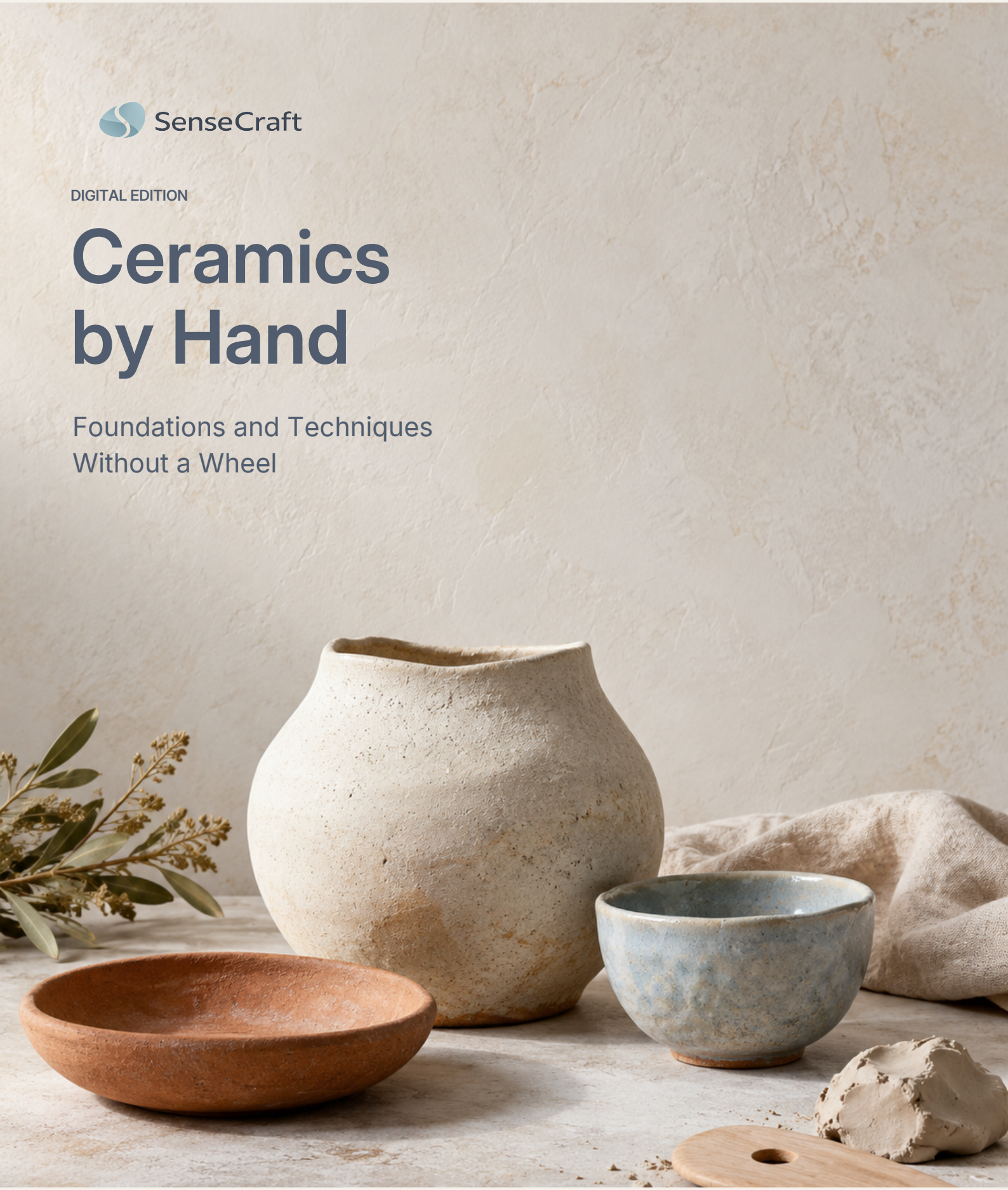
SenseCraft

DIGITAL EDITION

Ceramics by Hand

Foundations and Techniques Without a Wheel



Bibliographic review and teaching synthesis

English edition

SenseCraft | 2026

Ceramics by Hand

Free English-language sample

Foundations and Techniques Without a Wheel

This 37-page sample contains the complete table of contents, the full Chapter 1, “Getting Started in the Studio”, and the 33 references for that chapter. It is taken from the November 2026 English edition (708 pages).

Chapter text, illustrations, and source credits are preserved. The table of contents retains the full book’s page numbers. The chapter begins on physical page 5 of this sample, numbered page 1 in the footer. The references follow it and use the sample’s own page numbering.

Citation links within Chapter 1 open the corresponding references at the end of this sample. Links to chapters not included here and to the workbook are omitted; written cross-references remain for context.

The complete English edition contains 30 chapters and a separate English workbook. The sample does not include either the other 29 chapters or the workbook.

For the English book and workbook: payhip.com/b/rip4Q

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Chapter 1 Getting Started in the Studio

Workflow, workstation and safety

A ceramic piece begins before the clay touches the table. The use you have in mind guides the choice of material; the technique determines supports and tools; and drying and firing must fit the planned route. Organizing these decisions at the start lets you work with simple resources and notice in time when information is missing.

By the end of this chapter you will be able to set up and clean a basic workstation, keep materials identified, explain the route a piece follows from raw clay to use, and gather what a firing service needs to know. You will also know when to stop: an operation whose dust, equipment or materials are not under control should be interrupted.

Handbuilding allows you to make vessels and sculpture by pinching clay, joining coils, assembling slabs and using supports or molds. Choose a method that suits the intended form, the behavior of the clay body and the surface marks you want to retain [B03, p. 1]. A manual banding wheel helps you reach and examine the piece; slab rollers, extruders and digital tools extend the possibilities, but you do not need them to begin.

This book addresses handbuilding for readers in different countries. Commercial clay bodies and available services vary, so the emphasis is on properties, operations and ways to check the result. Terminology is explained where it helps you consult materials and references. The main units are those of the International System of Units (SI). Installation instructions, legal limits and requirements for selling work or using it with food must be checked in the jurisdiction where the work will be used.

How to use this chapter

Start with the process map (Figure C01-01). Then organize the space and set out only the tools for the technique you have chosen. Before each session, use the preparation checklist in the workbook (Sheet C01-A), and keep the process record (Sheet C01-B) with the piece, somewhere protected from water and residue.

The first piece appears in section 7 as a work plan, not as forming instructions: the forming itself is taught in the chapter for each technique. For more depth, the following chapters cover choosing and preparing the clay body (chapter 2), consistency, water and shrinkage (chapter 3), dimensions (chapter 4), and joining and handling (chapter 5). Essential safety precautions are repeated at each operation.

If you already make ceramics, use the chapter to check the real route through your studio: where material identity gets lost, where the piece changes supports, where dry residue builds up and which decisions go unrecorded. An organized bench must keep working in the middle of production and during cleaning, not only at the start.

Three distinctions that prevent confusion

Clay and clay body. Clay is a natural, very fine-grained material, generally containing clay minerals and other constituents. A clay body is the material selected or formulated for shaping and firing a piece. It may be a natural clay suited to the work or a mixture of clays and other ingredients. Its composition influences workability, shrinkage and firing behavior. Two bodies of a similar color may behave differently. [B01, pp. 72 and 75; B02, p. 24]

Drying and firing. Drying removes water physically associated with the clay body; water bound within the mineral structure may remain [B01, p. 76; B02, p. 16]. The piece becomes firmer and more fragile, but it is still unfired. Firing brings irreversible changes: once transformed into ceramic, the material does not return to its original plastic state simply by adding water. Conventional clay that has only dried may disintegrate when rewetted [B01, p. 113; B02, p. 16; B03, p. 4]. Becoming ceramic does not, by itself, make a body impermeable or suitable for food contact [B01, pp. 75 and 114]. Chapter 25 examines these changes in more detail.

Ready and fit for use. Appearance, color and gloss do not prove strength, watertightness or suitability for food contact. The final inspection considers the use defined at the start and the checks that use requires, covered in chapter 23.

1 From clay body to finished piece

Before looking at each stage, see the whole route. Figure C01-01 shows the stretch every piece passes through and four possible routes after forming. Read the arrows as an order of decisions: they do not show how long each stage takes, how much work it involves or a kiln program.

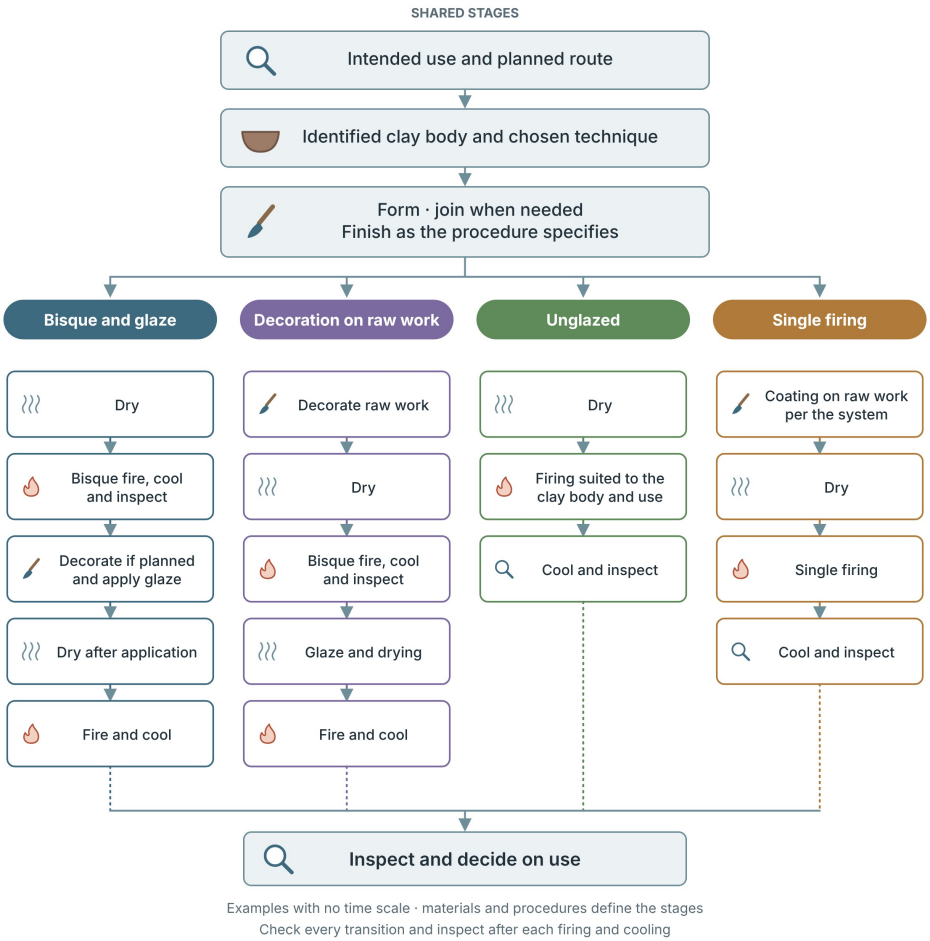


Figure C01-01. Possible ceramic process routes. The shared stages lead to examples with bisque and glaze, decoration on raw work, unglazed ware or single firing. In the bisque-and-glaze route, decoration on bisque may come before the glaze when the product system allows it. Layer application and subsequent drying follow the product and process conditions. Single firing requires its own procedure and is not a shortened two-firing route. Check every transition and inspect the piece after each firing and cooling, before the next operation. SenseCraft diagram based on S08 and S13.

