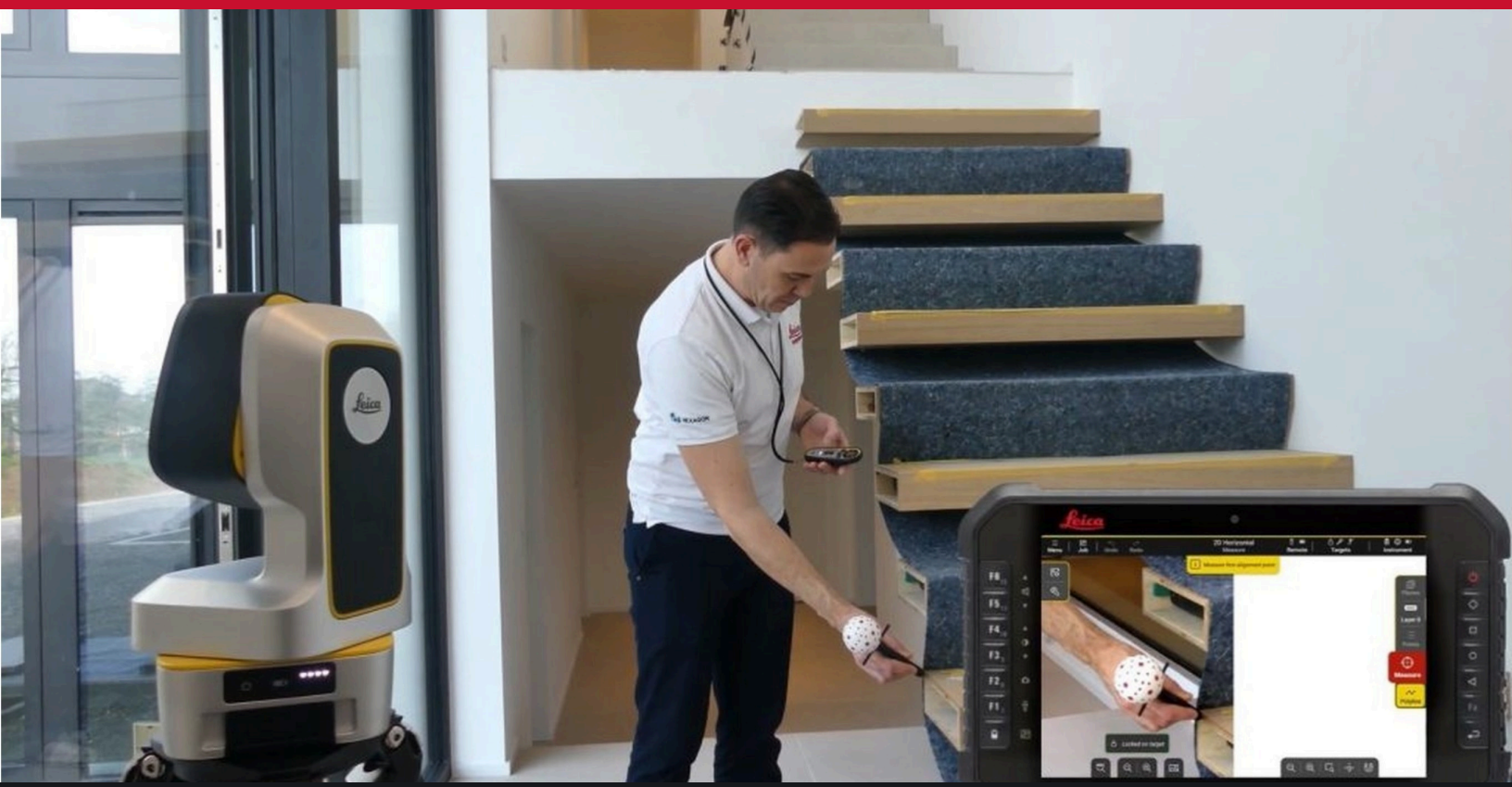
LEICA ICON ICS50 · INDUSTRY GUIDE

Glass and Railings Guide

Glass stairs, balustrades, metal railings, storefront and shower enclosures, in true 3D. Use with the iCS50 General Guide.



SPEEDtemplate

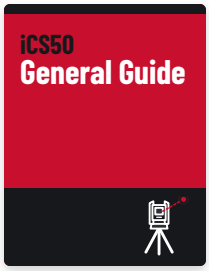
GLASS AND RAILINGS GUIDE

EDITION 1.0 · OCTOBER 2026

HOW THE BOOKS WORK

Three books. Each has one job.

The **General Guide** says how. The **Industry Guide** says what. The **Industry Workbook** makes it stick.



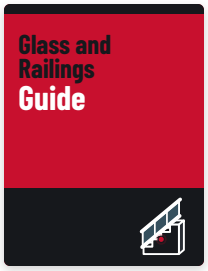
How the iCS50 works

For every crew in every trade: setup, measuring, planes, moving the iCS50, editing, layers and export.

USE IT
Read Sections 1 and 3 before onboarding. After that, look things up when you need them.

KEEP IT
In the iCS50 case. One per shop.

THIS BOOK

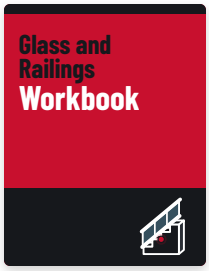


What to capture in the industry

What changes on a kitchen, a cabinet room, a millwork floor, a stair or a boat: what to capture, where to set up, the exact taps, the checks and the hand-off.

USE IT
Before the first job, then on every job, next to the General Guide.

KEEP IT
In the case, with the General Guide. One per shop, per industry.



Learn it by doing it

A self-paced course in the industry: six lessons with the real iCS50, three real jobs, a final project and SPEEDtemplate certification.

USE IT
After onboarding. Once, in order. Write in it.

KEEP IT
With the operator. One per operator.

Which book do I open?

THE QUESTION	OPEN
How do I set up, measure, move the iCS50 or export a DXF?	General Guide
What do I capture on this job, and what does the shop need back?	Industry Guide
I am new, or I want to get certified.	Industry Workbook
Something is not working.	General Guide, Troubleshooting. Then call 919-676-2244.

NOTE When the General Guide and an Industry Guide say different things, the Industry Guide wins for that industry. The website always has the latest version of every book.

What a great railing template looks like

A laser only measures what it can see, and glass gives it nothing to see. The VPen goes where the beam can't, so the opening is captured as built. This guide covers what changes on glass and railing work. Everything else is in the iCS50 General Guide.

What the shop needs back

- [ ] The true shape of the stair, landing or opening, as built, not a sketch
- [ ] Every tread nosing, landing edge and floor line the railing follows
- [ ] Post, base shoe and standoff locations
- [ ] Plumb and level checks on every wall, jamb and floor the glass meets
- [ ] Walls, curbs and floors with their real slopes and bows
- [ ] Finished surfaces noted: tile, stone, wood, drywall
- [ ] Photos of every run and every attachment point in SPEEDfolder

TIP Template once the finished floors, treads and tile are in. Glass is cut to the finished surface, not the subfloor.



The VPen on the center of a glass standoff.

GLASS AND RAILINGS

Glass and railing questions, answered

The questions glass and metal shops ask most.

Does it work on glass, mirror and polished stainless?

Yes, with the VPen. The head tracks the pen ball, not the surface. A laser shot can't read clear or mirrored surfaces.

How accurate is it?

The VPen is accurate to 1 mm (about 1/32 in) within 33 ft (10 m).

Can I do a whole stair from one spot?

Often, yes: set up across from the stair on the lower floor, where it sees the upper floor too. A turning stair: V-Targets first, then a second setup in the same drawing.

Walls out of plumb?

Top and bottom points at both ends of every wall the glass meets. The lean is in the file, so the panel is drawn to fit.

Curved and spiral stairs?

A 3D job. Trace the curve with the VPen, or Line Scan (Sloped) for points at a set interval.

What does the shop get?

3D DXF for the stair, 2D DXF per run, CNC DXF, a Shop Sheet PDF, and a Point List (CSV) for post and core-drill coordinates.

Can it mark post holes on site?

Yes, with the Layout licence, an add-on that is not part of the standard package.

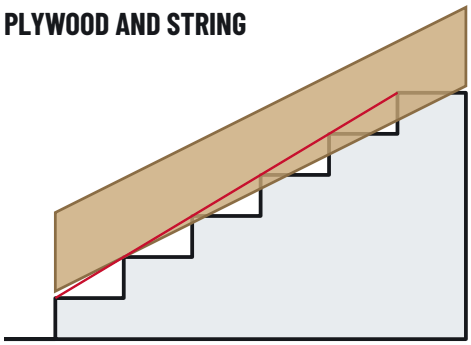
Who on my crew should run it?

