LEICA ICON ICS50 · INDUSTRY GUIDE

Countertops Guide

Kitchens, islands, backsplashes, vanities, showers, fireplaces and outdoor kitchens. Use with the iCS50 General Guide.



SPEEDtemplate

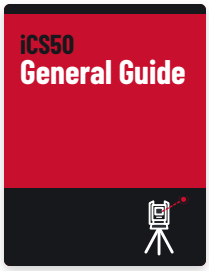
COUNTERTOPS GUIDE

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.



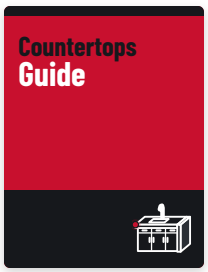
How the iCS50 works

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

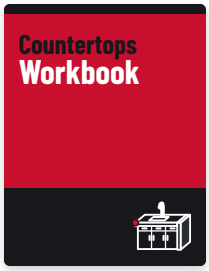


What to capture in the industry

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 countertop template looks like

This guide covers what changes when the job is a countertop. Everything else, from setup to export, is in the iCS50 General Guide. Keep the two together.

The template drafting wants

- [ ] Every cabinet run, with the wall line behind it captured as it really is, bows and all
- [ ] Out-of-square corners shown as measured, not assumed at 90°
- [ ] Sink, cooktop and faucet locations, with the fixture specs on the job
- [ ] Appliance openings: range, dishwasher, fridge
- [ ] Outlets and switches in the backsplash zone
- [ ] Islands and peninsulas tied to the same drawing
- [ ] Backsplash and waterfall pieces, if the job has them
- [ ] The customer's decisions recorded: overhangs, edge, seams, faucet holes

TIP Template once the cabinets are set, leveled and fastened. A cabinet that moves after templating means a top that doesn't fit.



Templating a sink base and the wall line behind it.

COUNTERTOPS

Countertop questions, answered

The questions fabricators ask most, in one place.

How accurate is it?

The VPen is accurate to 1 mm (about 1/32 in) within 33 ft (10 m). Laser mode adds quick points the pen doesn't need to touch.

Black granite, glossy quartz, glass?

Use the VPen. The head tracks the pen ball, not the surface, so color and shine don't matter.

Bowed walls and out-of-square corners?

A point every 16 in along each wall catches general bows; 8 in for a tight scribe, 4 in for a very tight one. Points on both walls, then Intersect, gives the real corner.

An island or a run the iCS50 can't see?

Place V-Targets before you start, move the iCS50, and set up again from them. Everything stays in one drawing.

Do I still need sticks?

No sticks and no glue. The template is points in a file, on the job before you leave the jobsite.

Sinks and cooktops?

Insert the sink outline from the Objects Library, and capture the sink base and center line in the field. Attach the spec sheets in SPEEDfolder.

What does drafting get?

2D DXF, CNC DXF, ALPHACAM (IAZ) or a Shop Sheet PDF.

Can the customer approve it on site?

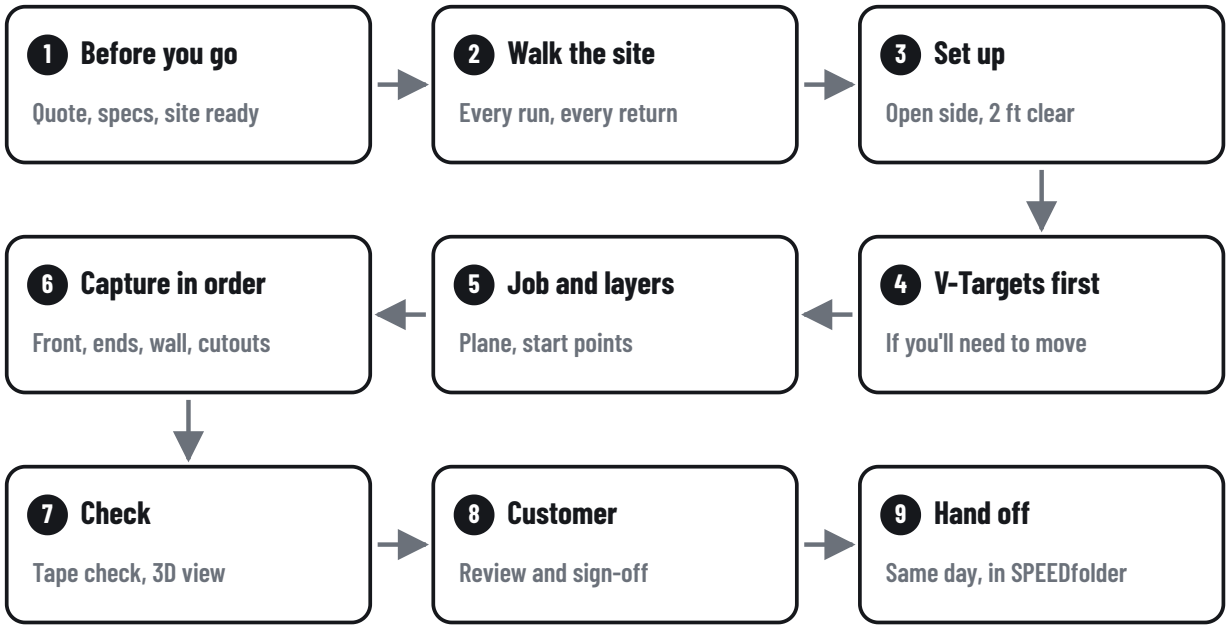
Yes. Walk the customer through the drawing on the tablet, fill in the sign-off page, and save a photo of it to the job.

Who on my crew should run it?

The person who already knows how a top goes in: an experienced templater or installer. They know what the shop needs; the iCS50 is the only new part, and onboarding covers it.

Template day, start to finish

The same nine steps on every job. The order is what keeps the return trips away.



Before you go

- [ ] Quote or contract read: material, edge, sink, faucet, cooktop
- [ ] Site ready: cabinets set, shimmed and fastened; plumbing roughed in; old tops off
- [ ] Sink, faucet and cooktop on site, or the spec sheets on the job
- [ ] Appointment confirmed with the customer that morning
- [ ] iCS50, tablet and remote charged; V-Targets and painter's tape in the case

Walk the site first

- Walk every run before the tripod goes up: returns, sills, end panels, radius ends, the range and dishwasher openings.
- Decide where the iCS50 stands, and whether a second setup is needed.
- Points go on fixed surfaces: the cabinet box, not doors, drawer fronts or loose trim.
- **Open every cabinet door and drawer** before you start, so the pen reaches the box.

DON'T TEMPLATE IT An unready site makes a template that won't fit. If the cabinets aren't fastened, reschedule.

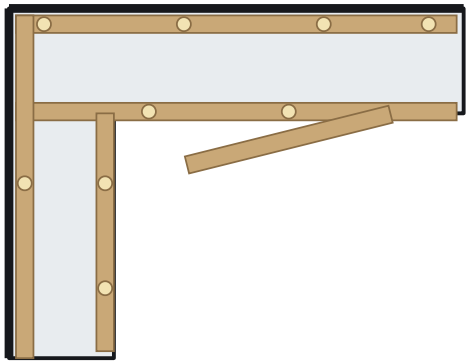
WATCH: TEMPLATING A KITCHEN

COUNTERTOPS

Sticks and hot glue vs the iCS50

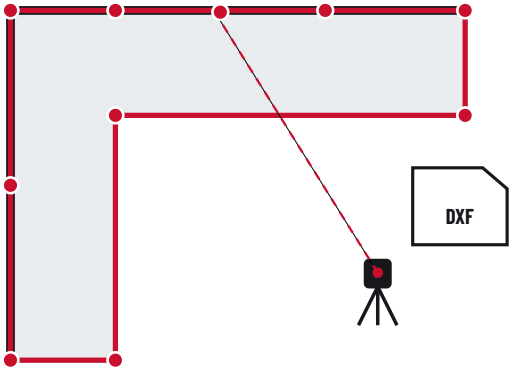
Many tops are still templated with strips of luan or plastic, hot glue and a marker, then carried back to the shop. Here is what changes.

STICKS AND HOT GLUE



Strips, glue, a ride in the van.
Then traced or digitised at the shop.

THE iCS50



Points, not sticks.
A DXF for drafting the same day.

STICKS AND GLUE	WHERE IT GOES WRONG	THE ICS50
Strips glued along the cabinets	Strips flex, glue lets go, the template moves in the van	Points in a file. Nothing to glue or carry
Wall bows scribed by eye	Hit or miss at the wall	A point every 16 in, closer for a tight scribe; the bows are in the file
Corners glued at the joint	The real angle is lost	Points on both walls, then Intersect
Sink and cooktop marked by hand	Cutouts in the wrong place	Insert Object from the library; spec on the job
Outlets on a scrap of paper	Splash cutouts guessed	Each box a Point on the splash plane
Template laid on the slab or digitised at the shop	A second step, and another place for errors	DXF or ALPHACAM file the same day
A stack of templates in the shop	Lost, broken, or the wrong job	Saved on the job in SPEEDfolder
Coroplast, luan and glue, bought every week	A cost on every job	Nothing used up per job
Notes on the sticks: edges, radius, name, color	Small details get missed	Layers, specs, photos and the sign-off on the job

Job setup

The right start makes the rest of the job easy.

Job type

IF THE JOB HAS...	START AS
Flat tops only, at one or more heights	2D Horizontal
A full-height backsplash or wall cladding	2D Horizontal, then a Vertical plane for each wall
A waterfall, a curved or bowed piece	2D or 3D. Switch to 3D for the curved piece
Not sure	Either. Any job can switch to 3D later.