The bisque-and-glaze route, with two firings, is a good reference when talking to a firing service, but the routes on the map are examples, not a closed list: there is decoration applied to raw work, pieces left unglazed, and single firing, which has its own procedure. Nor is it true that all decoration goes on only after the first firing.

1.1 Intention and use

Describe the piece by an action: holding small objects, resting a brush, containing water, serving food or forming part of a sculpture. The action helps decide what the form needs to do: hold liquid, allow cleaning inside, withstand frequent handling or simply stay stable where it is displayed.

To begin with, a small, open piece with no handle and no fitted parts reduces the number of decisions you make at once. This is a teaching choice, not a guarantee of success: a small object can still have a base that is too thick, an unstable footing or uneven drying.

1.2 Selecting and identifying the clay body

Before opening the package, check the manufacturer, product, batch (when given) and recommended firing range on the package or data sheet. The firing range states the thermal conditions intended for that material; it does not authorize any kiln program that reaches a temperature within it. Keep the product's technical data sheet and safety data sheet. [S09; S19]

The two sheets complement each other. The technical sheet describes properties and processing conditions, such as shrinkage and firing range. The safety data sheet describes hazards, precautions and what to do after exposure or a spill. A shrinkage table does not replace safety instructions, and a hazard pictogram does not tell you how to reach the final size of the piece.

If the firing will be done by an outside service, confirm that it accepts the clay body before you buy it or start the piece. An unknown body, or one mixed without a record, creates a doubt the kiln operator cannot resolve by looking at its color. When identification is missing, set the material aside and find out its origin before using it.

1.3 Forming and joining

Forming means giving shape to the clay. In pinching, finger pressure redistributes a single lump; in coil building, stacked coils raise the wall; with slabs, flat parts are cut, curved and assembled (Figure C01-02). Molds can support forming or take part in other processes, explained in their own chapters.



Pinching | Coils (coil building) | Slabs

Figure C01-02. The three classic handbuilding techniques. Pinching: the fingers open and thin a single lump. Coils: each coil is laid and blended into the one below, here from the inside. Slabs: flat parts are cut and assembled. Photos (cropped): Santa Monica Mountains NRA/NPS, public domain; Poupou l'quourouce, CC BY 3.0; Ellin Beltz, CC BY-SA 3.0; via Wikimedia Commons.

A join needs to make the meeting of two parts into a continuous region. Preparation depends on the clay body and the consistency of the parts. Keep the area accessible and support the opposite side as you work; slip brushed over a gap does not replace contact between the faces. [B03, pp. 2–3] A joint can look perfect on the outside and still be open inside (Figure C01-03). When planning, check three things: whether you can prepare the joint area, whether you can support the opposite side while you

press, and whether you can inspect the join afterward. Chapter 5 teaches how to join, support and move the piece without losing its shape.

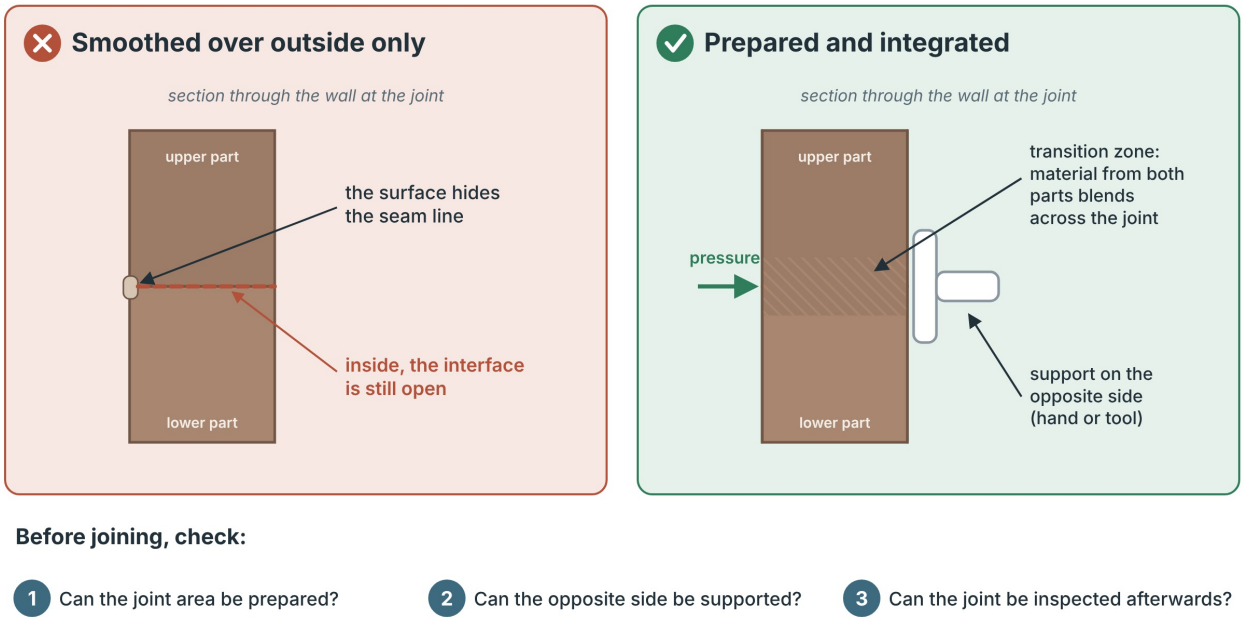


Figure C01-03. A joint can look finished outside and still be open inside. Left: the seam was only smoothed over at the surface. Right: the same two parts were prepared and integrated, forming a transition zone across the joint, with support on the opposite side while pressing. SenseCraft schematic section, not to scale; the joining procedure is in chapter 5.

1.4 Finishing while access remains

Finishing includes refining rims, removing excess and deciding which marks stay. Plan it during construction: an area your hand can reach before a volume is closed may be out of reach afterward (Figure C01-04). Institutional safety guidance recommends cleaning up the piece while the clay is still damp and avoiding dry sanding, because it produces dust that may contain respirable crystalline silica (section 4). [S04; N03]

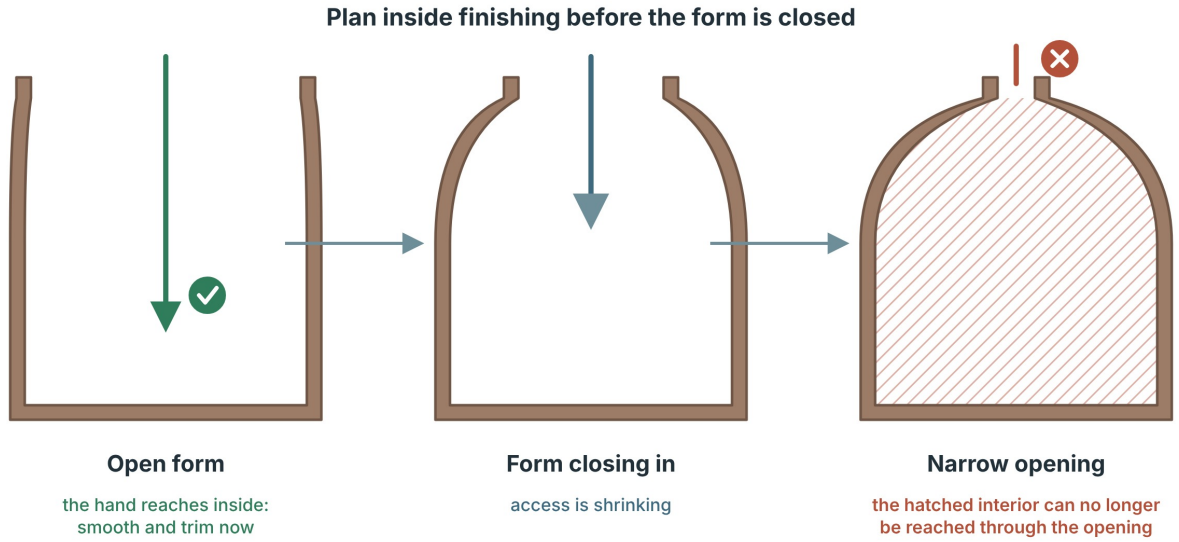


Figure C01-04. Access to the inside shrinks as the form closes: once the opening is narrow, the hatched interior can no longer be reached. Plan inside finishing while your hand can still reach. SenseCraft schematic section, not to scale.

Shrinkage is the reduction in size that occurs during drying and firing. It calls for attention to joined parts and supports, but this chapter does not compensate for it with a single percentage: the value depends on the clay body and is measured as shown in chapters 3 and 4.

1.5 Drying and changes of state

Between the table and the kiln, studio terms help us recognize working conditions (Figure C01-05). **Plastic** clay can be deformed and retain the resulting shape [B01, p. 75]. **Leather-hard** covers intermediate conditions: the piece supports itself, but the possibilities for cutting, joining or trimming change as it stiffens. **Air-dry** describes unfired work at the end of drying under the surrounding conditions; it does not prove that all water is gone, because the finest pores still hold water [B05, p. 108; B02, p. 15]. This book uses *air-dry* for that studio state. Pitelka (2021) and Bloomfield (2017) call the same stage *bone dry* [B03, p. 3; B01, p. 113], whereas Hamer and Hamer (1991) reserve *bone dry* for a more restricted state reached during the early stages of heating [B05, p. 109]. When reading another source, check how it defines the state. In your own record, note both the state of the piece and the procedure used to assess drying; a name alone does not establish readiness for firing. **Bisque** (also called *biscuit*) is the result of a first firing intended to prepare the work for later stages [B01, p. 113]. These terms do not correspond to universal moisture percentages or fixed periods [B03, p. 3].