The installer who knows how the glass goes in. The iCS50 is the only new part, and onboarding covers it.

Plywood templates vs the iCS50

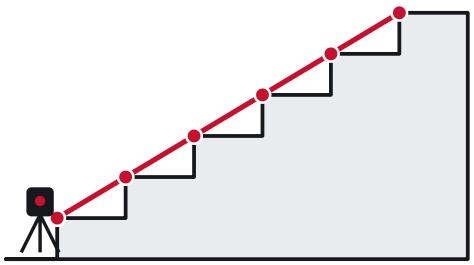
Stairs are still templated with plywood, string and an angle finder, then carried to the shop. Here is what changes.

PLYWOOD AND STRING



Cut, clamp, scribe, carry.

THE iCS50



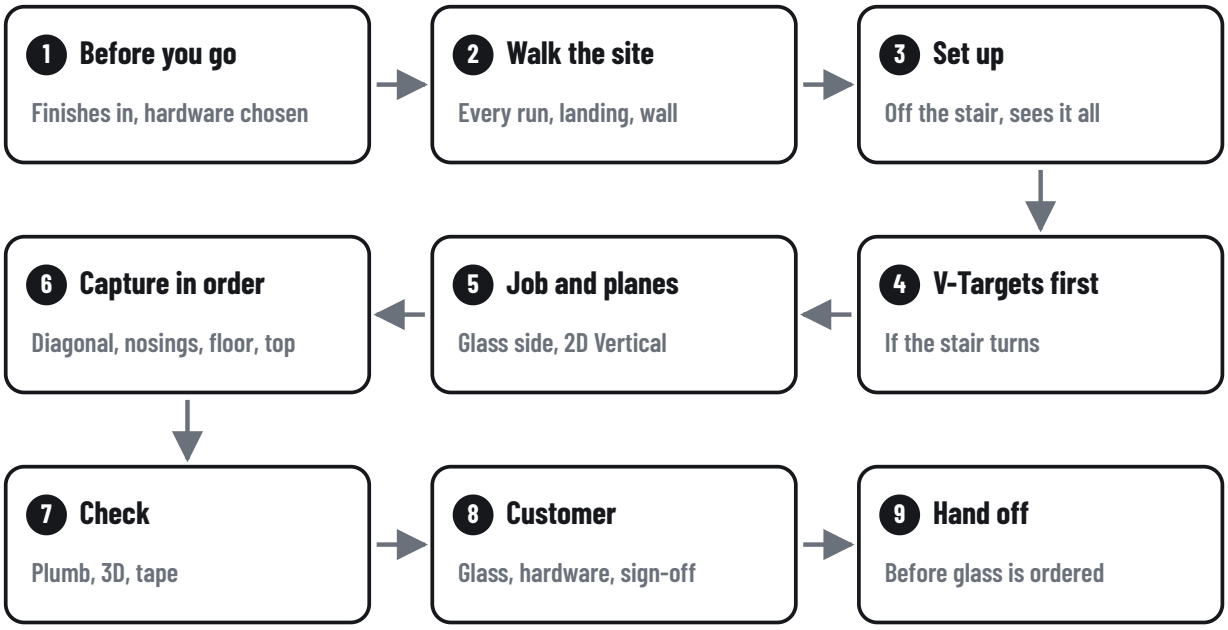
Every nosing, true 3D, one file.

PLYWOOD AND STRING	WHERE IT GOES WRONG	THE ICS50
A plywood or luan template per panel, clamped to the stair	Heavy, slow, and it moves when clamped	Every nosing as a point, in one file
The rake from an angle finder	A degree off is inches at the top of the run	The diagonal, first nosing to last, measured
Plumb from a level, written on the template	One reading per wall, easy to miss	Top and bottom points on every wall
Post and standoff spots marked by hand	Holes in the wrong place	Fixture centers as Points
Templates carried back and digitised	A second step, and another place for errors	3D and 2D DXF the same day
Glass ordered from a template	A wrong panel is weeks lost	Checked in 3D and against a tape before ordering
A bent tube or pipe template touching each nosing	Springs back, shifts on long runs, no bending or welding in a finished home	Nothing to bend: points in a file
One average step, with plus and minus marks	A few mm per tread adds up over a flight	Every nosing captured as it is
Rise, run and step count from the customer	Good for a quote, not for a fit	The stair as built, templated on site

GLASS AND RAILINGS

Template day, start to finish

The same nine steps on every job. Glass is ordered from what you capture, so the order matters.



Before you go

- [ ] Finished floors, treads and tile in place
- [ ] Hardware chosen: shoe, posts, standoffs or clamps, with spec sheets
- [ ] Glass type, thickness and finish agreed, or on the sign-off
- [ ] Access to every floor the stair or guard touches
- [ ] iCS50, tablet and remote charged; V-Targets in the case

Walk the site first

- Walk every run, landing and wall the glass meets.
- Decide where the iCS50 stands: across from the stair, on the finished floor.
- Look for what changes the panels: doors, outlets, returns, uneven floors.

DON'T TEMPLATE IT Glass can't be trimmed on site. If the finishes aren't in, reschedule.

Job setup

A straight stair balustrade is a flat panel on a flat plane. Set the job up on that plane.

Job type

IF THE JOB IS...	START AS
A straight stair balustrade	2D Vertical, start points on the glass side
A level balcony or landing guard	2D Horizontal for the edge, Vertical plane per run
A shower enclosure	3D, then a Vertical plane per wall and a Horizontal plane for the curb
Storefront or a partition	2D Vertical per opening, or 3D for a long run
A curved or turning stair	3D. Trace the curve.

Where to put the iCS50

- Where it sees the whole run, top to bottom. For a stair, usually across from it on the lower floor. A good spot sees the upper floor too, so no relocating.
- More than 2 ft from the stair, the glass line and any surface you'll measure.
- People walking past don't interrupt the VPen tracking; it picks the pen up again instantly.
- For long or turning stairs, place V-Targets before you start (GENERAL GUIDE: SECTION 8).
- Keep the tripod off the stair itself. Legs fully extended, on the finished floor.

Use the VPen

Glass, mirror, polished stainless and black metal give the laser beam nothing to measure. The iCS50 tracks the VPen, not the surface, so it works on all of them. Within its 33 ft (10 m) working range, the VPen is accurate to about 1 mm, and reflection, color and material don't affect the result.

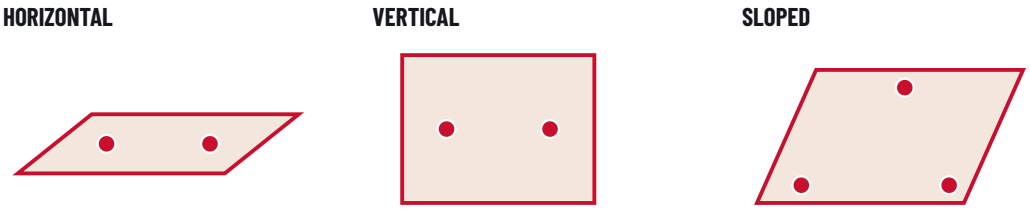


VPen on the treads, the iCS50 off to the side.

On the iCS50: starting the job

The exact taps, in order. Menu names as they appear in iCON trades.

TASK	ON THE ICS50	TIP
New job	Home › **Quick Start**, or a new job from the shop's **job template**	A job template has the glass layers ready
Job type	**2D Vertical** for a straight balustrade. **2D Horizontal** for a landing edge. **3D** for showers, curves and turning stairs	Not sure? 3D
The glass plane	In 2D Vertical, the **two start points** set the plane: take them on the glass side	Every point projects onto that plane
Target	**Targets › VPen**	Never the laser on glass or mirror
Layer	Tap **Layers** and activate one: Nosings, Floor, Glass line, Shoe / posts	At least one active layer
What to draw	**Measuring settings**, under Measure: Point, Line or Polyline	Point for nosings and fixtures
Photos as you go	Measuring settings: **Capture photo** on	Hardware and finishes, on the job
Another run or wall	**New plane** (Setup tools): Vertical or Horizontal from two points	One plane per glass run



Two points.
Tops, bars, sills, hearths.

Two points.
Splash walls, end panels, faces.

Three points.
Anything that leans.