Where to put the iCS50

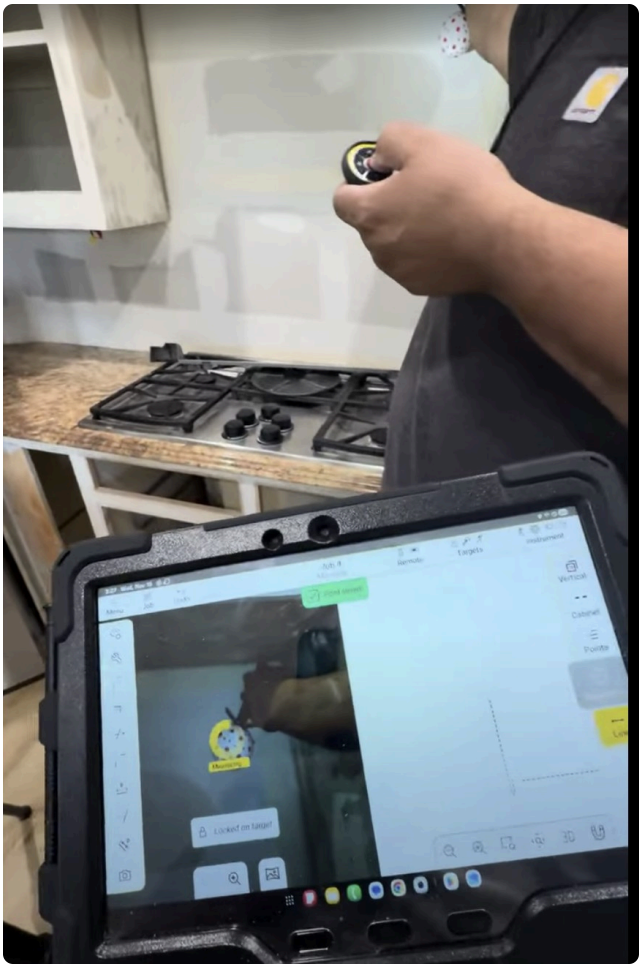
- Where the iCS50 sees the front edge of every cabinet and the wall line behind it.
- More than 2 ft from anything you'll measure. In a tight galley, set up in the doorway.
- Out of the walkway. A bumped tripod means re-leveling.
- For L and U kitchens, the open side of the room usually sees everything.
- Can't see it all? Place V-Targets before you start, not halfway through (GENERAL GUIDE: SECTION 8).

Start points

Take the two start points on the backsplash wall, in Point mode. Delete them or move them to their own layer before export.

Heights

Use a separate layer for each countertop height (kitchen, bar, vanity) so drafting can tell them apart at a glance.



Locked on target: the tablet confirms the VPen before each point.

On the iCS50: starting the job

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

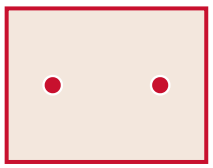
TASK	ON THE ICS50	TIP
New job	Home › **Quick Start**, or a new job from the shop's **job template**	A job template has the layers ready
Job type	**2D Horizontal** for flat tops. **3D** for waterfalls, curves or several heights	Not sure? Either. Any job can switch to 3D later
Target	**Targets › VPen**. Laser: **Targets › Any Surface › Laser**	Switch any time; one drawing
Layer	Tap **Layers** and activate one	At least one active layer is needed to measure
What to draw	**Measuring settings**, the icon under Measure: Point, Line or Polyline	Start points in Point mode
Corners as you go	Measuring settings: **Auto-intersect** on	Consecutive polyline segments meet.
Photos as you go	Measuring settings: **Capture photo** on	Or Create › Capture Photo for one shot
Take a point	Tap **Measure**, or the Measure button on the remote	Hold Measure with the VPen to Trace
Another level	**New plane** (Setup tools): Horizontal or Vertical from two points	Raised bar, sill, splash wall, end panel

HORIZONTAL



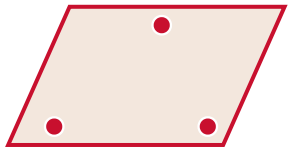
Two points.
Tops, bars, sills, hearths.

VERTICAL



Two points.
Splash walls, end panels, faces.

SLOPED



Three points.
Anything that leans.

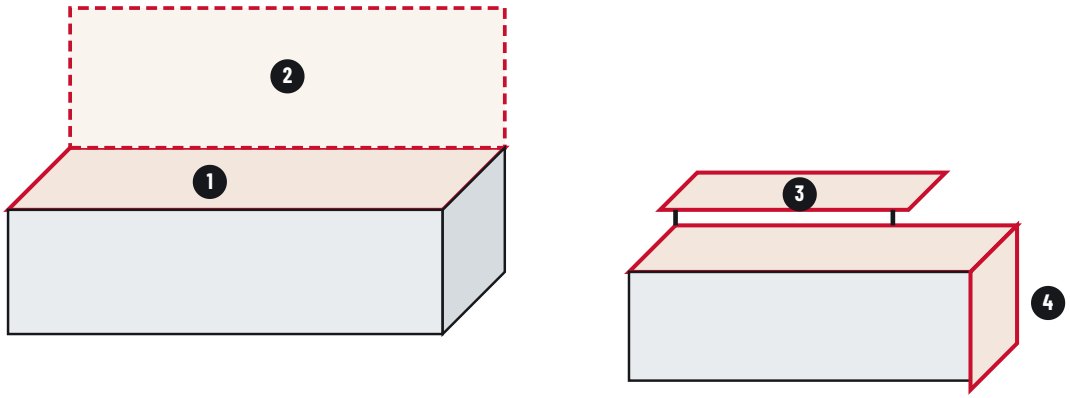
WATCH: MEASURING A COUNTERTOP

Three kinds of plane. Every point projects onto the active plane, so each piece comes out flat.

On the iCS50: planes for every job

Pick the job type and planes before the first point.

JOB	JOB TYPE	PLANES
Kitchen, flat tops	2D Horizontal	One horizontal plane
Raised bar or two-level island	2D Horizontal	New plane › Horizontal at the bar top
Full-height splash	2D Horizontal	New plane › Vertical for each splash wall
Waterfall	3D	Or a Vertical plane at the end panel
Vanity, tub deck, window sill	2D Horizontal	A horizontal plane for each level
Shower	3D	Vertical per wall; Sloped if a wall leans; Horizontal for curb and bench
Fireplace	2D Vertical or 3D	Vertical for the face; Horizontal for the hearth and mantel
Outdoor kitchen	2D Horizontal	Plus a horizontal plane for a raised bar



One job, four planes. 1 main top, horizontal. 2 splash wall, vertical. 3 raised bar, horizontal. 4 waterfall end, vertical.

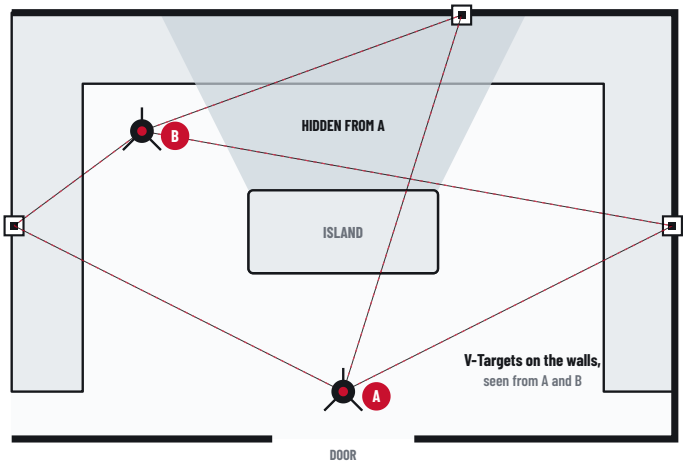
Planes, in practice

- Every point projects onto the **active** plane. Check which one is active before you measure.
- Name each plane: Main top, Bar, Splash north, Hearth.
- In 3D, rotate the view before leaving: every piece should sit where it is in the room.

NOTE A vertical plane is plumb. If a wall leans and the piece must follow it, use a Sloped plane from three points, or measure in 3D.

Setting up in the kitchen

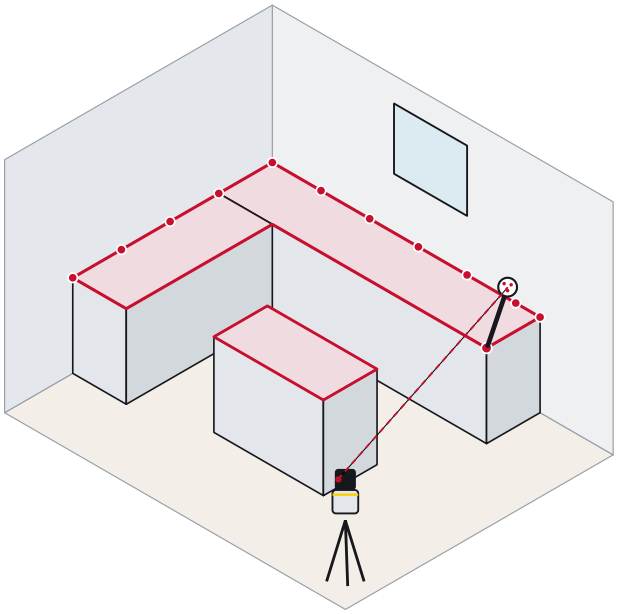
Where the iCS50 stands decides how many setups the kitchen takes.



A U kitchen with an island. From A, the island hides the middle of the back run (shaded). B sees it, and both see the same V-Targets.

1. Stand in the **open side** of the room, more than 2 ft from the cabinets, out of the walkway.
2. Check the camera view on the tablet: is every run in sight?
3. A run hidden by an island or a wall? Place **three V-Targets** that both spots can see, **before** you start.
4. Capture everything A can see.
5. Move to B: **New Setup › V-Targets**. Green means it found its place (General Guide: Section 8).
6. Carry on in the same drawing.

TIP Turn the tablet on first; it starts up while the tripod goes up. Legs fully extended, feet on the floor, not on a rug or a drop cloth. A tripod that settles moves every point after it.



On the job. Cabinets set, tops not yet on. The iCS50 out of the walkway; the VPen on the cabinet edge; the top taking shape on the tablet.

What to capture

Work around the run in the same order every time and nothing gets missed.