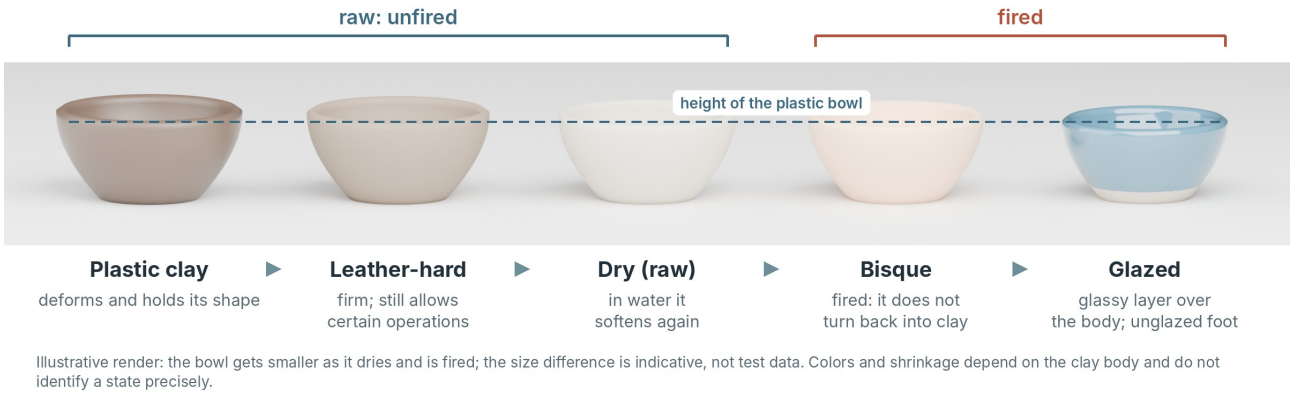


Figure C01-05. The same bowl in the main states along the route. Here, "Dry (raw)" denotes air-dried, unfired work, not proof that all moisture has been removed. Conventional clay that has only dried can soften or disintegrate when rewetted; fired ceramic does not return to its original plastic state by adding water. The bowl gets smaller as it dries and is fired (the dashed line marks the height of the plastic bowl), and the glaze appears as a layer over the body, with an unglazed foot. Illustrative SenseCraft render: colors and shrinkage depend on the clay body and do not identify a state precisely.

The piece does not change state all at once. Rims and thin areas can lose water faster. The base and the face in contact with the support can dry more slowly, depending on thickness, the absorbency of the support, covering and air circulation; the rim can be firm while the base is still damp (Figure C01-06). Observe each case. When different regions of a piece lose water at different rates, they may shrink at different times; the constraints between them can lead to distortion and cracking. [B02, pp. 13–14] So follow the whole piece, the added parts and the points of contact with the support. The response depends on the clay body and the form; there is no single drying time. The signs of consistency are in chapter 3, and drying control in chapter 24. [S14]

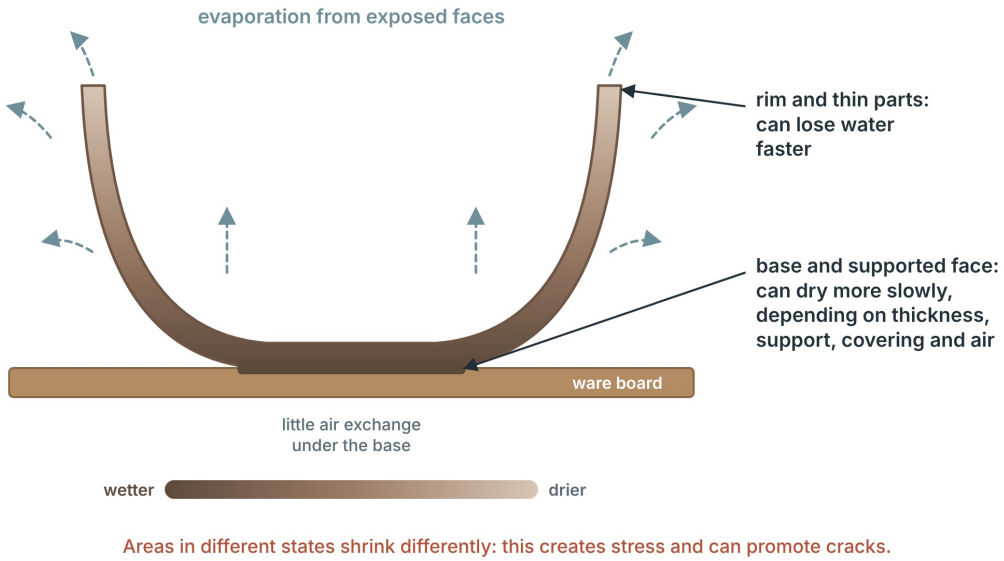


Figure C01-06. Why drying is uneven. Rims and thin parts are more exposed and can lose water faster; the base and the supported face can dry more slowly, depending on thickness, support, covering and air circulation. SenseCraft schematic section, no scale and no times; drying control is in chapter 24. Basis: S14.

Do not take a pale surface, or one that feels dry, as proof that there is no moisture inside [B05, p. 108; B01, p. 113]. Preparing a piece for the kiln requires a suitable procedure accepted by whoever runs the firing. Covers and supports used on the bench do not automatically go into the kiln with the piece.

Drying observation with two samples

This exercise trains your eye for uneven drying, without firing or measurements. Use two small scraps of the same clay body, not a piece.

1. Make two similar small slabs from the same clay body at the same time. Mark an arrow on each, both pointing the same way, so you can photograph them with the same orientation.
2. Place sample A on a smooth, non-absorbent surface (plastic or glass, for example) and sample B on an absorbent surface (untreated wood, for example), side by side (Figure C01-07). Match the slabs in size and thickness as closely as practical, keep their orientation consistent, and record any turning or other handling.
3. Leave both in the same place, with no fan or forced draft and away from local heat sources.
4. Observe them at intervals and record, in words and photos, which side lightens first, whether an edge curls and what differences appear between the samples. Keep them supported while observing; lifting a still-soft slab by one end can distort it and confuse the effects of drying with those of handling.
5. Note the date and room conditions. Do not invent times. The table below is a simple recording template.

Date and time	Sample (A or B) and support	What I saw (side, color, edge, shape)	What I assume (kept apart from what I saw)

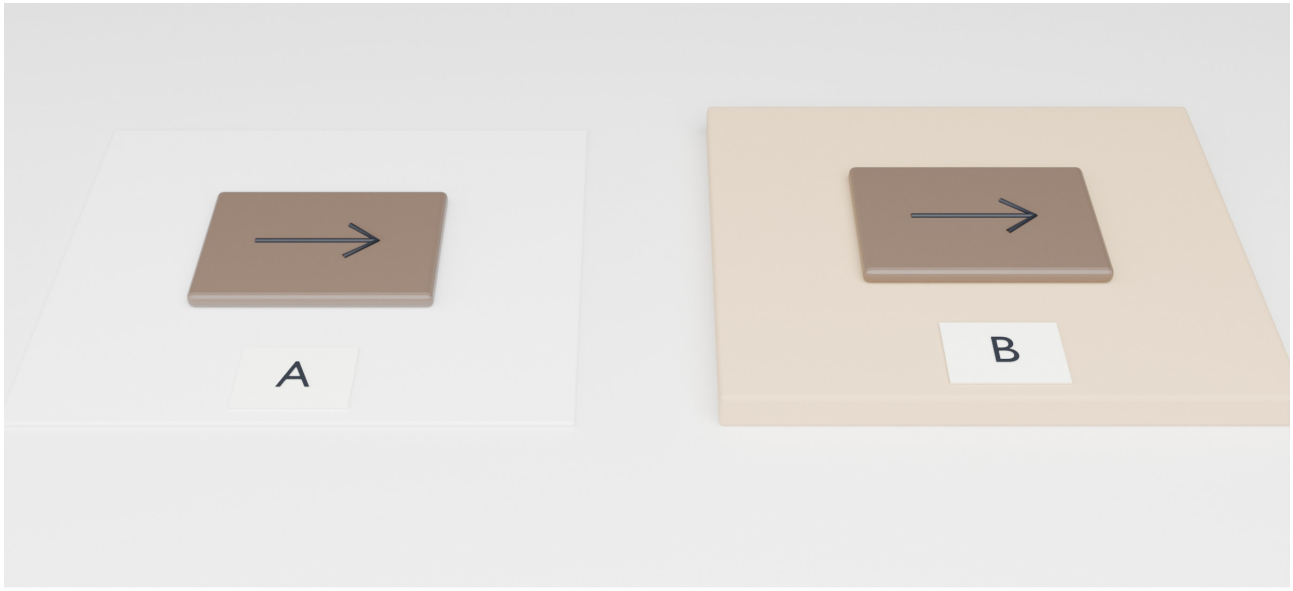


Figure C01-07. Set-up for the two-sample observation: same clay body, made at the same time, on different surfaces and with the same orientation arrow. Illustrative SenseCraft render; it shows the set-up, not a test result.

Interpreting the observations. Compare what you observed with the conditions you recorded. Two samples without replication can suggest hypotheses; they do not isolate every cause or show that one support is always better. Record the absence of a visible difference too. Do not use the lightening of one face to conclude that the interior is dry, or turn this exercise into a drying schedule for another piece.

1.6 Bisque and surface coatings

Bisque is a piece that has been through its first firing, usually planned to allow handling and later glaze application [B01, p. 113]. The result depends on the clay body and the firing; bisque is not, by definition, suitable for every use.

Different coatings can go onto the piece (Figure C01-08). **Engobe** is a clay-based coating used to change color or surface. **Ceramic glaze** is a composition that forms a glassy layer during firing. Products sold as *underglaze* (paint applied under the glaze) should not be assumed to be the same as any engobe: check on which surfaces, and under which application and firing conditions, each product can be used.

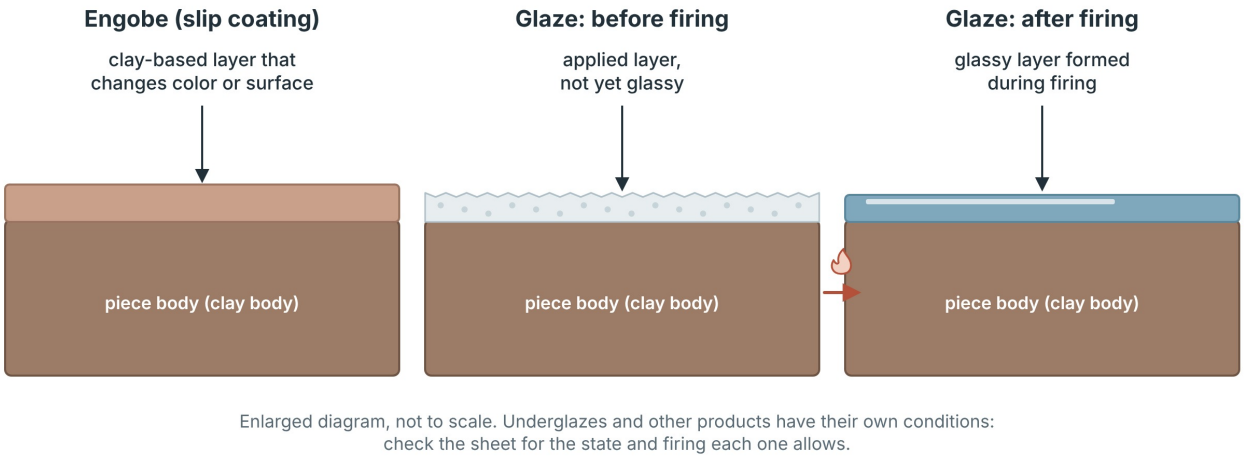


Figure C01-08. Engobe and glaze in enlarged section. Engobe is a clay-based layer; glaze only forms its glassy layer during firing. SenseCraft schematic, not to scale; application and firing conditions depend on each product.