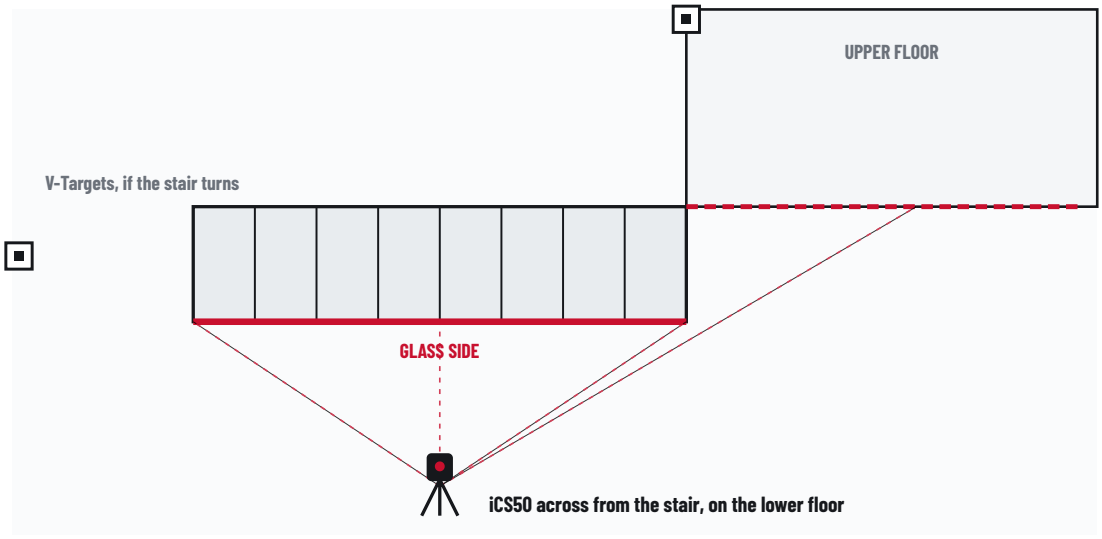
Three kinds of plane. A vertical plane is plumb; a wall that leans needs a sloped plane or 3D.

NOTE

Flat parts and curved parts in one job. In a 3D job, tap **Planes** to switch between a plane and **Unprojected 3D**. Treads go on horizontal planes and come out flat; curved stringers, rails and walls stay in true 3D. Put each part on its own layer.

Setting up for a stair

One spot that sees the whole stair, top to bottom, is worth finding.



A straight stair, from above. The iCS50 across from the glass side, on the lower floor, sees every nosing and the upper floor.

1. Stand **across from the stair** on the lower floor, more than 2 ft from it.
2. Check the camera view on the tablet: first nosing, last nosing and the upper floor in sight?
3. A turning stair or a landing out of view: place **V-Targets** that both spots can see, before you start.
4. Legs fully extended, on the finished floor. **Never on the stair.**
5. **People walking past are fine.** The head picks the pen back up right away. Keep the line between the pen and the iCS50 clear while taking a point.

TIP A good spot for the stair often sees the landing guard and the upper floor too. One setup, one drawing.

WATCH: MEASURING A STAIR

What to capture: stairs and railings

Stairs

- [ ] New job, **2D Vertical**, VPen selected. The two start points define the measuring plane: take them on the glass side.
- [ ] **The diagonal:** the line joining the nosing edge of the first and the last step. This line is always critical to the finished glass.
- [ ] The floor line at the bottom. Not always used, but worth having.
- [ ] Every step along the glass side, to see a bad tread
- [ ] The U-profile or base line on the upper floor, from the same setup
- [ ] Where the stair meets each wall, top and bottom

Attachment points

- [ ] The **center** of every fixture point: standoffs, clamps, posts. The VPen reaches into recesses a laser shot can't
- [ ] Core drill or post points, as Points
- [ ] Blocking or structure behind the stringer, if marked
- [ ] Walls the handrail mounts to, with their plumb

Guards and balconies

- [ ] The edge the guard follows, corner to corner
- [ ] Floor level along the edge, a point every 2 to 3 ft
- [ ] Wall returns at each end
- [ ] Doors and openings near the run

Check it on site

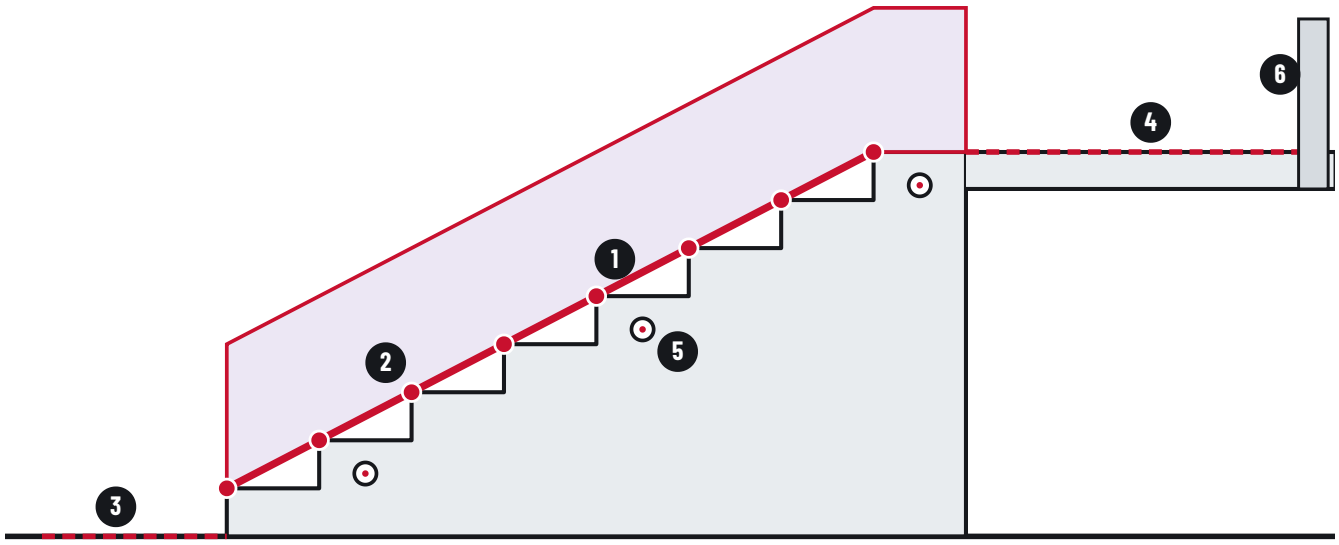
- Run **High/Low Points** along a base shoe line to see if the floor needs shims.
- Check every step sits on the same side of the diagonal. One out of line is a bad tread or a bad point.
- Zoom out before leaving. The drawing should look like the stair.

Stair record

STAIR	TREADS	TOTAL RISE	LANDINGS	TURNS	NOTES

Anatomy of a stair balustrade

What a finished stair template shows. The numbers match the list.



A straight stair, from the glass side.

1. **The diagonal**
   First nosing to last nosing. Always critical to the glass
2. **Every nosing**
   Along the glass side, to catch a bad tread
3. **Floor line**
   At the bottom. Not always used, worth having
4. **Upper floor line**
   The base line or U-profile, from the same setup
5. **Fixture centers**
   Standoffs, clamps, posts: VPen tip in the center
6. **Wall junctions**
   Where the stair meets each wall, top and bottom

In this order

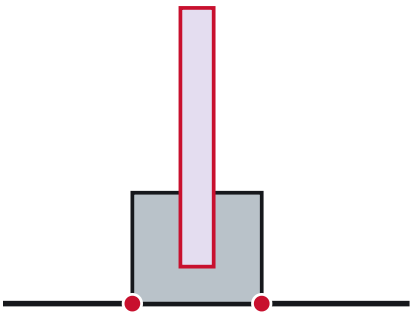
1. Start points on the glass side.
2. The diagonal.
3. Every nosing, bottom to top.
4. Floor line, then the upper floor line.
5. Fixture centers and wall junctions.
6. Uneven stair? A point on top of each tread, or **High/Low Points** across it, and the walls on both sides, past the first and last tread.

THE CRITICAL LINE The diagonal sets the glass. Capture it on every stair, and check every nosing against it on the tablet.

Base shoe, posts and standoffs

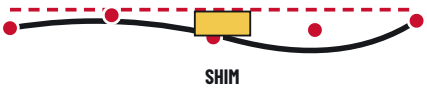
Where the glass is held decides where the points go.

BASE SHOE



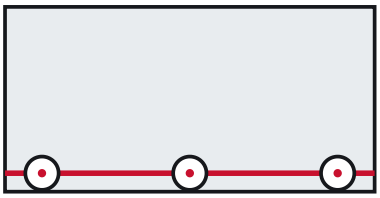
Shoe edges on the floor.

FLOOR UNDER THE SHOE



High/Low Points show the shims.

POSTS, FROM ABOVE



A Point on each core-drill center.