Cabinets and walls

- [ ] Front edge of every cabinet run, corner to corner
- [ ] Wall line behind each run: a point every 16 in, 8 or 4 in for a tight scribe
- [ ] Inside and outside corners on both surfaces (GENERAL GUIDE: SECTION 6)
- [ ] End panels, fillers and where the top dies into a wall
- [ ] Window sills, returns and anything the top has to fit around

Fixtures

- [ ] Sink base: both sides, and mark the sink center line with Point
- [ ] Cooktop or range: the opening, or the existing unit's corners
- [ ] Faucet, soap and air-gap locations agreed with the customer
- [ ] Appliance openings: dishwasher, range gap, fridge

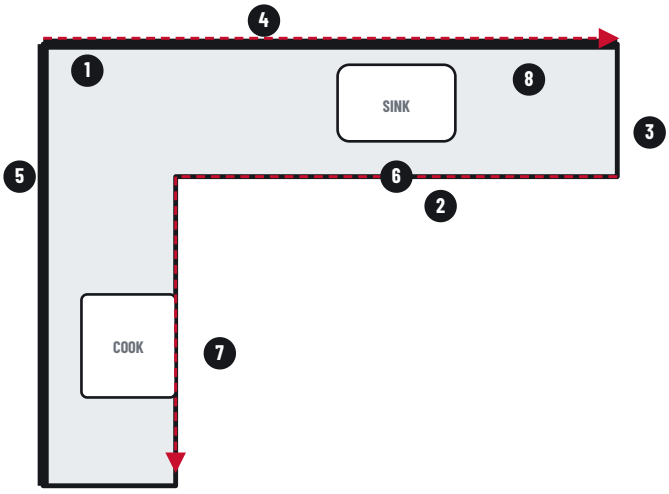
Backsplash zone

- [ ] Outlets, switches and window trim in the splash height
- [ ] Range hood or upper cabinets if the splash runs full height
- [ ] Tile, drywall or bare studs? Note what the splash sits against

Islands and peninsulas

- [ ] Island cabinet outline, tied to the same drawing
- [ ] Seating overhang and support locations
- [ ] Plumbing or electrical in the island

SPECS Get the sink and cooktop **spec sheets** (model numbers or cutout templates) and attach them to the job in SPEEDfolder. The iCS50 captures where a fixture goes, not the size of its cutout.



The same order on every job. 1 start points on the wall. 2 cabinet faces. 3 end panel. 4 wall scribe. 5 inside corner. 6 sink base and center. 7 cooktop. 8 outlets in the splash zone.

Walls and corners

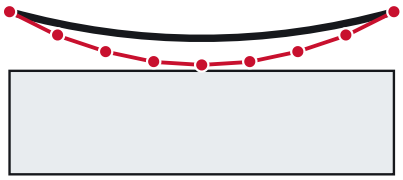
No wall is straight and no corner is square. Capture them as they are; drafting decides what to do with them.

TWO POINTS



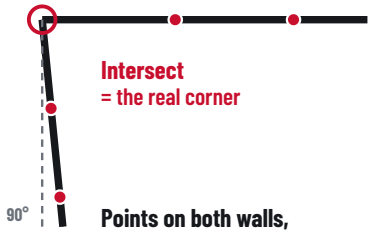
The top is cut straight.
The bow leaves a gap at the wall.

A POINT EVERY 6 TO 12 IN



The top follows the wall.
Bows and dips are in the file.

OUT-OF-SQUARE CORNER



Points on both walls,
never in the corner.

The wall line

1. **Polyline**, starting at one end of the run.
2. A point every **16 in** for general bows. Studs usually sit 16 in on center, so this catches each one. **8 in** for a tight scribe, **4 in** for a very tight one, and closer near inside corners, where drywall mud builds up.
3. A long, open wall: **Line Scan** in Laser mode takes the points for you. Or **Trace** it: long-press Measure and run the pen along the wall at counter height.
4. End where the top dies into the wall or the end panel.

Corners

1. Two points on each wall, a few inches out from the corner.
2. **Edit › Intersect** joins the two lines at the real corner.
3. A diagonal across a corner: **Edit › Hidden Corner** squares it and shows both options.
4. A radius end: trace it, then Smooth.

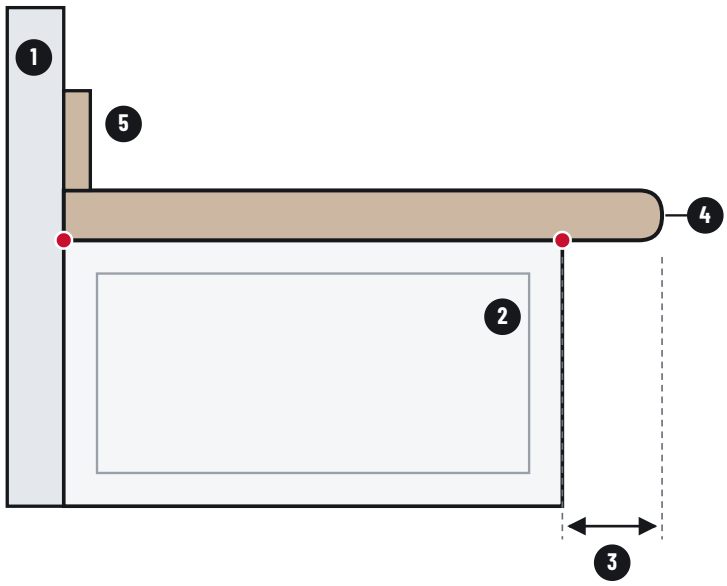
IMPORTANT Never shoot the laser into a corner. The dot hits one wall or the other.



The walls, the cabinet line and the corners, building on the tablet as each point is taken.

Raw edge, cabinet line and overhang

Capture what is there. Drafting adds the overhang and the edge from the customer's choices.



1. **Wall**
   The raw edge the top scribes to
2. **Cabinet face**
   The front edge you capture
3. **Overhang**
   The customer's choice, added in drafting
4. **Finished edge**
   The profile, on its own layer
5. **Splash**
   A 4 in splash or full height

A top on a base cabinet, side section.

In the field

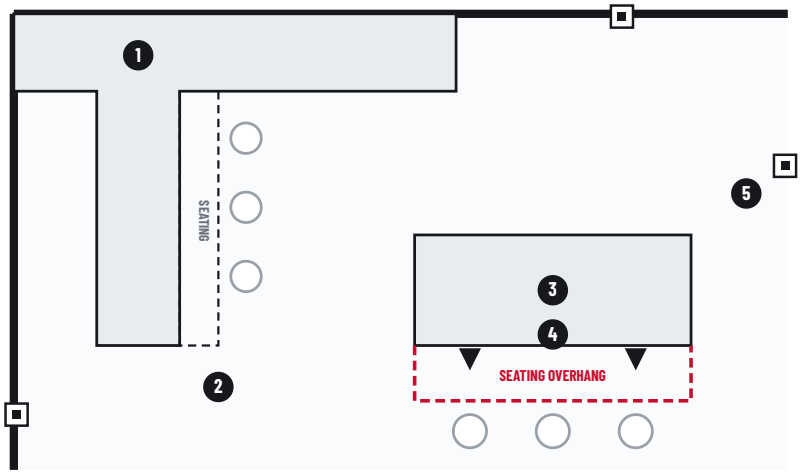
- Capture the **cabinet face**, not where you think the edge should go. Height doesn't matter: in a 2D Horizontal job every point drops onto the plane of the top.
- End panels, fillers and appliance gaps: a point at each.
- Seating overhangs at islands and peninsulas: note the depth on the sign-off.
- Shop wants the overhang in the file? **Tools › Offset** the cabinet line by the overhang, on its own layer.
- Run **Measure › High/Low Points** across the cabinet tops before templating.

On the sign-off

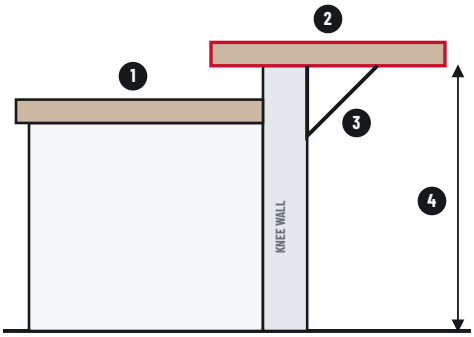
- Front and side overhangs.
- Edge profile, by edge.
- Splash: 4 in, full height, or none.
- Anything the customer changed on the day.

Islands and peninsulas

Free-standing pieces, seating overhangs and raised bars. Each one still belongs in the same drawing.



A peninsula and an island, from above.



A raised bar, side section.

1 Peninsula
Tied to the wall run: capture both as one

2 Seating side
Cabinet face, then the overhang depth on the sign-off

3 Island
All four sides of the cabinets

4 Supports
Corbels or brackets where the shop's rule needs them

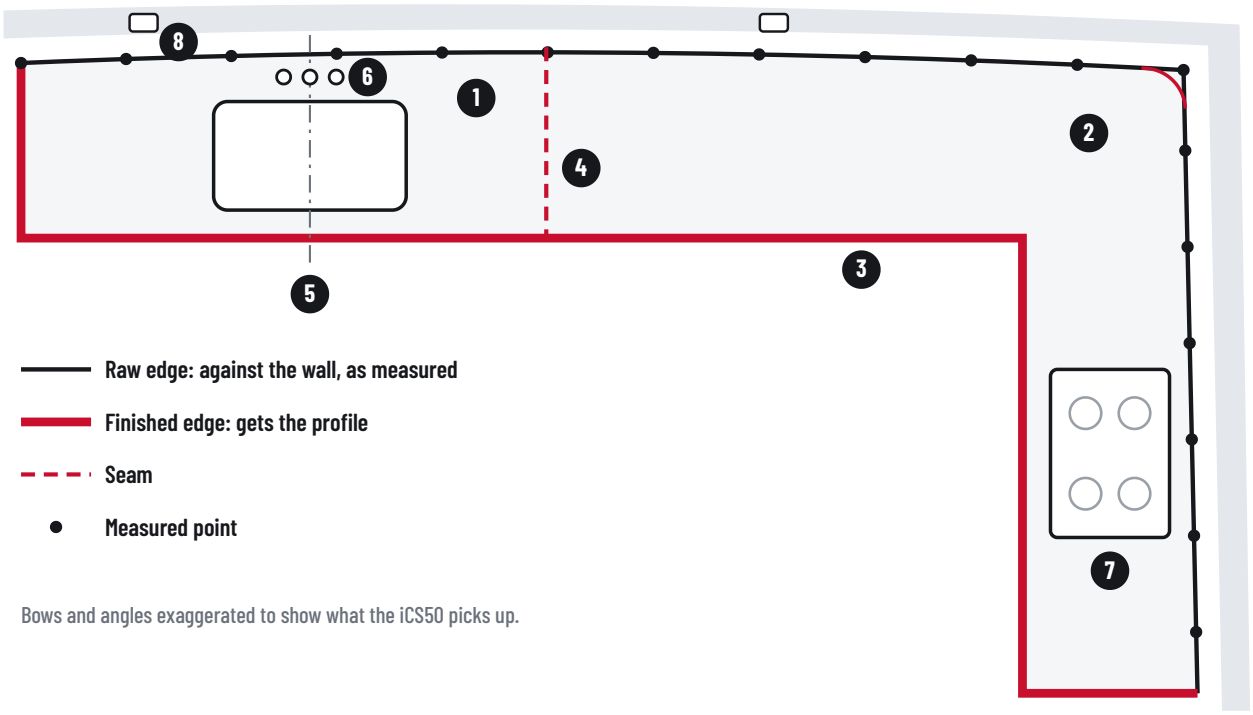
5 V-Targets
If the island hides a run, set up again from them

1. Islands and peninsulas go in the **same job** as the kitchen. Same setup if the iCS50 sees them; V-Targets if not.
2. Capture all four sides of an island's cabinets, then the end panels.
3. Seating overhang: the depth goes on the sign-off. Ask the shop when it needs supports.
4. Raised bar: the knee wall top is its own **Horizontal plane**. Capture both faces of the knee wall.
5. Outlets on the island ends or the knee wall: a Point at each.