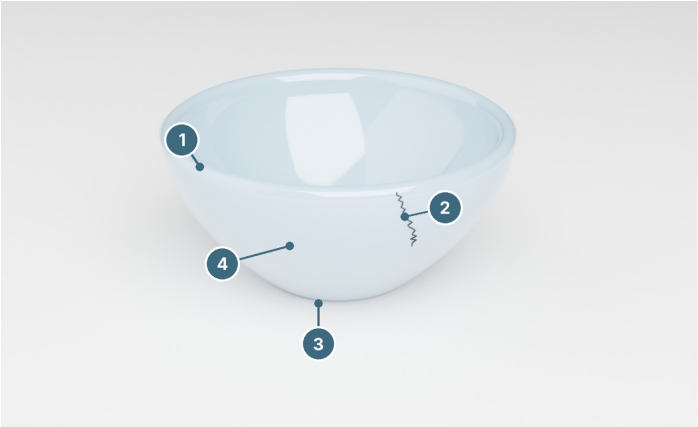
Some decorating products are indicated for damp clay, for raw work or for bisque; others have different conditions. That one product can be used in several states does not mean all of them can. After applying a water-based coating, the piece may need to dry again before moving on. [S08]

Return to the map (Figure C01-01) to see the routes side by side. In the two-firing route, the first firing produces bisque; then come the planned applications and the glaze firing, with cooling before any handling. Some pieces are decorated while still raw and then follow the same bisque-and-glaze route. An unglazed piece may have a final firing suited to its design. In single firing, clay body, coating, application and firing schedule must work as a system: removing the bisque firing from an existing sequence does not create that system. [S13]

Decoration applied over an already glazed piece may require another firing, depending on the product. This chapter does not teach those processes; what matters here is recording the chosen sequence before you start, including intermediate drying and inspections.

1.7 Inspection at every transition

Before moving from one stage to the next, check four things: the identity of the material, the state of the piece, the support and the next destination. After firing and cooling, examine the piece (Figure C01-09): inspect the rim by eye, against the light, for chips and sharp edges; do not run a finger over an area that looks sharp. Look for cracks, set the piece on a flat surface to see whether it rocks, and check for surface defects. Set aside pieces with problems, follow a suitable correction or disposal procedure and investigate before putting them to use.



1. Rim: inspect by eye, against the light, for chips and sharp edges; do not run a finger over any area that looks sharp.
2. Cracks: look for fine lines outside, inside and on the base.
3. Stability: set it on a flat surface and check whether it rocks.
4. Surface: look for defects in the glaze or the body.

Illustrative render; the crack is drawn to show where to look.

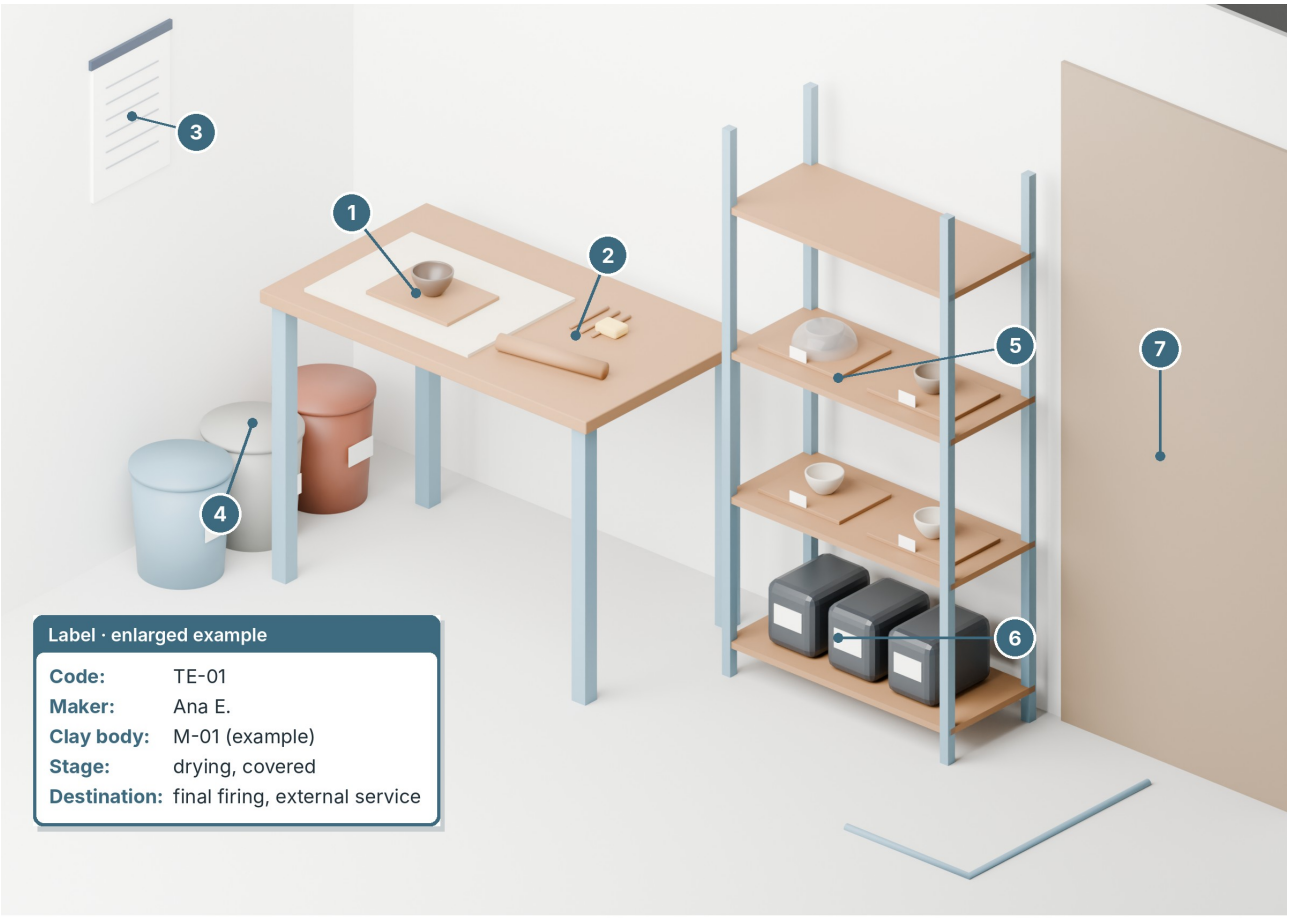
Figure C01-09. What to examine after firing and cooling: rim (visual inspection, without running a finger along it), cracks, stability and surface. Illustrative SenseCraft render; the crack is drawn to show where to look. A piece that looks sound may still need checks specific to its use (chapter 23).

A piece that looks sound may still need checks specific to its function. For food-contact ware, assess the combination of clay body, coating, firing and intended use. An art-material seal or the word “non-toxic” on a label does not clear every finished piece for use: one manufacturer's consumer information sheet places responsibility for the food safety of finished ware on its producer [S08]. Tests and conformity criteria must correspond to the intended market; chapter 23 covers this assessment.

2 Organize the studio around the work

2.1 Separate functions before buying furniture

A ceramics workstation works when each task has its place. Reserve one area for forming, another for storing work in progress and a defined place for cleaning and waste. Protect drawings, record sheets, phone and reference material from splashes. The separation can use different spaces or successive sessions, clearing materials away and cleaning between operations. Figure C01-10 shows these relationships in a basic workstation.



1. Forming: steady bench, removable work surface and a ware board under the piece.
2. Sound tools within reach, without stretching.
3. Records and reference material protected, away from the wet area.
4. Cleaning and waste: separate, labeled containers.
5. Work in progress: ware board, label and a cover when the procedure calls for one.
6. Clay bodies closed and labeled; weight on the low shelf.
7. Route to firing: external service or own area, with its own procedure.

Food and drink stay outside this area. Illustrative scheme, not to scale: not an installation plan or ventilation design, and it gives no kiln clearances.

Figure C01-10. Relationships in a basic workstation: forming area with tools in reach, protected records, cleaning and waste containers, labeled work in progress and clay bodies, and the route to firing. Illustrative SenseCraft render, not to scale. Food stays outside the ceramics area, and the firing destination may be external. It is not an installation plan or ventilation design, does not fix a mandatory furniture layout and gives no kiln clearances; adapt these relationships to the task, place and people. The inset shows an enlarged label example.

In an account of her home studio, Rhonda Willers describes separate tables for wet work, surfaces and drawing. The useful principle is to recognize tasks and access. The dimensions, furniture materials and loads in her case are not a ready-made design for another space. [S15]

Home studio. Prefer a dedicated area with floors and surfaces that allow wet cleaning, and with controlled access. Protect the circulation of the people who live there. Do not share ceramic tools with food preparation. On this book's starting route, do not use a dining table or food-preparation surface as a ceramics bench: visual cleanliness does not prove that all contamination has been removed. If you alternate the bench with another non-food activity, use a dedicated support, limit the session to wet work with identified materials and collect residue from the surroundings and contact points too before the change of use. A tablecloth or table cover, on its own, does not stop residue being transferred. If you cannot separate these functions and keep things clean, use a prepared shared studio. [S22; N03]

Shared studio. Every piece of work needs to show its maker, clay body, stage and firing destination. Agree where things are stored, which materials are accepted, who may move pieces and which tasks

require authorization or training. A visitor should not have to guess whether an object is free to use or still drying.

Small studio. Organize the flow: incoming materials, production, waiting, finishing, dispatch for firing and receiving. Have storage capacity that matches the work in progress. Making more pieces than you can support and follow only moves the problem to shelves, floors and walkways.

2.2 Surfaces and supports

The bench must stay steady during the operation, without rocking when you press the clay. The top should allow cleaning without collecting deposits of residue. On it, use a work surface suited to the technique, easy to remove when you need to change task.

A dedicated rigid board, called a ware board, serves as a carrying support: the piece is made on it or placed on it and moves with it, so you never need to hold the walls (Figure C01-11). Absorbent and non-absorbent surfaces change water exchange and how easily the clay releases; none is ideal for every operation. Watch whether the piece sticks, gets marked or deforms, and how the underside looks. If contact still holds the piece, do not free it by pulling on the rim: stop and follow the release procedure for the technique.

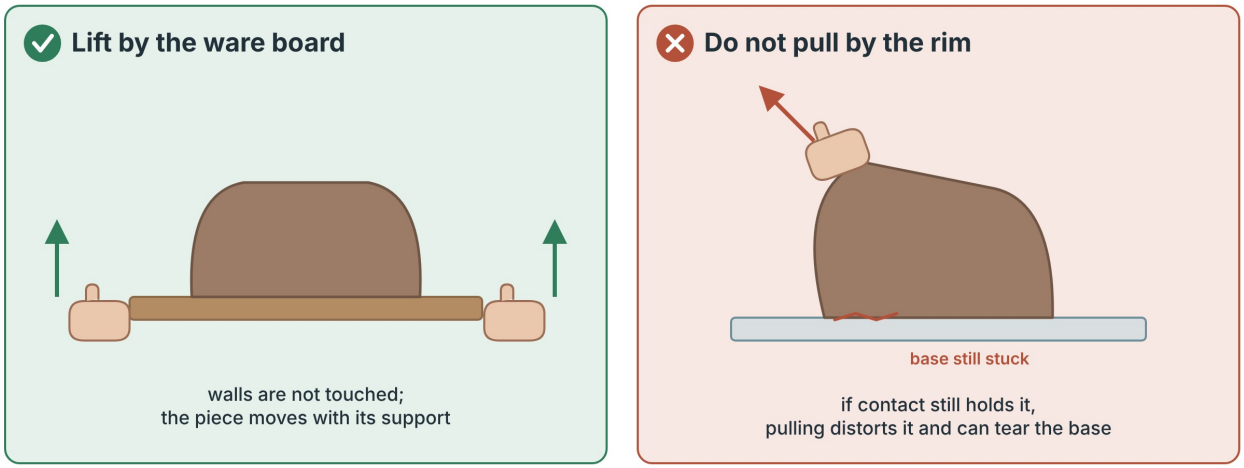


Figure C01-11. The ware board is the carrying support: lift the whole set, not the walls. If the piece is still stuck to the surface, pulling it by the rim distorts it. SenseCraft schematic.