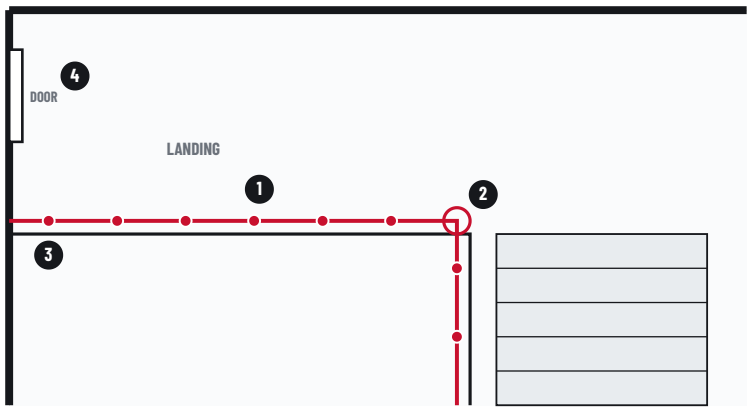
1. **Base shoe**: both edges of the shoe line on the finished floor.
2. **Measure › High/Low Points** along the shoe line: the readout shows where shims go.
3. **Posts**: a Point on each core-drill center. The Point List (CSV) export carries them to the shop.
4. **Standoffs and clamps**: the VPen tip in the center of each fixing.
5. Blocking or structure behind the stringer, if it is marked.

Note on the job

- The floor finish at the shoe: tile, stone, wood.
- The hardware model, with a photo.
- Any fixing the customer moved.

Landings, balconies and guards

A level guard follows an edge. The floor along that edge is rarely level.

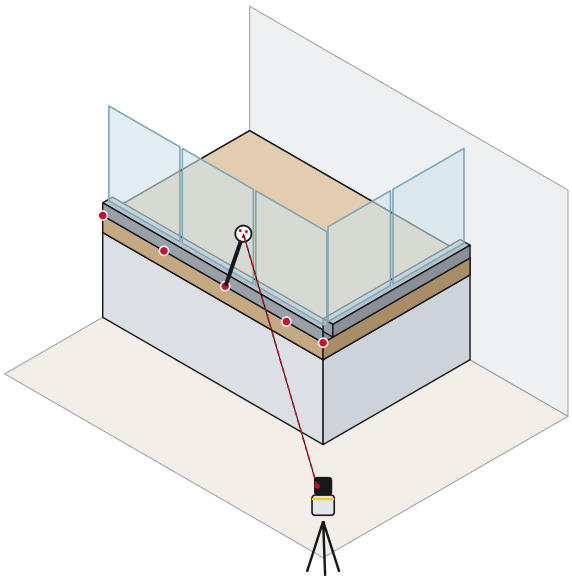


A landing with a guard, from above.

1. **Guard edge**
   Corner to corner, a point every 2 to 3 ft
2. **Corners**
   Intersect the two edge lines
3. **Wall returns**
   At each end of the run
4. **Doors and openings**
   Anything near the run

1. **2D Horizontal** for the edge, then **New plane › Vertical** for each glass run.
2. The edge the guard follows, corner to corner.
3. Floor level along the edge, a point every 2 to 3 ft.
4. Wall returns at both ends; doors and openings near the run.
5. Where the guard meets the stair rail: capture both in the same job.

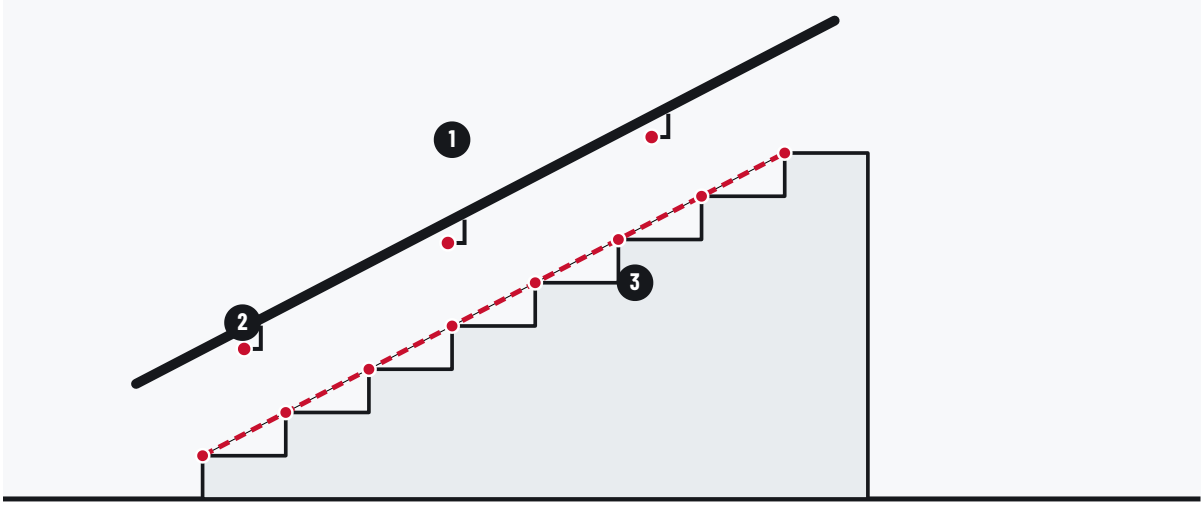
TIP Run High/Low Points along the edge. A dip in the floor is a shim, or a taller panel.



A landing guard on a base shoe. Points along the edge the shoe sits on, from one setup.

Metal railings and handrails

Wall-mounted rails follow the stair. Posts and pickets follow the floor and the open side.



A wall-mounted handrail. 1 the rail, parallel to the diagonal. 2 bracket points on the wall. 3 the diagonal and nosings.

1. The diagonal and every nosing, as on a glass stair.
2. A **Vertical plane** on the wall the rail mounts to: two points, far apart.
3. Blocking or bracket locations on the wall, as Points.
4. Open side: post centers on the treads or the stringer, as Points.
5. Top and bottom landings, and where the rail returns to the wall.

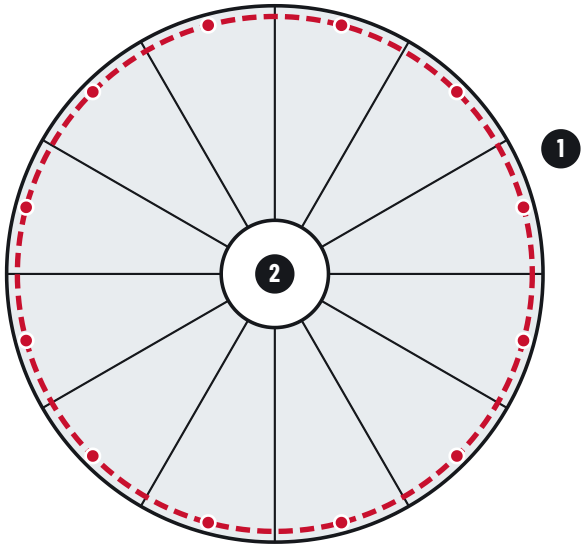
NOTE Rail height, baluster spacing and returns follow local code. Drafting sets them from the stair you captured.

Stringer caps that meet the wall

- Trace or point the **top of the stringer** the cap sits on, bottom to top.
- The **drywall face** beside it: a Vertical plane from two points, plus top and bottom points for plumb.
- Where the stringer meets the wall at each end.
- The **transition at the landing**: the stringer end, the landing edge and the first guard post, in the same job.
- Measuring settings: **Capture photo** on, so every point has a picture of what it was.
- Rotate the 3D view: the cap, the wall and the landing rail should meet.

Curved and spiral stairs

A 3D job. The curve is traced, not guessed.



A spiral stair, from above.

1 The outer edge:
Trace it, or Line Scan (Sloped) for points at a set interval.

2 The center column:
Circle 3P on the column.

Every nosing at the glass line,
in a 3D job.

1. A **3D** job; V-Targets if one spot can't see the whole stair.
2. **Trace** the outer stringer: hold Measure and run the pen slowly, upright. Stop and restart at each change in direction.
3. Or **Line Scan**, Sloped, for points at a set interval.
4. Every nosing at the glass line, as Points.
5. The center column: **Create › Circle**, Circle 3P.

TIP Rotate the 3D view before leaving. Every nosing should sit on the curve.