NOTE Overhang limits and support spacing depend on the material and its thickness. The shop sets them; the template records where the customer wants to sit.

Anatomy of a countertop template

What a finished template shows, edge by edge. The numbers match the list below.



An L-shaped kitchen, from above.

1 Wall line
A point every 16 in, 8 in for a tight scribe, 4 in for a very tight one. This is the raw edge the top scribes to.

2 Inside corner
Points on both walls, then Intersect. The real angle, not an assumed 90°.

3 Finished edges
Every edge that gets the profile, on its own layer.

4 Seam
Only where the customer agreed. Seam is its own layer.

5 Sink and center line
Inserted from the library or measured, with the center line marked.

6 Faucet holes
Count and position agreed with the customer.

7 Cooktop
The opening or the unit's corners, with the spec on the job.

8 Outlets
Every box in the splash zone, as a Point.

Best methods for tops

FOR	USE	WHY
Cabinet front edge	VPen, Line or Polyline	Exact corners; one point at each corner of the run
Wall line	VPen, Polyline: a point every 16 in; 8 in for a tight scribe, 4 in for a very tight one	Captures bows and dips the top must scribe to
Out-of-square corners	Points on both walls, then Intersect	Finds the true corner instead of assuming 90°
Radius corners, curved islands	Trace, then Edit › Smooth › Lines & Arcs	Clean arcs with a radius dimension for CNC
Islands from a plan size	Create › Rectangle B+H	Type the size, tap to place, rotate to fit
Cabinet level check	Measure › High/Low Points	Catches a high or low box before the top is cut
Diagonal corner to square up	Edit › Hidden Corner	Turns a diagonal into a 90° corner, shows both options



Capturing the wall line and outlet height behind a sink base.

Check the cabinets first

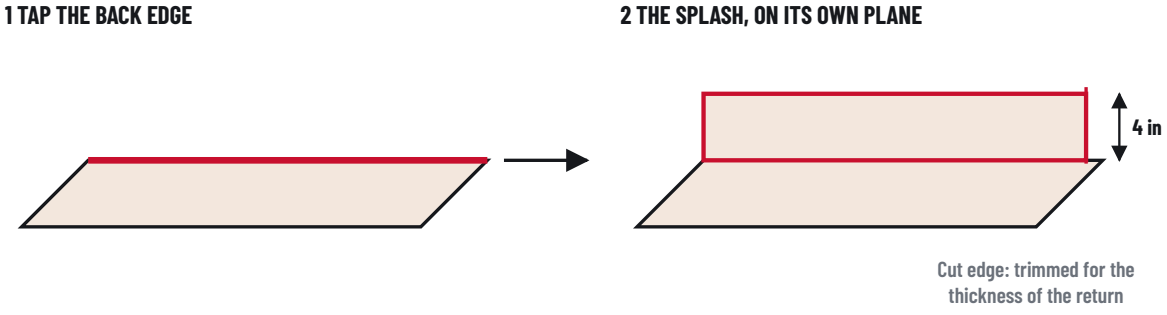
Before templating, run High/Low Points across the cabinet tops (GENERAL GUIDE: COUNTERTOP TOOLS). A box that's out of level by more than the shop's tolerance gets fixed before the template, not after the top shows up.

TIP Read the result out loud to the cabinet installer while still on site. Two minutes now saves a return trip.

On the iCS50: capturing the top

Which tool for which edge.

TASK	ON THE ICS50	TIP
Cabinet face	**Line** or **Polyline**: a point at each end of each face	Any height on the face; it drops onto the plane
Wall scribe	**Polyline**, a point every 16 in; 8 in for a tight scribe, 4 in for a very tight one. Or hold **Measure** to Trace along the wall	A **New** polyline at each corner
Inside corner	**Edit › Intersect** the two wall lines	Or Auto-intersect while measuring
Diagonal corner	**Edit › Hidden Corner**	Shows both 90° options; pick one
Radius end or curve	Trace, then **Edit › Smooth**. Or **Create › Arc 3P**	Smooth: Templating licence
Round cutout, column	**Create › Circle**, Circle 3P on the rim	Exact center and size
Island from a size	**Create › Rectangle**	Then place and turn it to fit
Sink	A **Point** at the center, then **Edit › Insert Object**	Insert Object: Templating licence
4 in splash	**Create › Auto Backsplash**: tap the back edge, or **By points**	**Cut edge** trims for thickness
Full-height splash	**New plane › Vertical**, then the outline and outlets	One plane per wall
A long, open wall	**Tools › Measure › Line Scan**	Laser mode; set the interval
Level check	**Measure › High/Low Points**	Before templating, across the cabinets



Auto Backsplash. Tap the back edge, set the height, and the splash appears on its own vertical plane.

VPen or Laser mode

Most of a countertop is VPen work. Laser mode is the quick way to reach points the pen doesn't need to touch. Pen and laser points mix in one drawing.

FOR	USE
Corners, cabinet edges, cutouts	VPen
Black, glossy or glass surfaces	VPen
A long wall line	Line Scan (Laser mode)
A far wall, or a quick check	Laser mode
Shooting into a corner	Never. Points on both walls, then Intersect



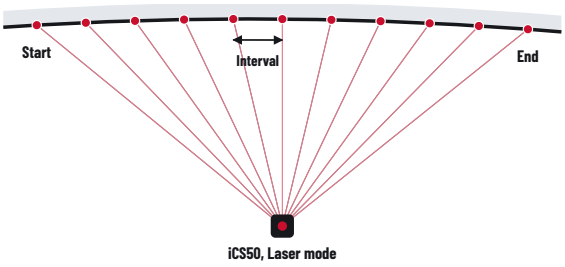
Laser mode: the small red dot on the wall, left of the cabinet, is the point being measured. The VPen waits on the cabinet.

Switch to Laser mode

1. Tap **Targets › Any Surface › Laser**. The red dot comes on.
2. Turn the head by hand to put the dot on the point, then Measure.
3. Back to the pen: **Targets › VPen**, and bring the pen into the camera view.

Line Scan along the wall

1. **Tools › Measure › Line Scan**.
2. Choose **Horizontal Point to Point** scan.
3. Set the interval between points.
4. Measure the start and end points. The first point sets the height of the scan.
5. Tap **Start**, then **Accept** when the points appear.



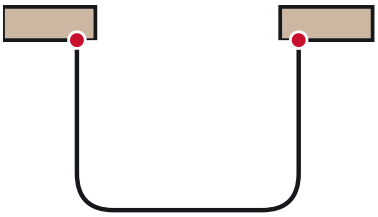
The iCS50 takes a point at every interval, start to end, automatically.

WATCH: LINE SCAN

Sinks: undermount, drop-in, farmhouse

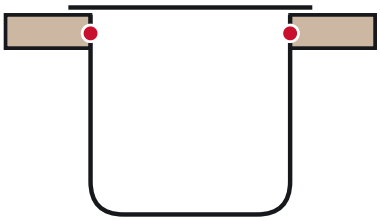
Each sink type needs different points. Know which one it is before you start.

UNDERMOUNT



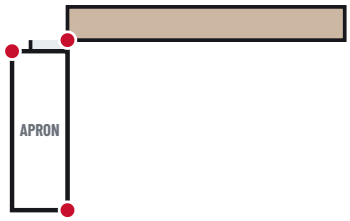
Bowl rim and center line.
The shop sets the reveal.

DROP-IN



Cutout from the spec sheet.
The rim covers the edge.

FARMHOUSE / APRON



Front opening, both sides, back.
Note the apron setback.

SINK	CAPTURE	THEN
Undermount	The bowl rim, and the center line from the cabinet	Insert Object from the library; the shop applies its reveal
Drop-in	The sink base and center line; the cutout comes from the spec sheet	Insert Object, or the cutout size on the job
Farmhouse / apron	The front opening, both cabinet sides and the back	Note the apron setback on the sign-off
Existing sink staying	The sink as installed: rim and center	Ask the customer and write it down: keeping it, or new?
Faucet and accessories	Each hole center, as agreed	Count and spread on the sign-off
Inside the sink base	Two points on the back and on each side, inside the cabinet	The shop checks the sink really fits
Range opening	Both cabinet sides at the opening	The shop applies its standard opening width

TIP Photograph the sink label and the box. A model number in SPEEDfolder settles every cutout question.

Sinks from the library: Insert Object

Drop the sink's exact outline into the drawing instead of measuring the sink itself.

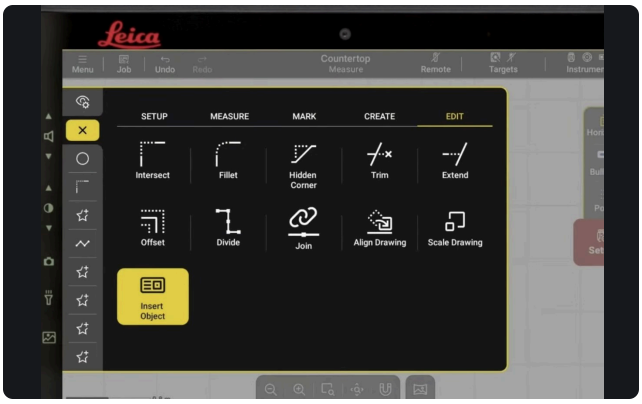
1. Open **Edit › Insert Object** from the tools menu.
2. In the **Objects Library**, pick the sink. The preview shows its outline and drain.
3. Tap **Insert**. Move it with the arrows, or type the offsets from the cabinet edge.
4. **Rotate** if needed, then **Accept**.