Fabrics and canvas can mark the clay and collect residue. When you use them, handle them without shaking or dry brushing, and take them away for compatible cleaning. A smooth washable base is an alternative for operations that do not depend on the fabric's absorbency. Plaster is useful for specific operations, but its fragments must not contaminate the clay body; a deteriorated plaster mold or support should be taken out of use.

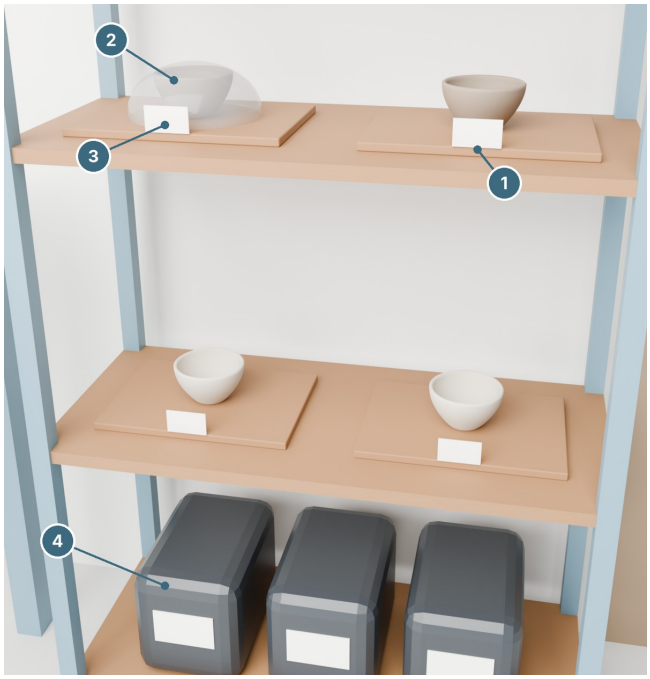
Also check the underside of the support, the destination and the space for your hands. A board too large for the available passage loses its usefulness exactly when it has to be carried.

2.3 Store without losing identity

Keep clay bodies closed and separated by product and by batch, when that information exists. Keep the original label; if you divide a package, transfer the identification to every container. Store materials in containers suited to their contents, closed and out of reach of anyone who should not handle them. Do not reuse food packaging for ceramic products.

Work in progress needs steady support and legible identification, even under a cover (Figure C01-12). Shelving must be suitable for the load, safe and accessible; do not judge a shelf's capacity by its

appearance. Avoid storing heavy items above head height. Keep access free for cleaning and do not block exits or emergency equipment.



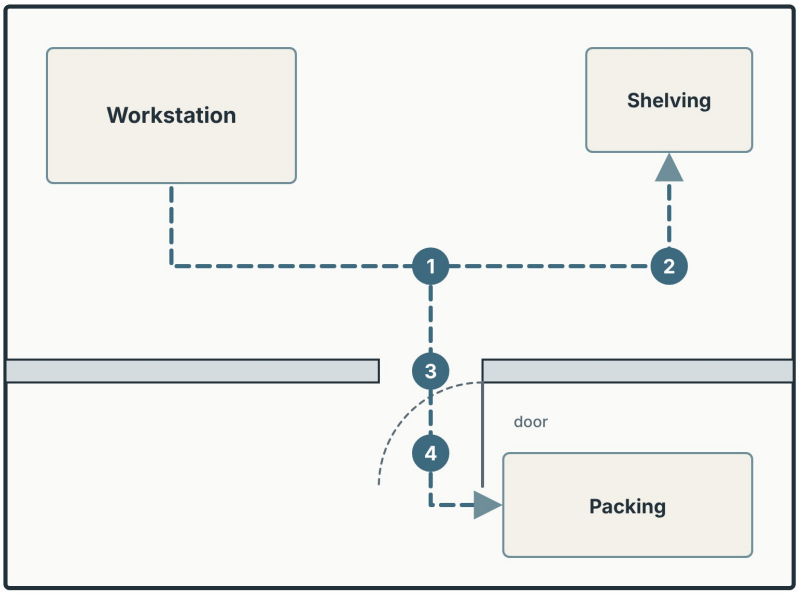
1. Each piece on its own ware board: move the support, not the walls.
2. A cover when the procedure calls for one, to control drying.
3. Legible label: maker, clay body, stage and firing destination.
4. Clay bodies closed and labeled; heavy items low, never above head height.

Label · enlarged example

Code:	TE-01
Maker:	Ana E.
Clay body:	M-01 (example)
Stage:	drying, covered
Destination:	final firing, external service

Figure C01-12. Work-in-progress shelving: each piece on its own board, with a legible label and a cover when the procedure calls for one; closed, labeled clay bodies on the low shelf. The inset shows an enlarged label example. Illustrative SenseCraft render.

Route check. Before you start the piece, walk the route with the empty ware board: from the workstation to the shelf and to the packing area (Figure C01-13). Notice doors, corners, places where you have to turn and where the load can rest during a stop. This rehearsal organizes the task, but it does not prove the route is safe for any given weight.

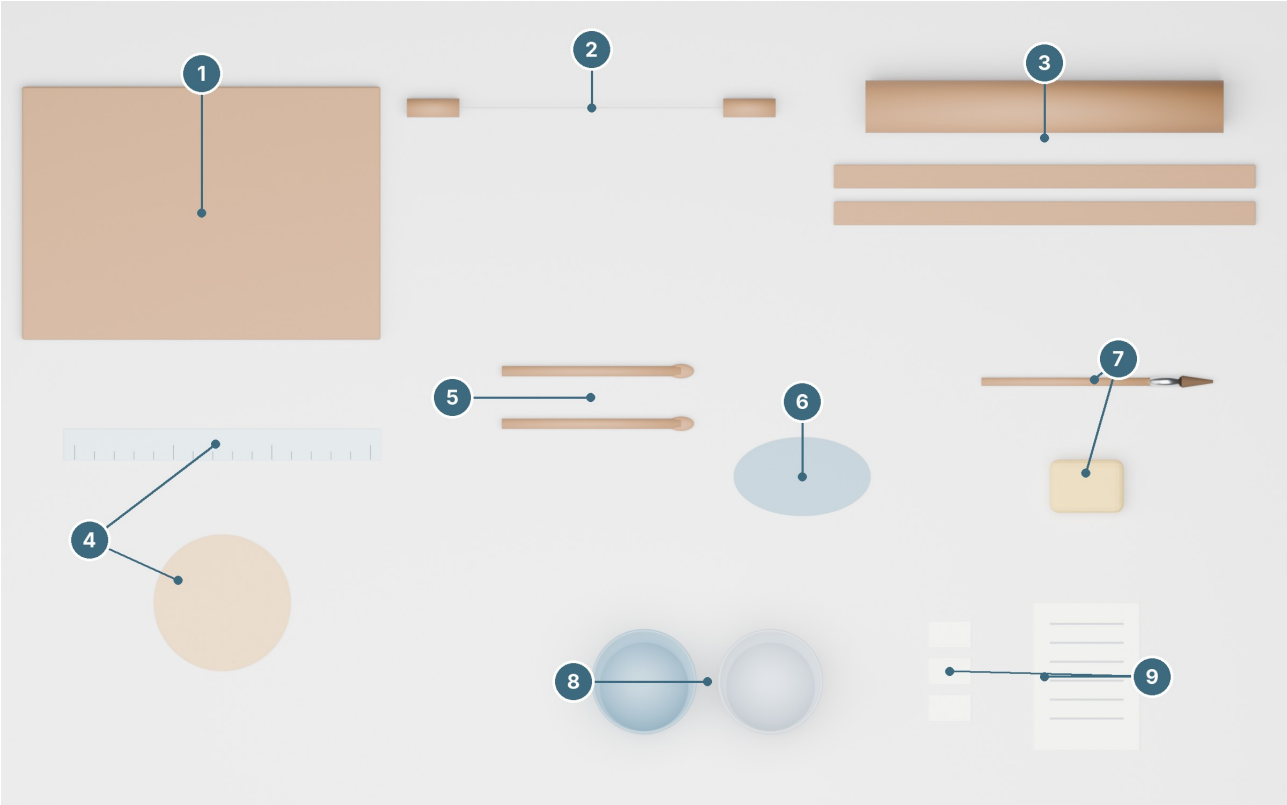


1. Corner: is there room for the hands and the board?
2. Where must you turn? Turn with your feet, not by twisting while loaded
3. Does the board pass the door without the piece touching it?
4. Where can the load rest during a stop?

Figure C01-13. Route check, walked first with the empty board. The numbered points are the questions to answer along the way. SenseCraft schematic plan, not to scale; the rehearsal does not prove safety for any weight.

3 Essential tools and accessible alternatives

Buy for the operation, not from a list. For a first pinched piece, hands, a support, a simple finishing tool and identification may be enough. A rolling pin and guides become useful when you choose to work with slabs. Figure C01-14 shows the resources in the table below, in the same order; the table organizes functions and is not a compulsory shopping list.



1. Rigid support (ware board)
2. Cutting wire with handles
3. Rolling pin and two matching guides
4. Ruler and template
5. Modeling tools
6. Rib
7. Brush and small sponge
8. Cleaning containers
9. Labels and record sheet

Illustrative render, not to scale. Numbers follow the rows of the table in section 3.

Figure C01-14. Resources from the table in this section, numbered in the same order. Illustrative SenseCraft render, not to scale; color and texture do not indicate clay state, and this is not a compulsory shopping list.

No.	Resource	Function and occasion	Alternative and precaution
1	Dedicated rigid support (ware board)	Support and carry the piece without holding it directly	Flat, sound, clean board. Check stability, release and ease of grip.
2	Cutting wire with handles	Separate portions of clay and make cuts suited to the operation	For small portions, a clay knife suited to the technique. Never wrap the wire around your fingers; store without exposed loops.
3	Rolling pin and two matching guides	Roll slabs; guides help limit how close the pin gets to the support	Dedicated wooden rolling pin and smooth strips of equal, checked thickness. They do not guarantee final thickness on their own.