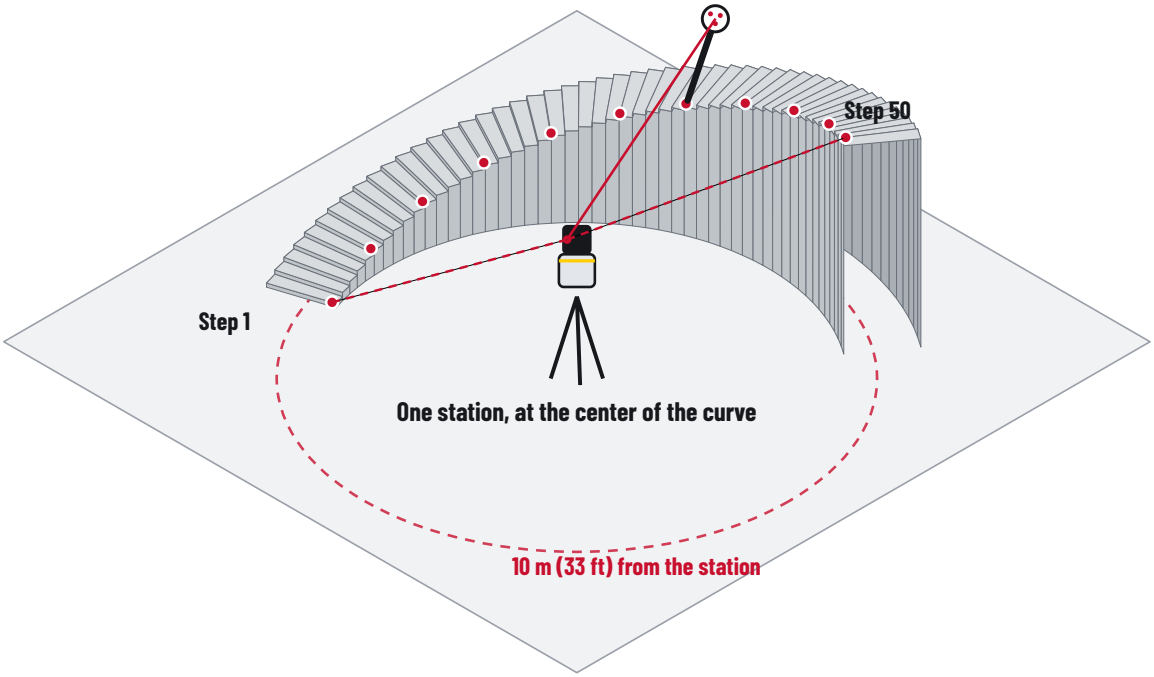
WATCH: A STAIR FABRICATOR USING ICON TRADES

Irregular curves: when no two pieces match

- Concrete and cast stairs curve, rise and twist at different rates. Assume nothing is constant: not the radius, not the rise.
- Stay in **3D**, unprojected. A plane would flatten the twist out of the rail.
- **Trace the top of the substructure** the rail sits on, slowly, in short runs.
- A **Point** on every mounting plate or bracket position.
- Points where the rail pieces will join, so each piece is drawn to fit its own stretch.
- Check the 3D view from several angles before leaving.

Long and curved stairs: one station

Fifty steps, one curve, no second setup. One station keeps every nosing and the whole glass line in the same coordinates, so the last panel meets the landing.



A curved stair, 50 steps. The iCS50 at the center of the curve sees every step at about the same distance.

Why one station

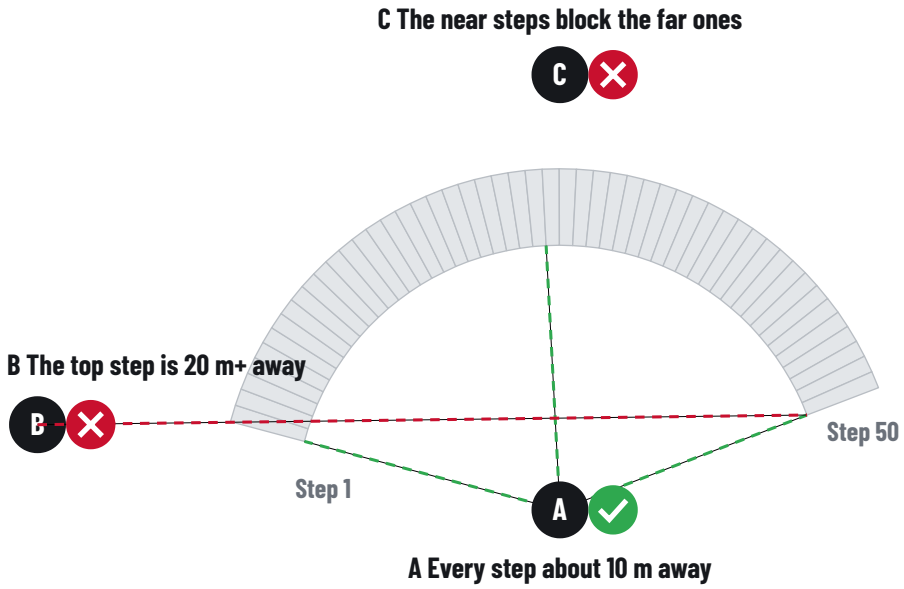
- Every new setup adds a little error. On a long stair it builds up toward the top, where the last panel has to meet the landing guard.
- One station means one drawing with no tie-ins: every nosing relates to every other nosing exactly.
- Architects and GCs often ask for it on feature stairs. Plan the station before the site visit.

What makes it possible

- **VPen:** the tip goes on every nosing and along the stringer, even where a laser can't see.
- **1 mm within 33 ft (10 m).** The extended range (optional add-on) reaches 82 ft (25 m), with accuracy dropping as the distance grows. Keep the critical points close.
- **Wireless:** no cable across the stair. One person walks the steps with the pen.

Planning the station

Where the iCS50 stands decides whether one station is possible. Walk the stair before setting up.



The same stair, from above. Three places to stand. Only one sees it all.

Pick the spot

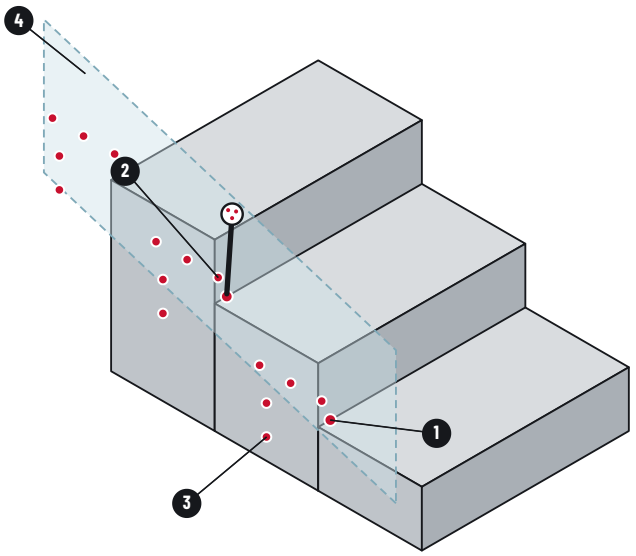
1. Walk the whole stair with the pen. Look for scaffold, props and stored material that block the view.
2. Stand where every step is about the same distance away: the center of the curve, or back from the middle of a straight run.
3. Keep the critical points within 33 ft (10 m) if the stair allows.
4. Hold the VPen on the first nosing and on the last one. If the iCS50 can't see both, move it before the first point.
5. Legs fully extended, on the finished floor. Never on the stair.

Back-up for a long day

- Place three **V-Targets** around the stair and capture them before the first point. If the tripod gets bumped, a New Setup from the targets brings the drawing back without starting over.
- Leave the **movement alert** on. A bump stops the measuring instead of shifting the drawing.
- Dead zone: the pen needs about 2 ft from the iCS50. Keep the station off the stair itself.
- Bring the charging cable for the tablet and the remote. Fifty steps is a long day.

What to capture on every step

On a long stair, the same few points on every step, in the same order. The glass is drawn in CAD from them.



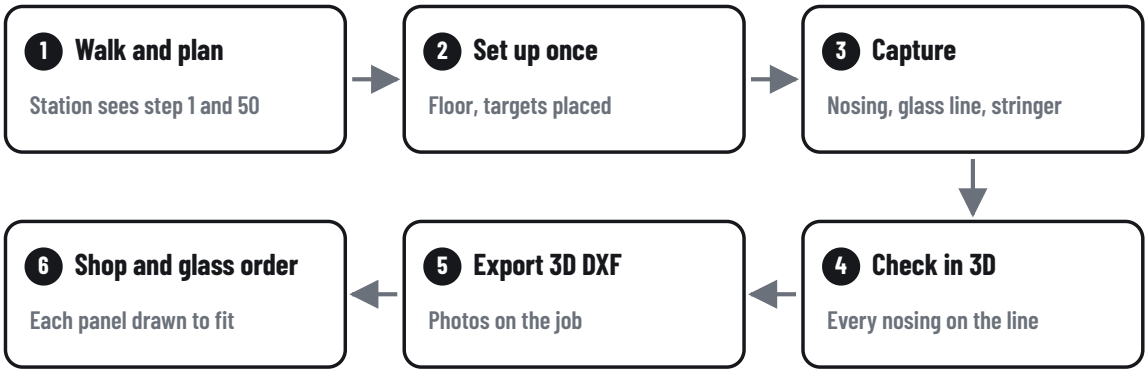
Three steps, close up. Red dots: the points taken. The dashed panel is the glass, drawn in CAD.