TIP

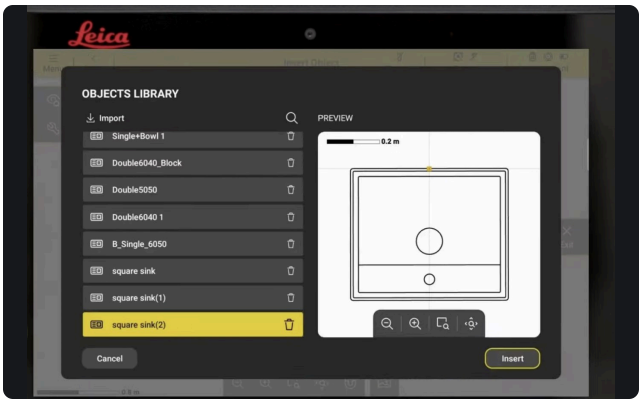
Build the library once: copy the DXF for every sink the shop sells, named by model, into the tablet's **Internal storage › iCON trades › Objects** folder (from a USB drive or a download). Until then, Insert Object shows an empty library. No DXF from the maker? Set the sink on a flat surface and **trace the rim** with the VPen, Smooth it, export the DXF and import it. Then every template uses the same outlines.

NOTE

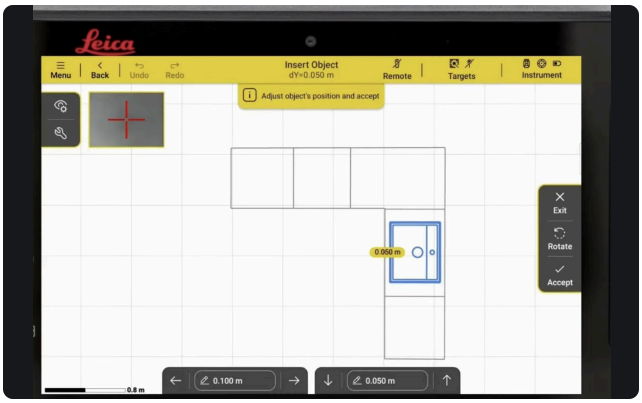
Still capture the sink base and the center line in the field, and attach the spec sheet in SPEEDfolder. The library sets the shape; the field sets the position.



Edit tools: Insert Object sits with Intersect, Fillet and Offset.



The Objects Library with a preview of the selected sink.



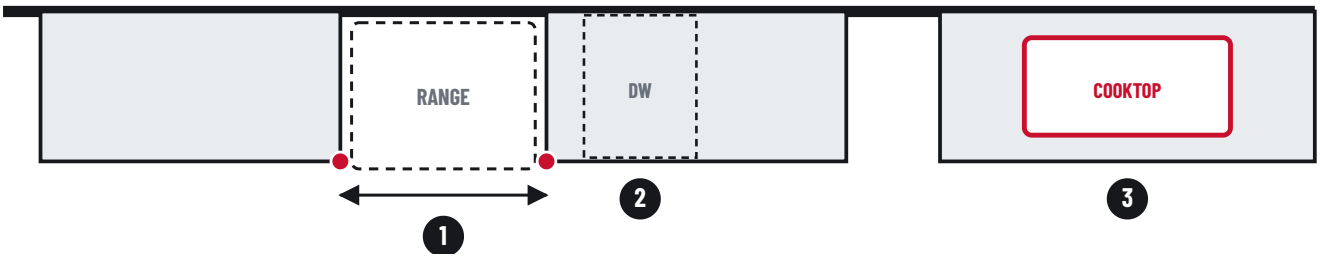
Placing the sink: arrows and typed offsets, then Rotate or Accept.



Back on the wall: the VPen on an outlet box for the splash.

Appliances and openings

The appliance is often not in the kitchen on template day. The spec sheet is what makes the opening right.



From above. 1 range gap, both cabinet sides. 2 dishwasher under the top. 3 cooktop cutout from the spec sheet.

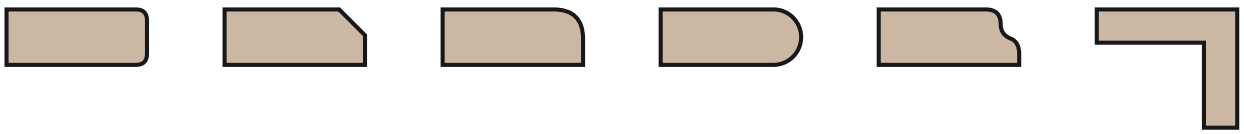
APPLIANCE	CAPTURE	THEN
Freestanding range	Both cabinet sides at the gap	The shop applies its standard opening
Slide-in range	Both cabinet sides, and where the top meets the range	Model and spec sheet on the job
Cooktop	The base cabinet below; the cutout comes from the spec	Insert Object or the cutout size; cooktop center line
Dishwasher	Both cabinet sides at the opening	Note the mounting: side or top brackets
Fridge	The gap and any panel beside it	The top ends at the panel or the gap
Downdraft, pop-up outlet, air switch	A Point at the center	Model on the job; the cutout comes from the spec

BEFORE CUTTING No spec sheet, no cutout. If the appliance or its spec isn't on the job, mark the opening and flag it for the office.

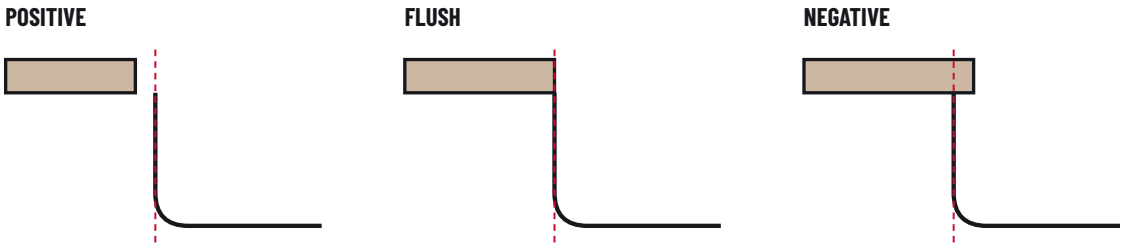
Edges, thickness and sink reveal

Three choices only the customer can make. Show them on template day and write them down.

Edge profiles



Undermount sink reveal



On the drawing

- Each edge type on its own layer: finished, raw (against the wall), mitered.
- A mitered apron or a built-up edge: mark which edges get it.
- Waterfall ends and mitered aprons show the thickness: note it.

On the sign-off

- Edge profile, edge by edge.
- Thickness, if the material comes in more than one.
- Sink reveal: positive, flush or negative.

Backsplashes and waterfalls

4 in splash: Auto Backsplash

1. Open **Create › Auto Backsplash**.
2. Set the **Height** (4 in is typical) and an **Offset** if needed. Direction: **Up**.
3. Tap each back edge that gets a splash, or use **By points**.
4. Use **Cut edge** to trim the splash length for material thickness.

Full-height splash

Add a **2D Vertical** plane for each splash wall. Capture the splash outline, outlets, switches, window trim and the hood or uppers. Each wall exports as its own flat piece.

Waterfall ends

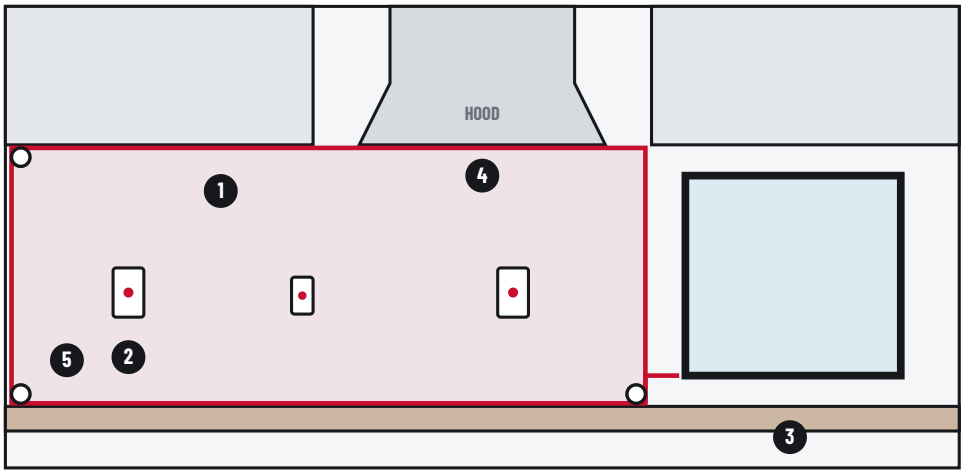
Start the job as 3D, or add a Vertical plane at the end panel. Capture the floor line and the top edge so the drop matches the floor.



Full-height splash: the VPen on the underside of the upper cabinet sets the top of the splash.

Full-height splash and waterfalls

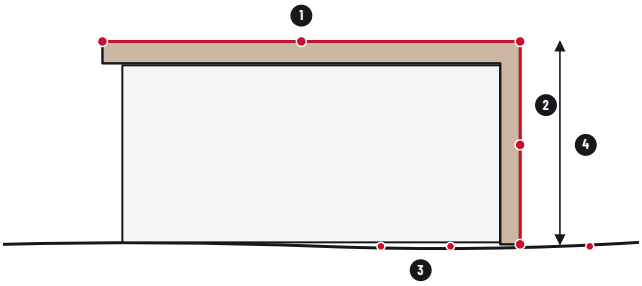
A full-height splash is a vertical plane per wall. A waterfall turns the top down to the floor.



One splash wall, from the front. 1 splash outline, 2 outlets and switches, 3 countertop line, 4 the step up at the hood, 5 two points for the Vertical plane.

Splash wall

1. **New plane › Vertical** for the wall: two points on the wall, far apart.
2. Outline: countertop line, both ends, the underside of the uppers and the hood.
3. Each outlet and switch: a Point at the box center.
4. Window trim and sills the splash meets.

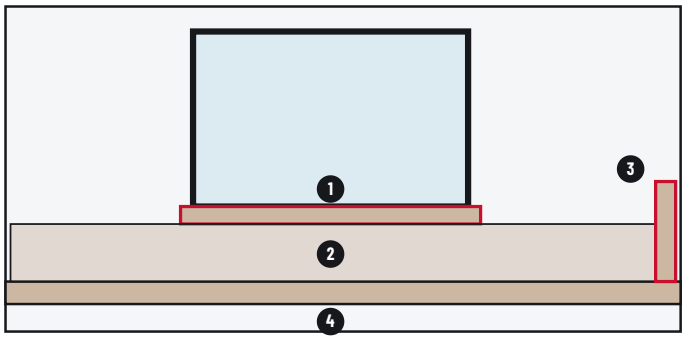


A waterfall island, side view. 1 top, 2 end panel plane, 3 floor line, 4 height at each corner.

