design to Eurocode 3 (EN 1993) and NSSS adherence.

11 — WHY OD3



● THE SAME TEAM MODELS, DESIGNS, DETAILS AND VERIFIES

One digital thread, one accountable party

Engineers who detail steel

Not a drawing office taking instructions. The connection design and the detail come from one practice.

No handover gaps

The commonest failure in steel is the gap between design and fabrication. We remove it — and the argument that comes with it.

Technology we build ourselves

A practising consultancy and a software company. The tools on your project are the ones we use daily on our own.

NEXT STEP

Let us price your package.

Send your GAs, the tonnage if you have it, and the fabrication date you are working back from. You get a fixed price, a return date, and a clear statement of what is included — before committing to anything.

[+44 \(0\)28 7957 8300](tel:+44202879578300) · info@od3.co.uk · od3.co.uk/contact



OD3 Group — a Northern Ireland structural engineering consultancy and digital construction specialist. Reality capture, BIM, connection design, steel detailing, set-out and construction technology. Serving the UK & Ireland.

All imagery is OD3 project work. Detailing carried out to the National Structural Steelwork Specification (5th Edition) working practice, with connection design to Eurocode 3 (EN 1993).