- Same order on every step: nosing, glass line, stringer. Nothing gets missed at step 37.
- A **3D** job on a curved stair. The stair rises and turns at once, and a plane would flatten it.
- A layer for every ten steps (Steps 01-10, Steps 11-20) so the shop finds any step fast.
- Landings: the guard line and the floor edge, like a level guard.

#	CAPTURE	HOW
1	The nosing, at the glass side	A Point on every nosing, bottom to top. Trace the nose line on a curve
2	The glass line on the tread	Top mount or base shoe: Points along the line where the shoe sits
3	The stringer face	Side mount: the top edge and a second line lower down. Shows the twist on a curve
4	The glass	Drawn in CAD from the points, not captured on site

Long stair: check and record

Check it on the tablet before leaving. A missed nosing at step 37 is a trip back.



Before leaving the stair

- [ ] A nosing on every step, at the glass side
- [ ] Glass line or stringer on every step
- [ ] Nosing count matches the stair
- [ ] 3D view rotated: no nosing out of line
- [ ] Landing guards and upper floor captured
- [ ] Photos of the top, the bottom and any odd step

Long stair record

STEPS	NOSINGS	NOTES
1 to 10		
11 to 20		
21 to 30		
31 to 40		
41 to 50		
Landings		

TIP Send your first long stair export to SPEEDtemplate support for a review before glass is ordered.

What to capture: openings and enclosures

Shower enclosures

- [ ] Each wall, with top and bottom points at both ends for plumb
- [ ] Curb top, both edges, and its slope toward the drain
- [ ] Floor or tub deck where the glass sits
- [ ] Niches, benches, valves and grab bars near the glass line
- [ ] Ceiling, if the glass goes full height
- [ ] Finished tile in place, not backer board

Storefront, partitions, curtain wall

- [ ] Rough opening: sill, head and both jambs
- [ ] Plumb of each jamb, level of the sill and head
- [ ] Diagonals of each opening to check for square
- [ ] Floor and ceiling lines along a partition run
- [ ] Columns, mullion locations and anything the system must clear

PLUMB Glass can't be trimmed on site. A wall out of plumb by 1/4 in over the height of a shower panel is a gap or a panel that won't fit. Capture top and bottom of every wall the glass meets.

Units and finishes

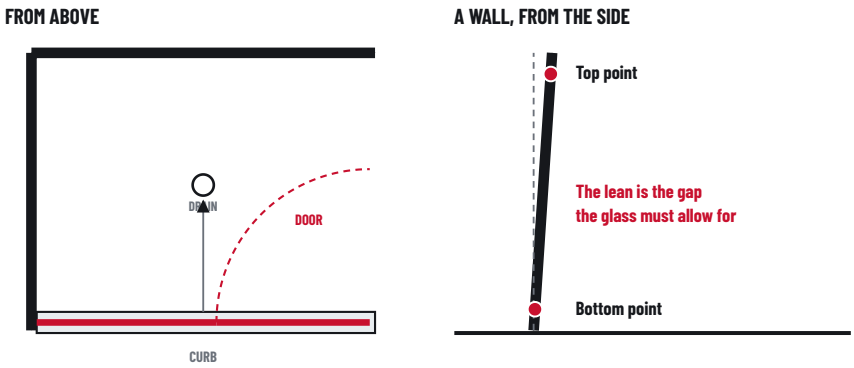
- Confirm **Menu › Settings › Units** matches the shop.
- Note the finish at every edge: tile, stone, drywall, wood. The shop allows for each differently.
- Photograph the hardware the customer chose, with model numbers.

Plumb and level record

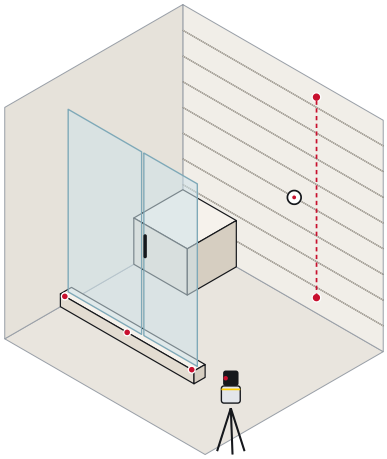
WALL / JAMB / CURB	TOP POINT	BOTTOM POINT	OUT BY	NOTES

Shower enclosures

Glass can't be trimmed on site. Every wall, the curb and the floor, as they really are.



Plan and wall. The curb, door and drain; top and bottom points show the lean.



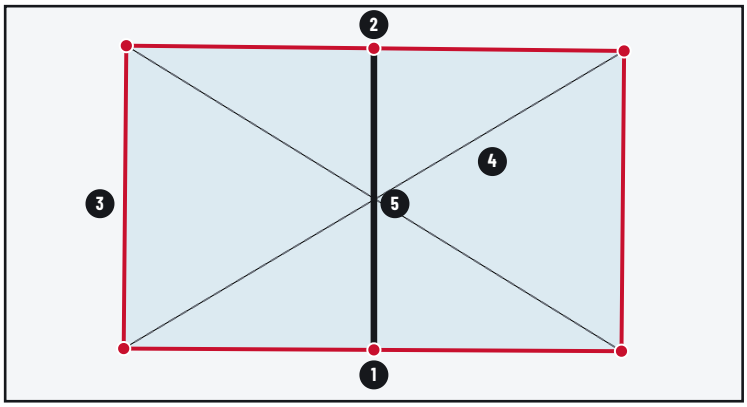
On the job.

1. A **3D** job. Template on **finished tile**, not backer board.
2. Each wall: **top and bottom points at both ends**, for plumb.
3. Curb: top, both edges, and its slope toward the drain.
4. Floor or tub deck where the glass sits; the ceiling if the glass goes full height.
5. Niches, benches, valves and grab bars near the glass line; the door swing and hinge side.

PLUMB A wall out of plumb by 1/4 in over the height of a panel is a gap, or a panel that won't fit.

Storefront and partitions

A rough opening is rarely square. Capture it, then let the diagonals prove it.



A rough opening, from the front.

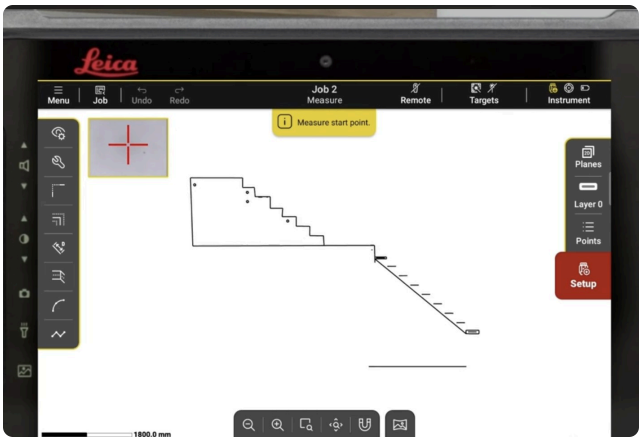
1. **Sill**
   Both ends, and level along it
2. **Head**
   Both ends, and level along it
3. **Jambs**
   Top and bottom, for plumb
4. **Diagonals**
   Corner to corner, to check square
5. **Mullions**
   Each location, and anything to clear

1. **2D Vertical** per opening; **3D** for a long partition run.
2. Sill, head and both jambs, with points top and bottom.
3. Mullion locations, columns, and anything the system must clear.
4. **Create › Linear Dimension**, **By points**, on both diagonals. Equal diagonals, square opening.
5. Floor and ceiling lines along a partition run.

- Note the finish at each edge: tile, stone, drywall, metal.
- Photograph the frame system and hardware, with model numbers.

Best methods for glass and metal

FOR	USE	WHY
Glass, mirror, stainless, black metal	VPen	A laser shot can't read them. The VPen can
Tread nosings, post points	VPen, Point	Exact points for each nosing and attachment
Straight stair balustrade	2D Vertical job on the glass side	The glass panel shape comes out flat and true
Fixture centers, deep recesses	VPen, Point on the center	Reaches points a laser shot can't
Curved stairs and railings	VPen Trace, slowly, in 3D	1.5 mm accuracy within 33 ft (10 m)
Floor along a base shoe	High/Low Points	Shows where shims are needed
Corner of two walls	Points on both walls, then Intersect	True corner, not assumed 90°
Long or turning stairs	V-Targets, then New Setup	Keeps the whole stair in one drawing
Spiral stair, wall or floor line	Line Scan (Sloped for a spiral)	Points at a set interval, taken automatically



A balustrade job on the tablet: steps, diagonal, floor line and fixture points.