No.	Resource	Function and occasion	Alternative and precaution
4	Ruler and template	Check references and repeat outlines	Readable school ruler and a paper or card template, protected from water when needed. Do not use a damaged edge as a reference.
5	Modeling tool	Shape, reach transitions or remove material, depending on the tip	Smooth wooden spatula without splinters. Clean the profile before it transfers unwanted marks.
6	Rib or finishing spatula	Refine and compress surfaces when the operation allows	Flexible plastic sheet with rounded edges. Avoid brittle or sharp cut-outs.
7	Brush and small sponge	Apply water or a liquid ceramic mixture locally and collect the excess	Simple dedicated brush. Keep clay tools and glaze tools separate; control water for the task.
8	Containers and cleaning materials	Hold water, collect residue and clean by wet methods	Stable, labeled buckets and dedicated cloths. Do not confuse working water with drinking water.
9	Labels and records	Link the piece, materials, observations and destination	Protected paper or a digital record. Use the same identifier in photos and on the record sheet.

In the table, a **rib** is a shaped blade or plate used to compress, form or refine a surface. In English-language catalogs, look for *rib* or *clay rib*; local names vary. **Modeling tools** have tips of different shapes. Choose the profile for the movement you need and the area you can reach. [S23]

Guides deserve special attention. When rolling a slab, the rolling pin runs on two strips of equal thickness, one on each side of the clay; once the pin rests on them, the slab stops getting thinner (Figure C01-15). If the two strips differ in thickness, the slab can come out sloped, thicker on one side. Even with matching guides, final thickness depends on the clay body and the work that follows, which is why the table says guides help limit thickness but do not guarantee it on their own.

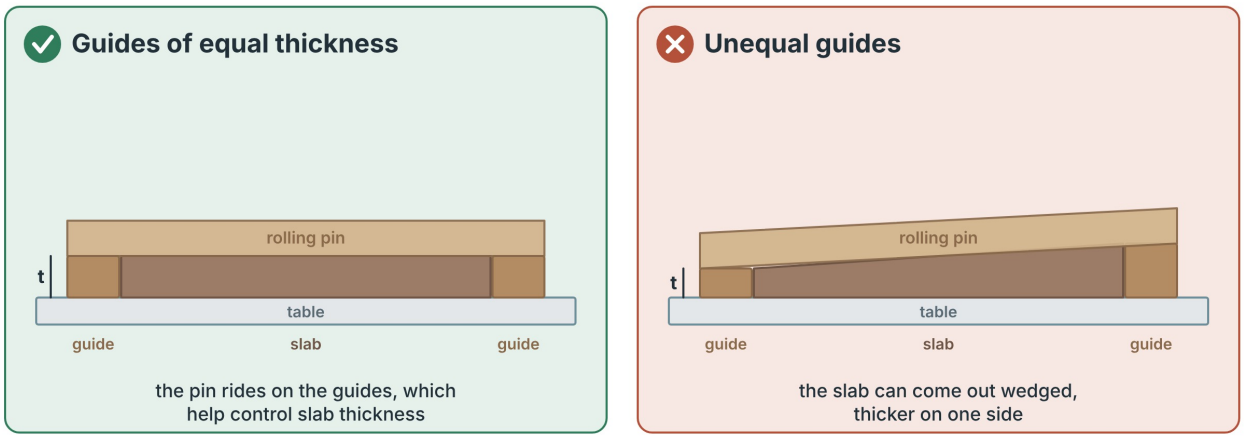


Figure C01-15. Rolling pin and guides in section. Guides of equal thickness limit how close the pin gets and help control thickness; unequal guides can produce a sloped slab. SenseCraft schematic, not to scale.

3.1 Choose for the hand and the task

Check whether the grip lets you control the tool without squeezing it constantly or bending your wrist too far. A delicate tip works in a small area but demands unnecessary effort across a broad surface. Bringing the piece closer or changing its position usually works better than adding force.

A cutting wire should be used by its handles. Hold one handle in each hand, keep the wire taut and draw it through clay resting on the table (Figure C01-16). Never wrap the wire around your fingers: under tension it can cut the skin or restrict circulation. Store it without exposed loops.

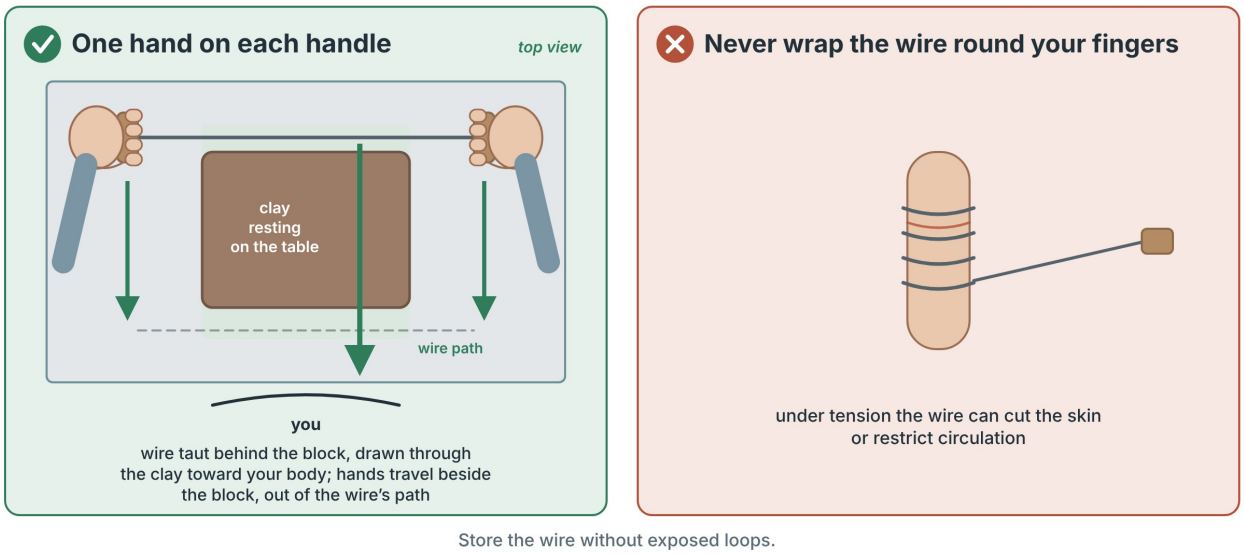


Figure C01-16. Using the cutting wire more safely, seen from above: one hand on each handle, wire taut, drawn through clay resting on the table toward the body, with hands out of the cutting path; never wrapped around the fingers. SenseCraft schematic.

Needle tools are used to mark, score or assist checks in specific procedures. Because they pierce, store them with the point protected, in a known place. A loose needle among cloths is not acceptable. Loop tools and scrapers remove material; they need not be part of the first set unless the technique calls for them.

A clay knife or cutting blade must work over a suitable support, with your hands outside the cutting path. Make controlled cuts and keep the guard within reach to put it back straight afterward. Do not use a damaged blade or try to make up for lack of control with force. A disposal container for points and blades must prevent accidental contact and follow local disposal rules.

3.2 Care after use

Remove residue while it can still be cleaned off with water. Clean profiles and recesses without raising dust, and collect solids before washing. Dry metal parts to reduce corrosion and let wood dry without soaking. Follow the manufacturer's instructions for joints, adhesives or parts that must not get wet.

Look for splinters, broken edges, frayed wires and loose parts, and set the faulty item aside. Identify brushes and containers used with glazes or pigments so they do not return to the clean clay-scrap circuit.

A guide must stay sound and consistent with its function. Two different strips can produce a sloped slab; a paper template warped by water changes the outline. An inexpensive tool can be enough when its reference is checked, and a specialized tool needs that check too.

3.3 Resources that can wait

A manual banding wheel helps you see the piece from several sides; before using it, check that it is stable and gives access to the areas you will work on. A slab roller rolls slabs, and an extruder produces profiles by pushing clay through a die. Both add mechanisms, cleaning, space and operating rules, and only make sense when the task justifies them and proper instruction is available.

Digital templates, custom cutters and printed molds can be useful in specific contexts, but the start of learning does not depend on them. A drawing or digital model describes geometry under certain assumptions; it does not demonstrate adhesion, comfort, ease of release or the physical quality of the clay piece.

4 Cleaning and working conditions

4.1 Dust is part of the process and must be controlled

Clays, glazes and other ceramic materials may contain crystalline silica. The respirable fraction of this dust is fine enough to reach deep into the lungs and may be invisible under ordinary lighting. Inhaling it can cause serious disease, including silicosis, a serious and irreversible lung disease. Not seeing a cloud of dust does not show that exposure is under control. [S01]

The state of the material and the operation make a difference. Ready-made plastic clay reduces handling of powders during preparation, but its residue can dry on floors, clothes and tools. Weighing powders, trimming or scraping dry work (known as dry fettling), sanding or spraying coatings call for their own assessment and controls. [S03; S04]

For the basic workstation in this chapter, choose a ready-prepared clay body and wet-applied products suited to the task. Keep residue under control and do finishing at the state the procedure indicates. Figure C01-17 summarizes what raises dust and what collects it: do not crush dry scraps, do not dry-sand as routine and do not use compressed air to clean surfaces or clothing. [S02; S04]



Figure C01-17. What raises dust and what collects it without spreading it. Not seeing dust does not show that exposure is under control. SenseCraft schematic based on S02, S04, S21 and N03; the fan and dry-scrap items are this book's guidance.

The British HSE guidance on dry fettling was written for specific industrial operations. Two principles are taken from it here: control dust at its source and handle residue with care. This does not turn a home bench into an assessed industrial facility, nor does it authorize copying airflows, exposure limits or legal intervals from other countries.

4.2 Reduce dust before choosing personal protection

The order of reasoning matters (Figure C01-18). First, review the operation: does it really need loose powder, spraying or dry fettling? Can you use a ready-made material or do the finishing at the appropriate state? If the task still creates exposure, you need an effective control, a check that it works and a way to stop contamination reaching other people. The choice of personal protective equipment, or PPE, comes within that assessment, not in place of it. [S01; N04]

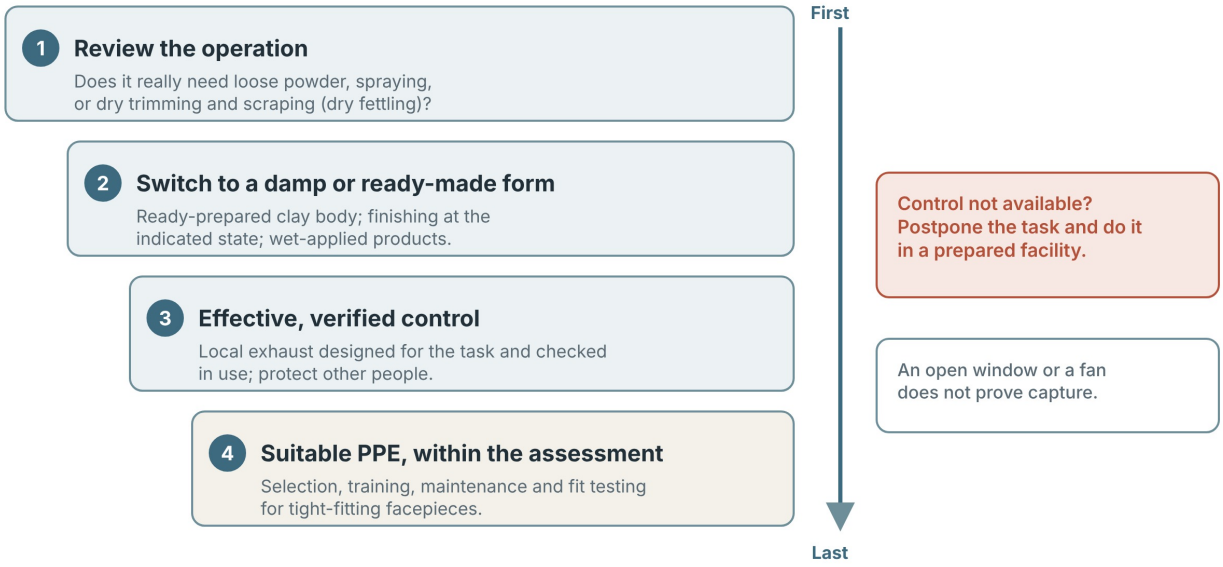


Figure C01-18. Reduce dust generation before choosing personal protection. SenseCraft schematic based on S01, S02, S20 and N04; it does not replace a risk assessment.