- Start the job as 3D, or add a Vertical plane at the end panel.
- Floors are rarely flat: points across the floor where the end sits.

Remodels, sills and returns

Old tops coming off, and the small pieces that are easy to miss.



A window wall, from the front. 1 window sill piece. 2 splash. 3 side splash or return. 4 the top.

Small pieces

- Window sill: its own Horizontal plane, out to the window trim.
- Side splash or return at an end wall: its own Vertical plane.
- Short pieces by appliances and at the end of runs: capture each one.
- Every small piece on the sign-off and in the photos.

Remodels: old tops still on

- Templating for a quote with the old tops on: capture the old tops, and note that it is not the final template.
- Final template after the tear-out, once the cabinets are checked, level and fastened.
- Old splash or tile off? The wall line moves. Capture it after the removal.

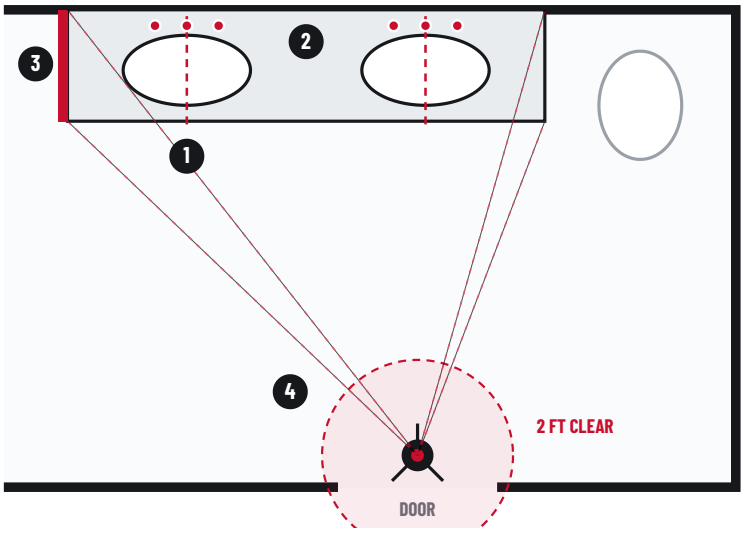
REMODELS A template taken over old tops is a quote, not a cut file. Template again after the tear-out.



New cabinets in, old tops gone: the VPen on the cabinet edge, the point appears in the drawing.

Vanities

A vanity in a small room. The tight space is the hard part.



A double vanity, from above.

1. **Sink center lines**
   One per bowl, from the cabinet
2. **Faucet holes**
   Count and spread, per bowl
3. **Side splash**
   Where the top meets a side wall
4. **The iCS50**
   In the doorway, 2 ft clear

1. Set up in the **doorway** or the hall. The iCS50 needs more than 2 ft from anything it measures.
2. Wall line and corners as in a kitchen: a point every 16 in (8 in for a tight scribe, 4 in for a very tight one), Intersect at the corners.
3. Each sink: Insert Object, or capture the bowl, then the center line.
4. Faucet holes per bowl, as agreed with the customer.
5. Splash: back and side, and every outlet or light box in the splash zone.

TIP Tub decks and window sills in the bathroom: each its own Horizontal plane, in the same job.

Showers and tub surrounds

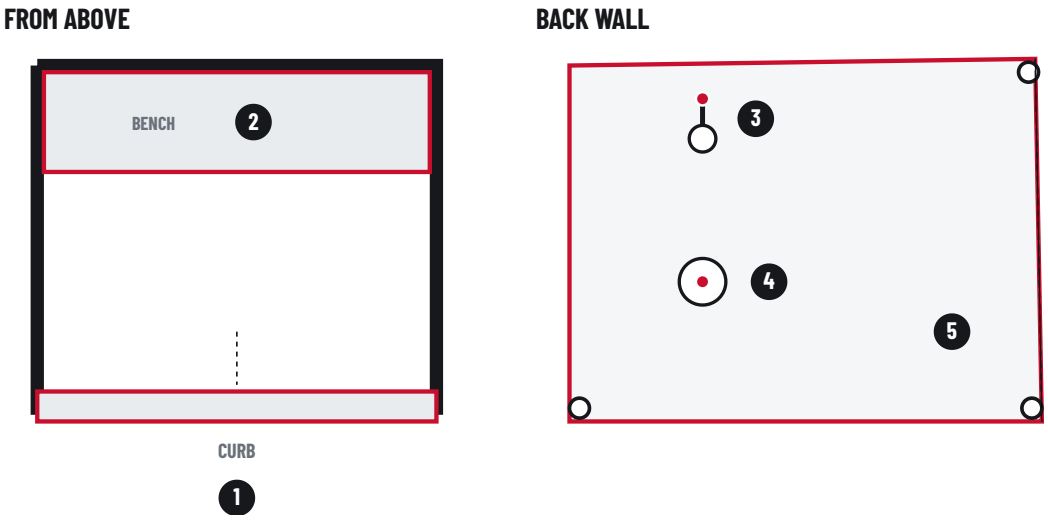
Walls, curb, bench and niche. Every face is its own plane, and no shower wall is plumb.



Template here: backer board and membrane on, valve and stubs in.



Finished: slab walls, bench, then the glass.



1 curb: top and both faces. 2 bench: top and front. 3 shower head: a Point at the center. 4 valve and controls: a Point at each center. 5 each wall: its own Vertical plane.

1. Start as **3D**, then **New plane › Vertical** for each wall: two points, far apart. A wall that leans: a Sloped plane follows it.
2. Template once the walls are waterproofed and the valve and stubs are in. Note what the stone goes on.
3. Curb and bench: top and faces. Niche: the opening and its depth.
4. Valve, shower head and controls: a Point at each center.
5. Check every wall in 3D. The lean is in the file.

NOTE Glass goes on last. The curb and wall lines you capture are what the glass shop works to.

Fireplace surrounds and hearths

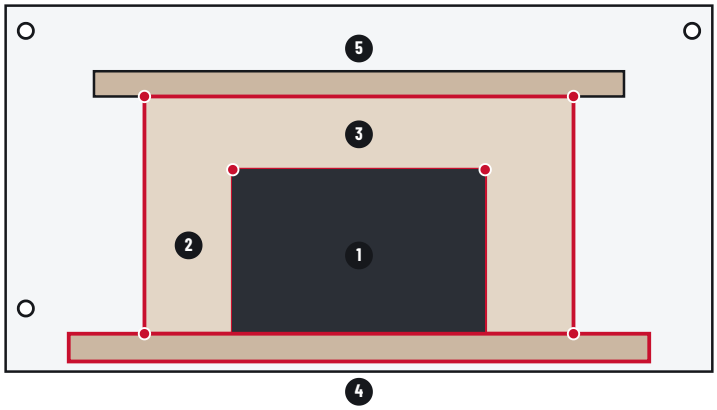
Traditional surrounds and full-height slab walls: a Vertical plane for the face, a Horizontal plane for the hearth.



Full-height slab: firebox, mantel and TV on one face.



Slab-clad wall between built-ins.



1. **Firebox opening**
   The four corners
2. **Legs**
   Outside edges, down to the hearth
3. **Header**
   The line under the mantel
4. **Hearth**
   Its own Horizontal plane
5. **Wall plane**
   Vertical: two points on the face

1. A **Vertical plane** on the fireplace face.
2. Firebox corners, then the legs and header.
3. Mantel shelf, if it is stone: its own plane. Full-height slab: the wall outline to the ceiling, the TV mount and cable box, and where the slab meets the built-ins.
4. **Hearth**: a Horizontal plane, then its front edge and both ends.
5. Photos of the firebox, the floor at the hearth, and the wall above.

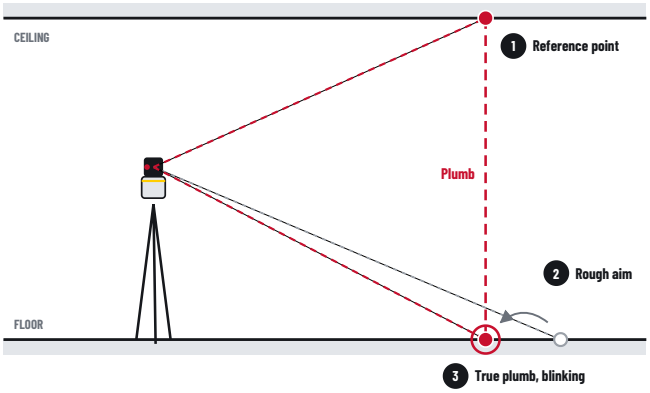
CLEARANCES Clearances around the firebox come from the fireplace maker and local code. Capture the real opening; the shop applies the clearance.

Finding plumb with the Plumb Line

Transfer a point straight down or straight up. The iCS50 finds true plumb and marks it with the laser. Nothing is saved to the drawing.

How to do it

1. **Quick Tools**: the home screen tile, or the menu at the top left in a job.
2. **Plumb Line** from the list.
3. **Shoot the reference point** with the laser, on the ceiling or the floor.
4. **Aim roughly** where plumb should land.
5. The iCS50 corrects itself and the laser dot **blinks at true plumb**.
6. **Mark the spot.**



Side view, not to scale. 1 reference point. 2 rough aim. 3 true plumb, blinking.

On these jobs

- A vertical seam on a full-height slab wall or fireplace
- Hood and pendant centers marked on the counter
- Shower wall seams and niche lines
- Checking a wall before a full-height splash is cut

TIP A line scan up a wall shows the wall, not plumb. When a seam or edge must be truly plumb, use Plumb Line.