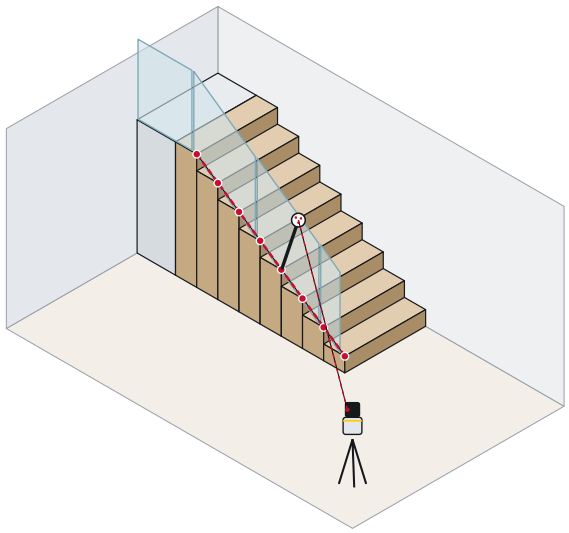
Curved work

- Trace curved stringers and landing edges with the pen upright.
- Stop and restart at each change in direction.
- Add points top and bottom on curved walls to see if they lean.
- Leave final fitting to drafting: the trace shows the real shape.

On the iCS50: capturing glass and railings

Which tool for which point.

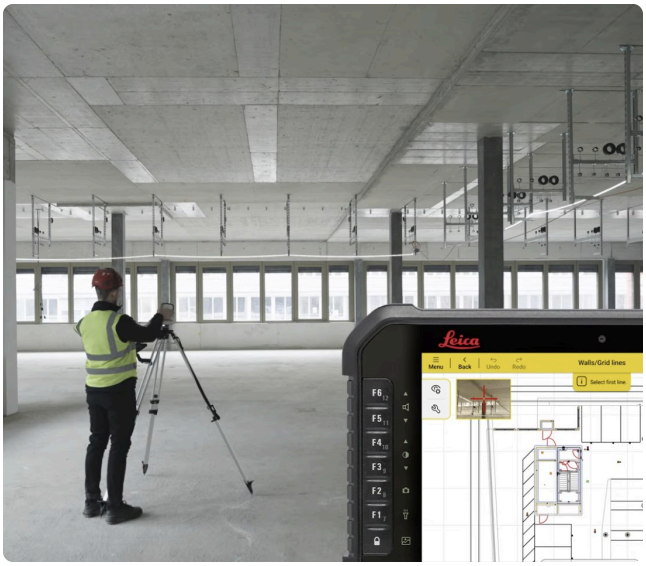
TASK	ON THE ICS50	TIP
The diagonal	**Line**: first nosing to last nosing edge	Captured on every stair
Nosings	**Point** on each, along the glass side	Bottom to top
Floor and upper floor	**Line** or **Polyline**	Both from the same setup
Fixture centers	**Point**, VPen tip in the center	Reaches into recesses
Wall plumb	A **Point** top and bottom at each end of the wall	The lean is in the file
Corners	**Edit › Intersect** two lines	The real angle
Curves	Hold **Measure** to Trace	Slowly; restart at direction changes
Spiral or long run	**Tools › Measure › Line Scan** (Sloped)	Points at a set interval
Floor under a shoe	**Measure › High/Low Points**	Shows the shims
Square check	**Create › Linear Dimension**, By points, on the diagonals	Equal means square
Points the pen can't touch	**Targets › Any Surface › Laser**	Never on glass, mirror or stainless
Another room	**New Setup › V-Targets**	Green means it found its place



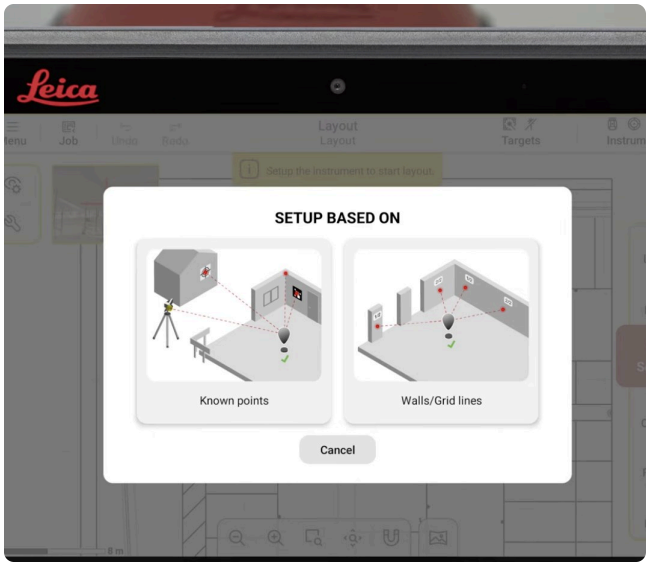
On the job. The iCS50 on the lower floor; the VPen on a nosing; every nosing on the diagonal.

Layout from a drawing

Templating in reverse: put the approved drawing onto the site. The iCS50 turns to each point and the red laser dot shows where to mark it.



Setting up on an open floor, with the floor plan on the tablet.



Setup based on: Known points or Walls/Grid lines.

Set up on the drawing

1. New project. Import the drawing: DXF, DWG, PDF, CSV or IFC. Tap **Start › Layout**.
2. The iCS50 levels itself and captures a panorama for fast aiming.
3. **Setup › Walls/Grid lines**. Tap the first wall on the drawing; it turns yellow.
4. Measure two points far apart on that wall, anywhere along it. Tap the panorama to aim.
5. Second wall, not parallel to the first: two more points. If the software offers two positions, pick the right one.
6. For 3D, set the height: pick a 3D point on the drawing or type the reference height.

Mark the points

1. **Targets › Any Surface**.
2. Tap a point, or an object and where along it to start.
3. Tap **Layout**. The iCS50 turns and puts the red dot on the spot.
4. Mark it, then tap **Store**. Big job? Build a **To-do** list in Points first.

On a glass and railing job

- [ ] Post, base shoe and anchor locations on the stairs or slab
- [ ] Core-drill centers from the approved shop drawing
- [ ] Standoff and clamp positions on the wall
- [ ] The shower layout on the curb and walls

ADD-ON Layout needs the **Layout licence**, an add-on that is not part of the standard iCS50 package. Ask SPEEDtemplate to add it.

Common mistakes on glass and railings

MISTAKE	WHAT HAPPENS	FIX
Measuring before finished floors or tile	Glass is the wrong height or won't fit	Template on finished surfaces only
Using Laser mode on glass or mirror	Points hit behind the glass or miss	VPen on every reflective or clear surface
Missing the diagonal	Glass doesn't follow the stair	Always capture first-to-last nosing edge
Only one point per wall	Out-of-plumb walls missed	Top and bottom points at both ends
Missing a tread nosing	Panel shape is wrong	Every nosing, both ends, then check in 3D
Tripod on the stair	Setup moves as people walk	Tripod on the finished floor, off the stair
Hardware not recorded	Office guesses the clamps or shoe	Photo and model numbers in SPEEDfolder
Point labels left on	Drafting can't read the DXF	All three label toggles off before export

Before you leave the site

- [ ] Every nosing, landing and attachment point captured
- [ ] Plumb checked on every wall the glass meets
- [ ] Diagonal and fixture centers captured
- [ ] Sign-off page done with the customer
- [ ] Photos and hardware in SPEEDfolder

Check it before you leave

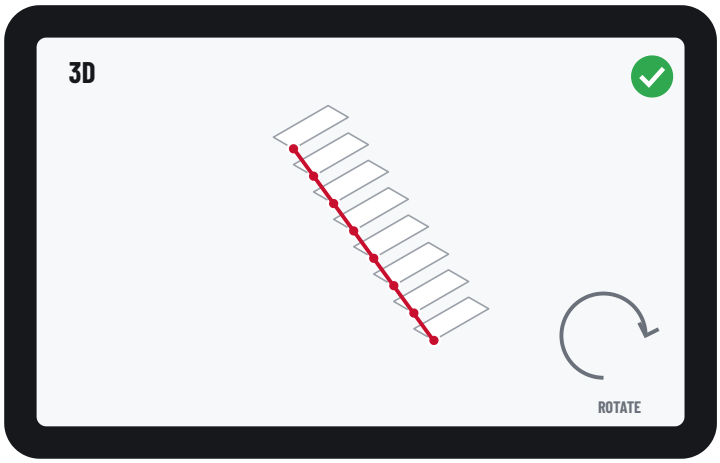
Glass is ordered from this file. The cheapest fix is the one made on site.

1. **Look in 3D**: every nosing on the diagonal, every panel where it should be.
2. **Plumb record**: top and bottom on every wall the glass meets.
3. **Tape check**: **Tools › Measure › Distance** on two or three spans, against a tape.
4. Fixture centers and posts all captured.
5. Photos of the hardware and the finishes, tagged.