Opening a window or pointing a fan at the bench does not show that dust has been captured; a fan can even spread the deposits. Local exhaust ventilation removes the contaminant close to its source through a system designed for that task, and it must be checked to confirm that it works. [S02]

A generic mask does not authorize an uncontrolled operation. When respiratory protection is needed, its selection, training and maintenance must match the contaminant and the work. For tight-fitting facepieces, the fit must be verified by a fit test carried out by a competent person; checking the seal each time you put the mask on does not replace that test. Other types of respirator have their own requirements. At a starter workstation, postpone any activity that needs controls you do not have and carry it out in a prepared facility. [S20]

Do not use the absence of smell, coughing or discomfort as a measure of exposure. If dust is being raised, or a planned control fails, stop the task and resolve the situation before continuing.

4.3 Read the right label and sheet

A **safety data sheet (SDS)** provides information for recognizing hazards and planning handling. Its name and the requirements for supplying it depend on the country; FDS and the older name FISPQ occur in Brazilian documents. Check the product, supplier, date and revision. An application data sheet and a consumer leaflet serve other purposes and do not automatically replace the safety data sheet. [S08; N01]

Read the identification, hazards and handling and storage instructions. Find, before you need them, the information on exposure controls, protection, first aid, spills and disposal. Figure C01-19 shows the sections of the sheet where this information usually appears. If an instruction is unclear or does not match your operation, clarify it with the supplier and with the person responsible for the space.

Figure C01-19 International SDS reading guide

Information you need	Where to start in the SDS
Product identity and hazards	Sections 1 and 2
Response to accidental contact or a spill	Sections 4 and 6
Working and storage conditions	Section 7
Exposure controls and protection	Section 8
Waste guidance	Section 13

A reading guide based on the GHS structure, not a product safety data sheet. Read the complete document and check the version adopted in the country concerned. [N01]

Reading example. The SDS for PRA clay identifies the product as a plastic clay, does not classify it as hazardous and covers normal use; it does not discuss the dust produced when the dried body is sanded or fettled [S09]. That silence does not show the operation is safe: the assessment must also consider the operation, because dust from ceramic materials may contain respirable crystalline silica [S01]. Do not conclude that "no pictogram" means "any use is safe".

Colored products do not have identical compositions just because they belong to the same line. Keep each color identified and observe its specific warnings. Mixtures of unknown composition do not go back into the original packaging of an identified product.

4.4 Prevention principles and local requirements

Organizing work to generate less dust, keeping clean areas separate, maintaining material identification and checking controls are principles of prevention. A studio's specific obligations depend on the country, employment arrangements, activities and premises. An international handbook should help readers recognize those decisions; it cannot declare a workstation compliant everywhere.

Before installing equipment, teaching classes or selling work, identify the requirements that apply to the location and intended use. Occupational health, electrical installation, fire prevention, disposal and food contact may involve different authorities and criteria. Consult the relevant authorities and qualified professionals when needed.

The safety sources in this chapter are identified by country and purpose. Use them to understand the risk and the function of a control; do not automatically transfer limits, time periods, respirator classifications or vacuum specifications between jurisdictions. A revision of the United Nations GHS is not, by itself, each country's legislation. [N01]

4.5 Personal hygiene and access

Keep food and drink out of the area where you work with ceramic materials. Wash your hands before eating and when you finish. Wear work clothing and avoid carrying residue into clean areas; do not shake out aprons or dry cloths. Follow the product sheet when choosing gloves and splash protection; hands with cuts or sores need protection suited to the task. [S04; S09]

Children, animals and visitors must not be able to reach materials, sharp tools or hot equipment. In classes, define supervision and access before the activity. In case of exposure, follow the product's specific guidance and the site's emergency procedure; do not improvise neutralization or treatment.

4.6 A complete workstation cleaning sequence

Prepare for cleaning at the start of the session, when it is still easy to separate containers, cloths and the destination of waste. The aim is to collect material, not to lift it into the air or just push it onto another surface. The sequence below (Figure C01-20) is a proposed routine for wet work with identified materials; spills of unknown or hazardous products require their own procedure.



Figure C01-20. The seven workstation cleaning steps for wet work with identified materials. Spills of unknown or hazardous products require their own procedure. SenseCraft schematic based on S02 and S21.

1. **Protect the work.** Label the pieces and place them on a steady support outside the area to be cleaned. Put away record sheets and electronic devices. If there is electrical equipment nearby, follow its shutdown and cleaning instructions and keep water away from energized parts.
2. **Separate the scraps.** Collect damp portions of a known clay body into the matching container. Keep residue containing glaze, pigment, plaster, dirt or of uncertain origin out of that circuit. Do not sweep fragments onto the floor.
3. **Remove excess from the bench.** Use a suitable tool without damaging the top, and keep the residue damp. If there is a dry crust of known clay, dampen it in a controlled way to loosen it; do not break it in a way that produces dust.
4. **Wipe with a damp cloth or sponge.** Collect the mixture of water and particles, rinse in the cleaning container and repeat with a clean face. Change the water or cloth when you notice you are only spreading material. Do not let water run onto the floor or into outlets.
5. **Clean tools and forgotten contact points.** Include handles, edges, the underside of boards and the place where containers stood. Store points and blades with their guards. Collect solids before washing.
6. **Clean the floor without raising dust.** Use a wet method suited to the floor and collect the dirty water. Mark the wet area and leave it safe to walk on. A dry broom, blower or household vacuum cleaner is not a solution for ceramic dust. [S02; S21; N03]

7. **Close the waste circuit.** Close and label the containers. Set aside cloths and work clothing for appropriate laundering, without shaking them. Check that bench, walkways and storage are ready for the next use.

If an operation requires vacuuming dust, the complete equipment must suit the dust and the task, including containment, filter, maintenance and emptying. The British HSE CR3 guidance, written for industrial dry fettling, mentions a vacuum cleaner with at least a Class M dust classification [S02]; Australian guidance for pottery specifies an H-class industrial vacuum cleaner [N03]. Classification schemes differ between countries, and a HEPA filter on its own does not show that a given vacuum cleaner is suitable. No model is specified here and no equivalence between national classifications is assumed.

Cleaning does not mean soaking. Standing water causes slips and can damage furniture and pieces. If a surface keeps showing dry deposits, investigate collection and the places where material builds up. A visual check helps maintain the routine, but it does not measure the concentration of dust in the air.

4.7 Separate waste at its source

Separate at least three streams (Figure C01-21): clean scraps of an identified clay body; contaminated ceramic waste or waste of uncertain composition; and sharp or broken items. Different clay bodies should not be combined just because they look alike in color. Reclaiming scraps is taught in chapter 2.



Figure C01-21. Three waste streams separated at source and settling of rinse water. Settling separates solids but does not authorize disposal down the drain. SenseCraft schematic based on S05 and S08.

Collect the first rinse water in labeled containers. Left to stand, solids sink to the bottom; this settling (decantation) helps separate them from the water, but it does not necessarily remove dissolved substances, nor does it authorize pouring the water down the drain. Do not put clay, slip, leftover glaze or sludge down the sink. Check with the local sanitation and waste services where the water and solids should go. [S05; S08]

Slip is a suspension of ceramic material in water, that is, a mixture with particles dispersed in the liquid. Joining slip, reclaim slip and casting slip have different functions and are not interchangeable by definition. Label the contents and purpose of each container; formulations are not covered in this chapter.

A sink solids trap helps keep them out of the pipes, but it needs maintenance and a destination for the material it collects. It does not turn water containing glaze into water fit for disposal. Do not assume

that a disposal permission described for a particular situation in another jurisdiction applies to your location. [S05]

Do not dilute waste to make it "disappear" and do not mix products to simplify disposal. Keep enough information about its origin for whoever decides its destination. Plaster fragments and fired ceramics do not go into the clay reclaim container.

4.8 Ergonomics and handling

Ergonomics means adapting work to people and the task. Adjust the actual working height, which adds up the bench top, the support and the piece itself. Notice whether your shoulders rise, your trunk stays bent or your wrists work bent (Figure C01-22). Bringing tools closer, turning the support and alternating tasks can reduce postures held for long periods. There is no ideal bench height for everyone. [S10]

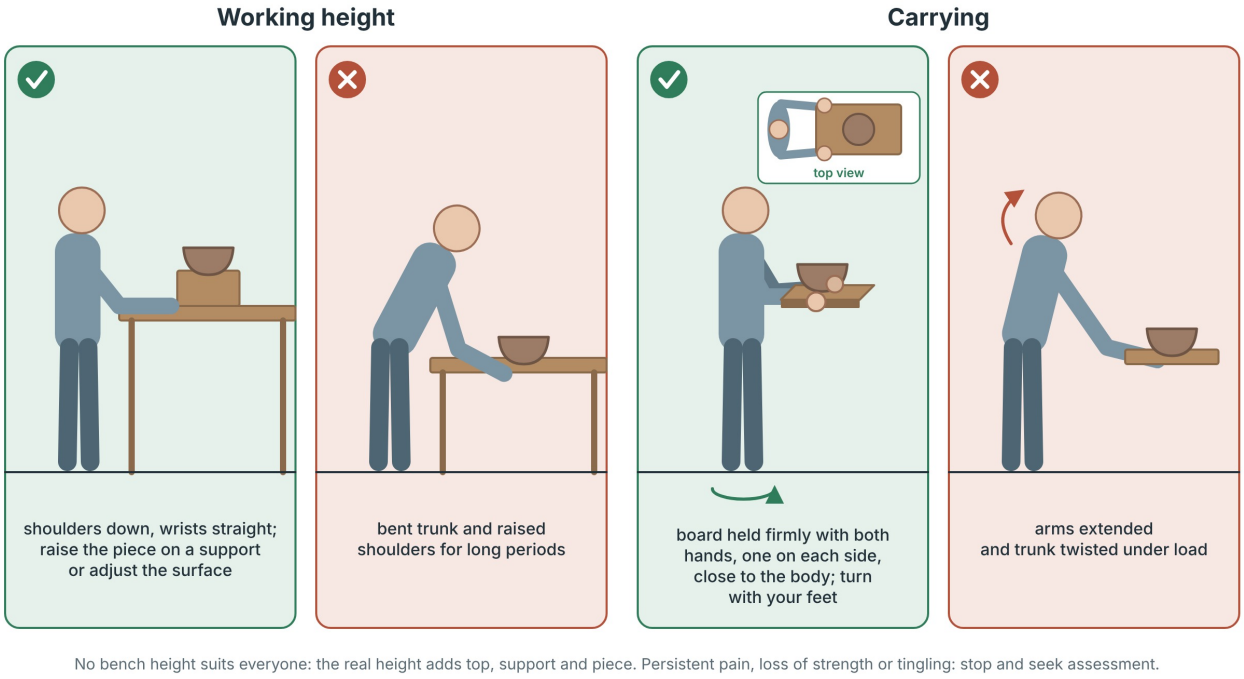


Figure C01-22. Posture at the bench and carrying loads. SenseCraft schematic based on S10 and S11; it sets no bench height or weight limit.