GENERAL GUIDE: FINDING PLUMB WITH THE PLUMB LINE

Outdoor kitchens and BBQs

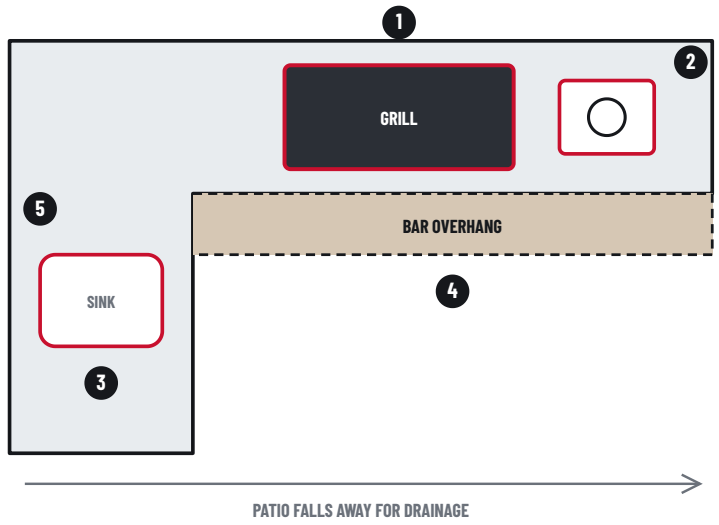
A kitchen template, outside: a grill cutout from the spec sheet, a bar overhang, and a patio that isn't level.



Template here: cement board on a steel frame, grill opening framed.



Finished: grill set, raised bar top on its own level.



1. **Grill cutout**
   The opening it drops into, plus the spec sheet
2. **Side burner, drawers**
   Each cutout
3. **Sink**
   Insert Object, or measure it
4. **Bar overhang**
   The depth, on the sign-off
5. **Block or frame island**
   A point every 8 in

An outdoor L island, from above.

1. Template the finished island: block, stucco or frame, set and cured.
2. **High/Low Points** across the island top. Outdoor islands vary more than cabinets.
3. Grill, side burner and sink cutouts, with the spec sheets on the job.
4. Island edges: a point every 8 in. Block is rarely straight.
5. Raised bar: its own Horizontal plane. Overhang depth agreed with the customer.

- The iCS50 is rated IP54, for indoor and outdoor work.
- The patio falls away for drainage. Check the island top, not the patio.
- Add the grill and burner cutouts the shop sells to the Objects Library, like sinks.

Common mistakes on tops

MISTAKE	WHAT HAPPENS	FIX
Templating before cabinets are fastened	Cabinets shift, the top doesn't fit	Template only once boxes are set, shimmed and secured
Points on doors, drawer fronts or loose trim	The shape moves with the door	Points on the cabinet box and fixed surfaces only
No tape check before leaving	A bad point goes to the saw	Two or three dimensions against a tape, then look in 3D
Assuming the wall is straight	Gaps at the wall, or a top that won't go in	A point every 16 in along the wall line; 8 in for a tight scribe, 4 in for a very tight one
Shooting into a corner in Laser mode	Corner is measured in the wrong spot	VPen in the corner, or both walls plus Intersect
Start points in Polyline	The outline joins back to the wall	Point mode first, every job
No sink or cooktop spec on the job	Office guesses the cutout	Attach the spec sheets in SPEEDfolder before leaving
Splash measured to bare studs	Splash sits wrong once tile or drywall goes on	Note the finished surface, or re-check after drywall
Point labels left on	Drafting can't read the DXF	All three label toggles off before export
Wrong units	Parts come out the wrong size	Menu › Settings › Units matches the shop

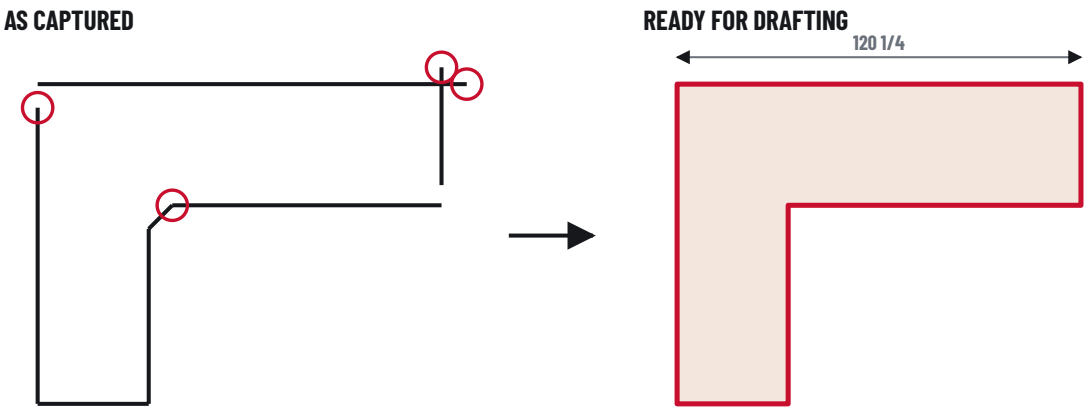
Before you leave the site

- ☐ Every run, corner and fixture captured
- ☐ High/Low checked, problems told to the installer
- ☐ Sink and cooktop specs attached in SPEEDfolder
- ☐ Sign-off page done with the customer
- ☐ Photos taken and tagged
- ☐ DXF exported, or the job saved to finish at the office

On the iCS50: finishing on the tablet

Clean the drawing before you leave the house. Drafting gets a file it can use as is.

TASK	ON THE ICS50	TIP
Square the drawing	**Edit › Align Drawing**: tap the sink cabinet front	It turns the drawing to 0° or 90°
Lines that don't meet	**Edit › Extend** or **Edit › Trim**	To the closest edge, or cut back to it
One outline	**Edit › Join**; **Add all** finds every piece	Only common endpoints join
Overhang	**Edit › Offset** the cabinet line by the overhang	If the shop wants it in the file
Rounded corners	**Edit › Fillet**, with the radius	At least the router bit radius
Slab lengths	**Edit › Divide** a run by length	Shows where a seam must fall
Dimensions	**Create › Linear Dimension**: one tap for an object, double tap for a segment, **By points** for any two	They go on the Dimensions layer
Tape check	**Tools › Measure › Distance** between two points	Against a tape, two or three places
Radius on the drawing	**Create › Radius Dimension**	For curves and radius ends
Before export	Point labels off; units checked	Settings › Units
Export	2D DXF, CNC DXF, ALPHACAM (IAZ), Shop Sheet (PDF), Images	Images export carries the photos



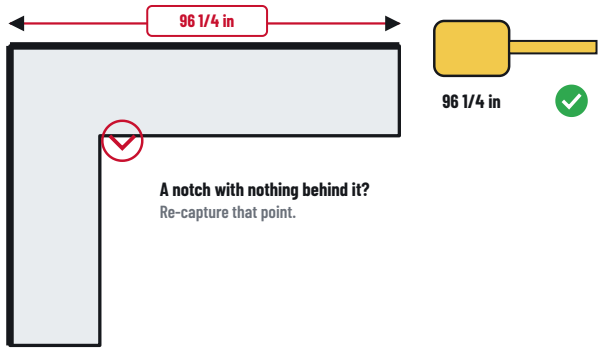
Overshoots, a gap, a diagonal corner.

Trim, Extend, Hidden Corner, Join, Dimension.

Before and after, on the tablet.

Check it before you leave

Every system says the same thing: the cheapest fix is the one made in the kitchen.



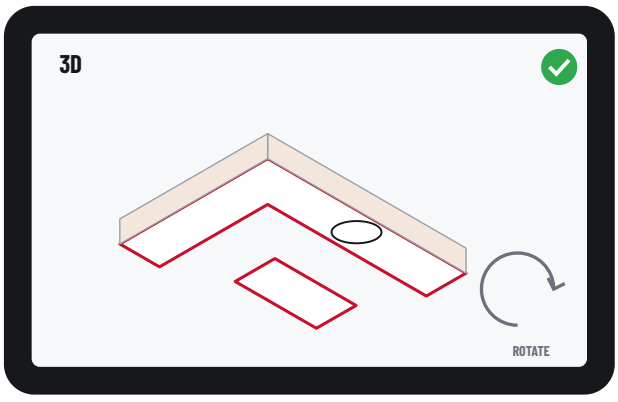
A tape check. A dimension on the tablet against a tape on the cabinets.

1. **Tape check:** add two or three dimensions with **Create › Dimension** and measure the same distances with a tape. They should match.
2. **Look in 3D:** a notch or bulge with no cabinet behind it is a bad point. Re-capture it.
3. **Walk the perimeter again** with the drawing in hand: splash returns, sills, short pieces by appliances.
4. Every cutout has a model or a spec on the job.
5. Photos taken and tagged.

With the customer

- Depth, overhangs and splash height, out loud.
- Edge profile, sink and faucet positions, extra holes.
- Seams, shown on the tablet.
- The sign-off page, then a photo of it to the job.

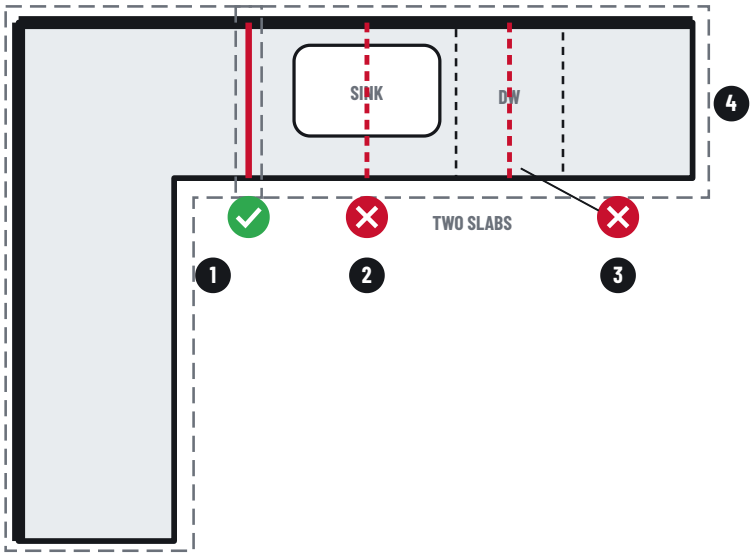
NOTE Only the customer can approve seams and overhangs. Show them on the tablet; don't describe them.



The 3D check. Rotate the view: runs, island, sink and splash where they really are.

Seams and slab layout

Seams go where the customer agreed and the slab allows. The template records them; the shop nests them.



An L kitchen on two slabs.