With the customer

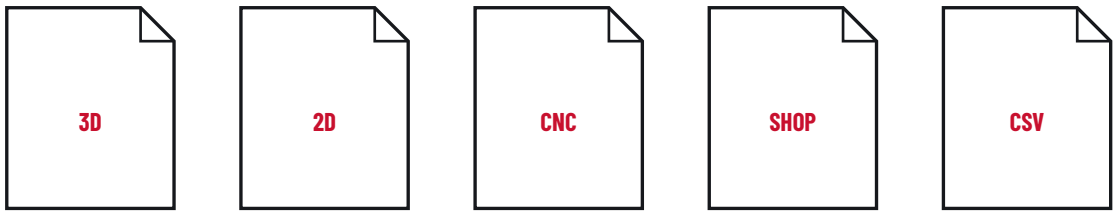
- Glass type, thickness and finish.
- Mounting and hardware: shoe, posts, standoffs, clamps.
- Handrail: yes, no, type; metal finish.
- The sign-off page, then a photo of it to the job.

BEFORE ORDERING Order glass only from a template that has passed this check. A wrong panel is weeks lost, not a quick recut.



The 3D check. Rotate the view: every nosing on the diagonal, every panel where it should be.

Export for the shop



3D DXF
the whole stair

2D DXF
each run, flat

CNC DXF
panel outlines

SHOP SHEET
PDF, a page a run

CSV
post coordinates

One job, five ways out.

Which format

FORMAT	USE IT FOR
3D DXF	Stairs, curves and anything that isn't flat: the full 3D model
2D DXF	Each glass run laid flat, ready for panel drawings
CNC DXF	Flat panel outlines for cutting
Shop Sheet (PDF)	A dimensioned page per run for the shop
Point List (CSV)	Post and core drill coordinates

WATCH: EXPORTING

Glass and railing layer plan

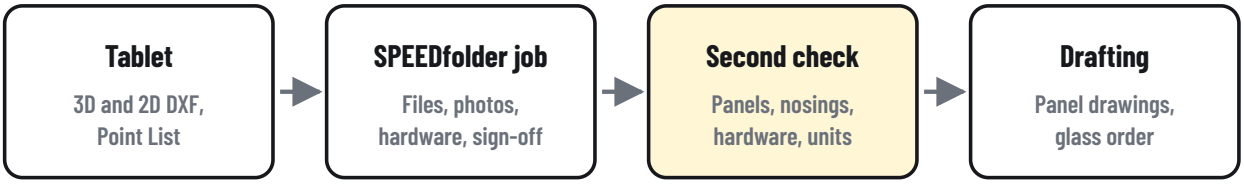
LAYER	FOR
Nosings	Tread nosing points and line
Stringer	Stringer or wall line
Floor	Floor and landing edges
Glass line	Where the glass sits
Shoe / posts	Base shoe, posts, standoffs
Walls	Walls with plumb points
Curb	Shower curb and slope
Openings	Jambs, sill, head
Notes	Finishes and text

Match names and colors to the shop's CAD standard and build them into the job template (GENERAL GUIDE: SECTION 10).

TIP Send your first few glass and railing exports to SPEEDtemplate support for a quick review before glass is ordered.

Hand-off to the shop

The template is done when the shop can draw and order without a call.



1. Export before you leave: **3D DXF** for the stair, **2D DXF** per run, **Point List (CSV)** for posts.
2. Everything on the job in **SPEEDfolder**: files, photos, hardware specs and the sign-off.
3. Name the file the shop's way: customer, address, run.
4. Keep the job on the tablet until the glass is installed.

The second check

- [ ] Panel count matches the quote
- [ ] Every run has its diagonal and nosings
- [ ] Hardware and finishes on the job
- [ ] Units right: inches or mm
- [ ] Labels off; no stray points

TIP Have someone other than the templater check the file before the glass order goes in.

Template-day sign-off

Go over these with the customer before leaving. Take a photo of this page and save it to the job in SPEEDfolder.

Customer _____ **Job / address** _____

Product _____ **Glass type and thickness** _____

Glass finish / tint _____ **Mounting: shoe, posts, standoffs** _____

Handrail: yes / no / type _____ **Metal finish** _____

Railing height _____ **Hardware chosen** _____

Finished surfaces in place? _____ **Install date** _____

Notes

_____

_____

Customer signature _____ **Templated by / date** _____

Photo shot list

- ☐ The whole stair or opening, bottom and top
- ☐ Each landing and turn
- ☐ Every wall the glass meets, straight on
- ☐ Where posts or shoe will mount
- ☐ Shower: walls, curb, valves, niches
- ☐ Floor finish at every edge
- ☐ Hardware samples or spec sheets
- ☐ Damage before work starts (tag Before)

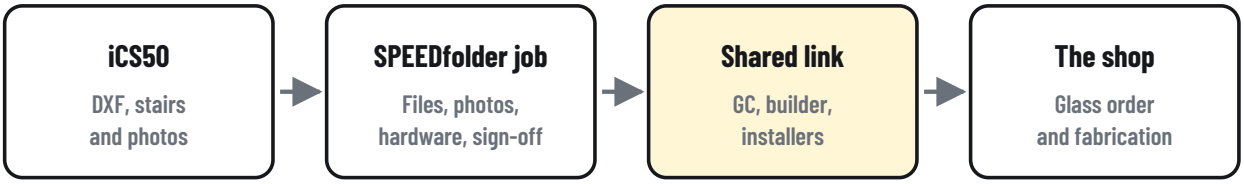
Glass and railings quick reference

Keep this page with the iCS50.

STEP	DO THIS
Before	Finished floors, treads and tile in. Hardware chosen
Setup	Across from the stair, on the finished floor, never on the stair. V-Targets first if it turns
Job	2D Vertical for a straight balustrade (start points on the glass side); 2D Horizontal for a landing; 3D for showers and curves
Target	VPen. Never the laser on glass, mirror or stainless
Stair	The diagonal, every nosing, floor line, upper floor line, fixture centers, wall junctions
Walls	Top and bottom points at both ends, for plumb
Shoe and posts	High/Low Points along the shoe; a Point on each core-drill center
Curves	Trace in 3D, or Line Scan (Sloped)
Openings	Sill, head, jambs; Linear Dimension on the diagonals
Check	3D view, plumb record, Distance against a tape
Export	3D DXF, 2D DXF, CNC DXF, Shop Sheet, Point List (CSV). Labels off
Keep it	Files, photos, hardware and sign-off on the job in SPEEDfolder
Stuck?	SPEEDtemplate support: 919-676-2244, support@fifthgeartech.com

Run the job on SPEEDfolder

No job system yet? SPEEDfolder comes with the iCS50 and is already on the tablet. One place for every stair, shower and opening.

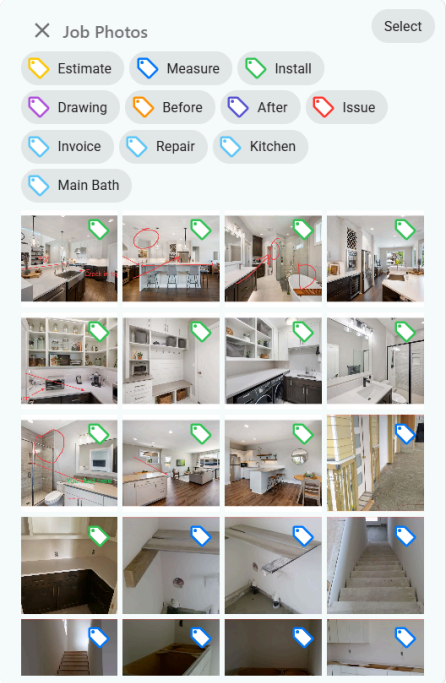


What goes on the job

- One job per customer and address: the DXF, the sign-off and the hardware specs.
- Photos of every stair, landing and wall the glass meets, tagged by area.
- Damage found before work starts tagged **Before**; anything off tagged **Issue**.
- The office sees each photo as it is taken.

Who sees it

- Text a job link to the GC, the builder or the install crew. It opens in any browser: no app, no account, no password.
- No charge per user. Add every measurer and installer.



Job photos in SPEEDfolder, filtered by tag and grouped by date.

NOTE SPEEDfolder runs the job, not the money. Quotes and invoices stay in the shop's own system.

TIP SPEEDfolder is included with the iCS50. Call SPEEDtemplate support to set it up: 919-676-2244.

WATCH: EXPORT TO SPEEDFOLDER

SCAN: SPEEDTEMPLATE.COM

Notes

SPEEDtemplate

GLASS AND RAILINGS GUIDE



Need a hand on a glass and railings job?

919-676-2244

support@fifthgeartech.com

GENERAL GUIDE
How the iCS50 works

INDUSTRY GUIDE
What to capture in the industry

INDUSTRY WORKBOOK
Learn it by doing it

Leica GEOSYSTEMS

The Leica iCON iCS50, sold, set up and supported by SPEEDtemplate.

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