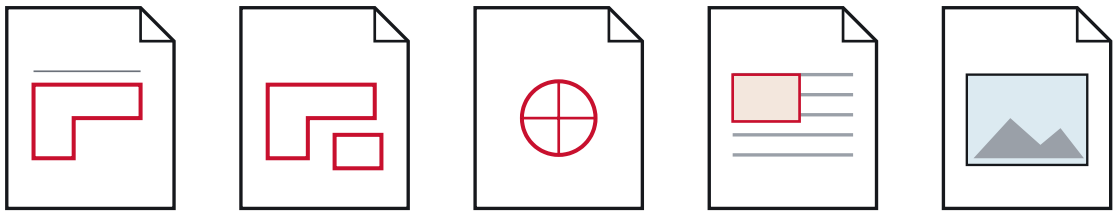
1. **A good seam**
   Agreed with the customer, at a slab edge
2. **Not through a cutout**
   Clear of the sink and cooktop
3. **Not over the dishwasher**
   Nothing under it to support the seam
4. **Every piece fits a slab**
   Ask the shop for slab sizes first

Before you leave

- Seams on the **Seams** layer, nowhere else.
- Show the customer each seam on the tablet.
- Record the agreed seams on the sign-off.

NOTE The shop's own seam rules come first: slab sizes, seam distances from cutouts, and where the material allows a seam.

Export for the shop



2D DXF
each top, flat

CNC DXF
all planes, no dims

ALPHACAM
IAZ, for CNC

SHOP SHEET
PDF, a page a plane

IMAGES
the job photos

One job, five ways out.

Which format

FORMAT	USE IT FOR
2D DXF	The standard: each top laid out flat, ready for drafting or nesting
CNC DXF	All planes combined, flat, no points or dimensions
ALPHACAM (IAZ)	Straight into ALPHACAM for CNC programming
Shop Sheet (PDF)	A dimensioned page per plane for the shop floor
3D DXF	Waterfalls, curved pieces, and checking how runs relate

WATCH: EXPORTING

Countertop layer plan

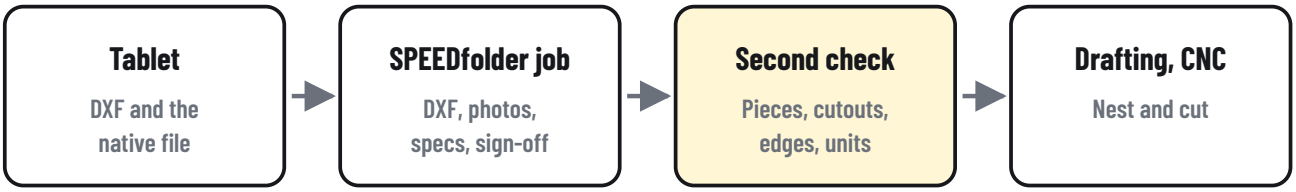
LAYER	FOR
Finished edge	Edges that get the profile
Raw edge	As-measured wall line behind the top
Cabinet line	Cabinet faces and ends
Sink	Sink base, center line, cutout
Cooktop	Cooktop or range opening
Faucet holes	Faucet, soap, air gap
Backsplash	Splash pieces
Outlets	Outlets and switches
Seams	Agreed seam locations
Notes	Text and dimensions

Match names and colors to the shop's CAD standard and build them into the job template (GENERAL GUIDE: SECTION 10). With the Templating licence, Leica's ready-made **ALPHACAM countertops** template is a good starting point.

TIP Send your first few countertop exports to SPEEDtemplate support for a quick review before drafting builds from them.

Hand-off to the shop

The template is done when the shop has everything it needs and nobody has to call.



1. Export before you leave the driveway: **2D DXF**, or CNC DXF or ALPHACAM for the shop that uses them.
2. Everything on the job in **SPEEDfolder**: the DXF, photos, spec sheets and the sign-off.
3. Name the file the shop's way: customer, address, room.
4. Keep the original job on the tablet until the top is installed.

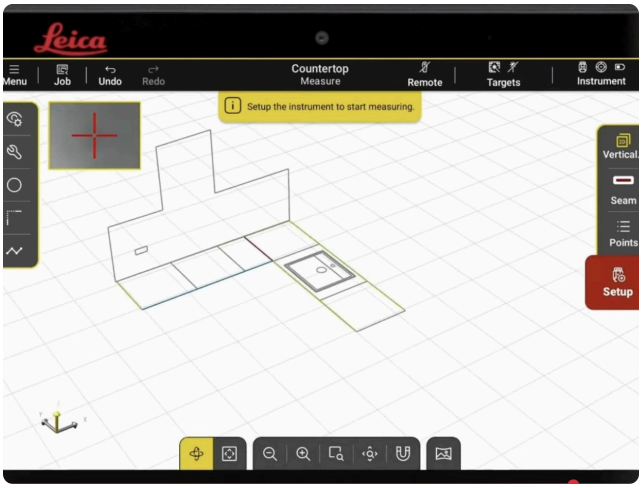
The second check

- [ ] Piece count matches the quote
- [ ] Cutouts match the spec sheets
- [ ] Edges on the right layers
- [ ] Units right: inches or mm, as the CNC expects
- [ ] Labels off; no stray points or open lines

TIP The person who templated shouldn't be the only one to check it. A second pair of eyes catches what the first one expected to see.

From template to finished top

The same kitchen, on the tablet and installed.



On the tablet: both runs, the sink, a seam and the full-height splash in 3D.



Installed: the same L, with full-height splash and every cutout where the template put it.

Edges and seams by layer

- Put each edge type on its own layer: raw edge against the wall, the finished profile, and seams.
- The layer button on the right of the screen shows the active layer. Pick it, then measure that edge.
- Drafting sees which edges get a profile without calling.
- Seams go only where the customer agreed.

Before the shop cuts

- [ ] Every edge on the right layer
- [ ] Seams placed and approved
- [ ] Sink and cooktop located, specs attached
- [ ] Splash planes and outlets captured
- [ ] Labels off, units checked
- [ ] Photos and the sign-off in SPEEDfolder



The VPen on the cabinet end, the remote in the other hand.

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** _____

Material and color _____ **Thickness** _____

Edge profile _____ **Overhangs (front / sides)** _____

Sink model _____ **Faucet holes (how many, where)** _____

Cooktop / range model _____ **Backsplash: height or full** _____

Seam locations approved _____ **Waterfalls / extras** _____

Notes

_____

_____

_____

_____

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

Photo shot list

Photos ride alongside the DXF and answer the questions drafting would otherwise call about. Take them in SPEEDfolder and tag them.

- [ ] Each run, end to end, from the front
- [ ] Each corner, close up
- [ ] Sink base inside: plumbing and supply lines
- [ ] Cooktop or range location, with any gas or power
- [ ] Backsplash wall: outlets, switches, windows
- [ ] Island from all sides
- [ ] Appliances on site, with model labels
- [ ] Anything damaged before work starts (tag Before or Issue)
- [ ] Access: stairs, hallways and doors the slab must fit through



Run the shop on SPEEDfolder

No job system yet? SPEEDfolder comes with the iCS50 and is already on the tablet. Start there, then add SPEEDinventory and SPEEDlabel when the shop is ready.



SPEEDfolder

Job info scattered across folders and texts? One hub keeps the office and the field in sync.

HOW IT WORKS

- The template DXF, photos, files and drawings, stored free by job
- Customer info and custom fields on every job
- Google Calendar, Outlook and Apple iCal integration
- Share jobs with the crew or the customer by link

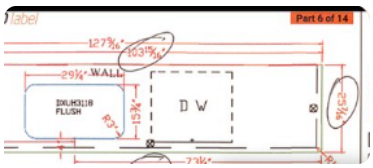


SPEEDinventory

Remnants piling up unsold? Turn dead stock into revenue: see it, share it, sell it.

HOW IT WORKS

- Stick a QR code label on every piece
- Scan the label, snap a photo, add notes
- Share items with the team or customers
- Add the inventory to the shop's website



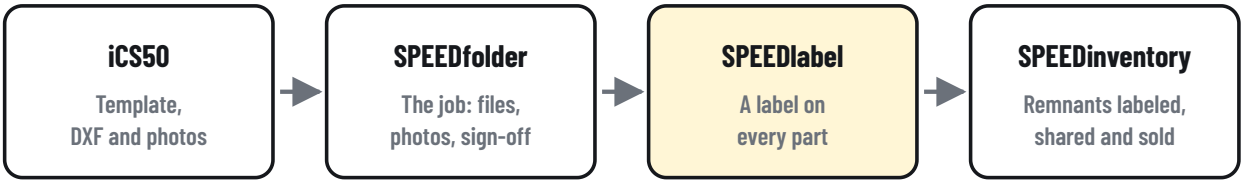
SPEEDlabel

Parts cut wrong or shipped short? A label on every piece, so nothing gets lost.

HOW IT WORKS

- Turns CAD drawings into a label for every piece
- Each part numbered, so nothing gets lost
- Job data fills in from the shop's ERP
- Track each piece through QC and install

How they work together



TIP SPEEDfolder, SPEEDinventory and SPEEDlabel are included with the iCS50 software. Call SPEEDtemplate support to turn them on: 919-676-2244.

WATCH: EXPORT TO SPEEDFOLDER

SCAN: SPEEDTEMPLATE.COM

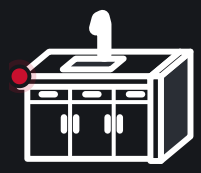
Countertop quick reference

Keep this page with the iCS50.

STEP	DO THIS
Before	Cabinets set, shimmed and fastened. Sink, faucet and cooktop specs on the job
Setup	Open side of the room, 2 ft clear, out of the walkway. V-Targets first if a run is hidden
Job	2D Horizontal for flat tops; 3D for waterfalls and curves. Layers before the first point
Start points	On the backsplash wall, in Point mode
Level check	Measure › High/Low Points across the cabinet tops
Cabinet face	Line or Polyline, a point at each corner
Wall line	Polyline, a point every 16 in (8 in tight scribe, 4 in very tight); Line Scan for long walls
Corners	Points on both walls, then Intersect. Never the laser into a corner
Sink	Insert Object from the library; capture the base and center line
Splash	Auto Backsplash for 4 in; a Vertical plane per wall for full height
Curves	Trace, then Smooth › Lines & Arcs
Export	2D DXF, CNC DXF, ALPHACAM (IAZ) or Shop Sheet. Labels off, units checked
Keep it	Photos, specs and the sign-off on the job in SPEEDfolder
Stuck?	SPEEDtemplate support: 919-676-2244, support@fifthgeartech.com

SPEEDtemplate

COUNTERTOPS GUIDE



Need a hand on a countertops 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.

Countertops Guide · Edition 1.0 · October 2026

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