Alternate positions and take breaks suited to the activity. When seated, use a steady seat with room for feet and legs; when standing, keep the option of changing position. An improvised base that wobbles or creates a trip hazard is not an adequate adaptation. Persistent pain, loss of strength or tingling mean you should stop the task and seek appropriate assessment.

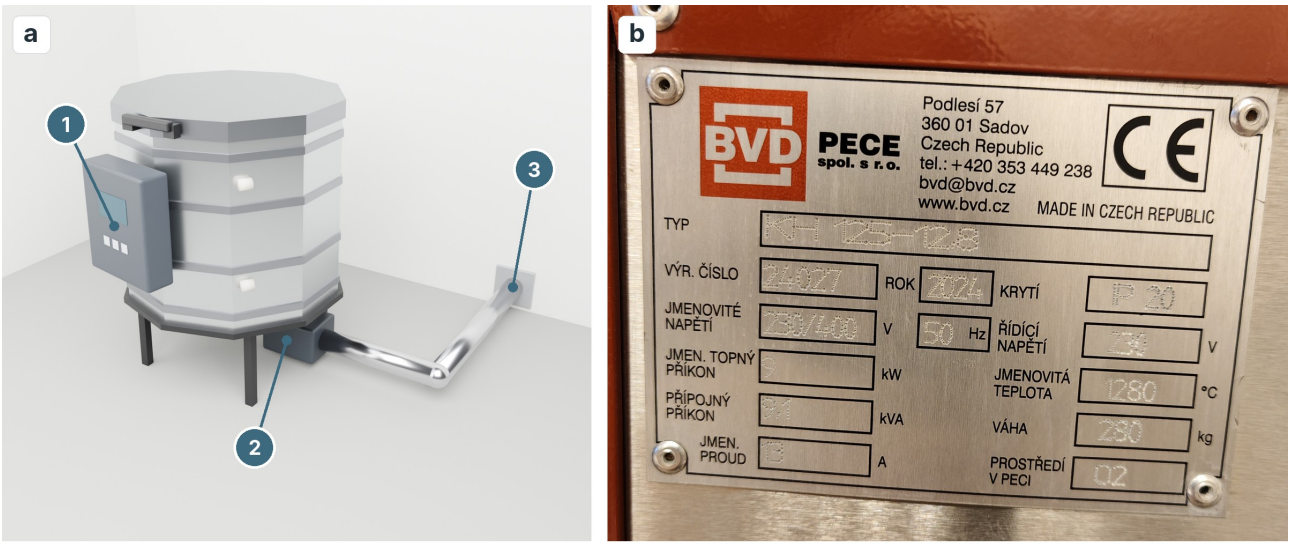
Plan the route before moving clay, a bucket or a board. Split the load when possible, use suitable aids and ask for help when size or weight makes control difficult. Keep the load close to your body and change direction with your feet instead of twisting your trunk under load. Lifting technique does not replace reducing the load or improving the route. [S11]

With a fragile piece, the support must hold the form and let you grip it without squeezing the walls. Check the destination before lifting. Do not carry a stack that blocks your view, and do not use the floor as a temporary resting place in a passageway.

5 Kilns and operating responsibility

5.1 What the kiln does

The ceramic kiln provides the thermal treatment planned for the clay body and, where present, for the coating. The main route in this book uses an electric kiln, your own or one belonging to a specialized service (Figure C01-23). A kitchen oven does not replace this equipment.



a Illustrative render of an unbranded top-loading electric kiln with a manufacturer-fitted vent.

1 Kiln controller.

2 Vent unit under the kiln, part of the manufacturer's system.

3 Rigid duct to the outlet on the outside wall.

b Rating plate of an electric kiln: voltage, power and other model data (photo).

Neither the render nor the photo is a reference for installation, circuits, venting or clearances: follow the manufacturer's manual and a qualified professional.

Figure C01-23. Electric kiln. (a) Unbranded top-loading kiln with a manufacturer-fitted vent (1 controller; 2 vent unit under the kiln; 3 rigid duct to the outside wall); (b) electrical rating plate of a kiln, one of the documents to check before installation. Neither the render nor the photo is a reference for installation, circuits, venting or clearances. (a) Illustrative SenseCraft render; (b) photo (cropped): Mojmir Churavy, CC0, via Wikimedia Commons.

An electric kiln heats its surroundings and can release emissions from the materials being fired. The design must address both heat removal from the room and the capture and discharge of emissions to a suitable location. The solution depends on the kiln, load and premises; follow the manufacturer and local requirements. [S17; N02]

Fuel-burning kilns and special firings add other conditions, such as combustion and fuel handling. Knowing about these methods broadens your repertoire, but this chapter does not teach how to carry them out. For them, choose a prepared service or operator.

5.2 Documentation before operation

The person responsible for operation needs to work with the model's manual, its electrical rating, the installation and ventilation documents, and the procedures for operation, inspection and response to faults. Installation must be carried out and assessed by competent professionals, in line with the equipment and local requirements. Circuit, clearances or ventilation cannot be deduced from a photo of another studio. [S16]

Do not adapt outlets, extension cords or components to "try out" a kiln. This chapter does not present an installation design. Before buying the equipment, confirm that the site can provide the power supply, removal of heat and emissions, circulation, and access for operation and maintenance.

Electronic control does not remove the need for supervision. The manufacturer L&L's documentation warns that controllers are not safety devices and strongly recommends supervising the whole first firing of a new kiln, empty except for shelves and posts, with witness cones. That guidance applies to commissioning and does not, on its own, define supervision for later firings. The routine should follow the model's manual and the site procedure, with defined responsibilities and response to anomalies. [S18]

Keep unauthorized people away from hot surfaces and keep the area free of combustible materials and unnecessary traffic. Do not open the kiln to speed up cooling or put your hand in to test the temperature. Clearance to open and unload is an operating decision based on the equipment and the process. [S16; S16b]

5.3 Temperature does not describe the whole firing

The result depends on the combination of time and temperature and on the process conditions. Pyrometric cones are small ceramic pieces that soften and bend under known conditions (Figure C01-24). They help check the combined effect of time and temperature, called heatwork. They complement kiln monitoring, but they do not, on their own, certify that a piece is fit for use. [S12; B01, p. 116]

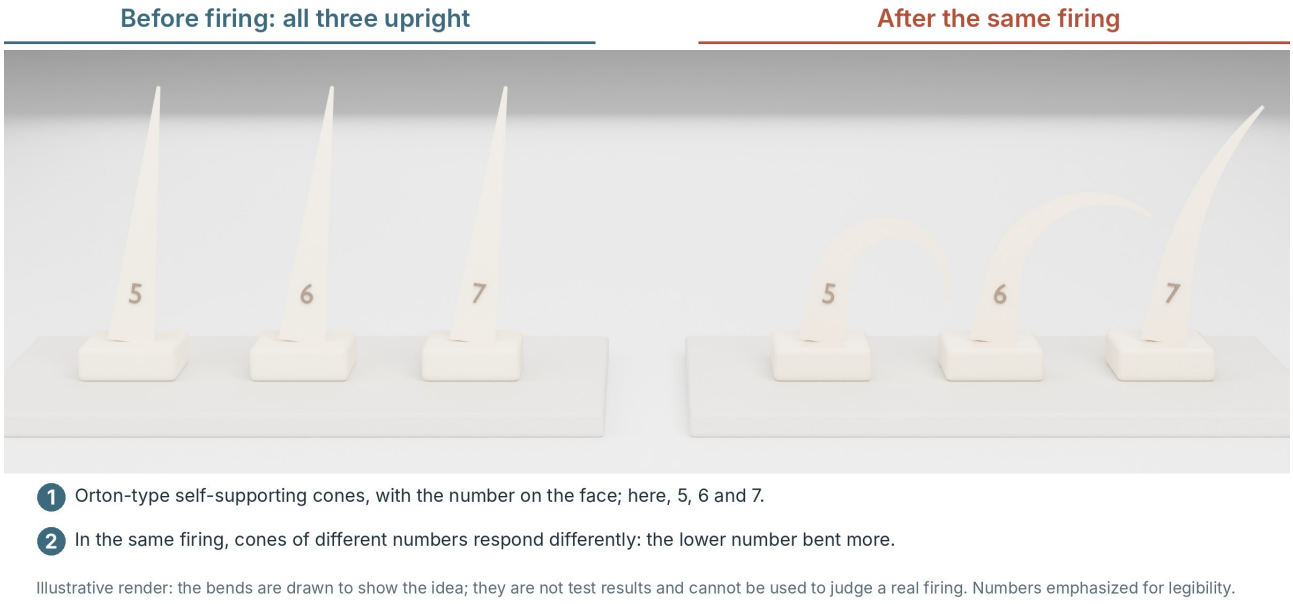


Figure C01-24. Orton-type self-supporting cones (5, 6 and 7): left, before firing, all upright; right, after the same firing, cones of different numbers responded differently, and the lower number bent more. Illustrative SenseCraft render: the bends are drawn to show the idea; they are not test results and cannot be used to judge a real firing.

Record the cone number exactly as written, including the leading zero when there is one. Cone 06 and cone 6 are different designations: according to the cone manufacturer's chart, cone 06 corresponds to a much lower firing range than cone 6. Do not convert a cone into a single temperature without considering the chart and its conditions. The kiln operator sets the program for the load and the materials; this chapter gives no firing curve. [S12]

6 Prepare information for a firing service

Choose the firing service before you start producing: a piece made with a material the kiln does not accept may end up with nowhere to go. The guidance below is a proposed way to communicate, not a set of rules for every provider. Figure C01-25 shows an example filled in with fictitious data, using the same fields as Sheet C01-B in the workbook, which is the blank template.

Sheet C01-B filled in: example

All data are fictitious · same fields as Sheet C01-B in the workbook

Cone 06 ≠ cone 6
copy the leading zero exactly as on the sheet

1 · Simple process record

Piece ID · Maker	TE-01 · Study bowl 01 · Maker: Ana Example (fictitious)
Intended use	holding paper clips on the work desk · not a food-contact item
Technique and procedure reference	pinch · procedure noted in the studio notebook
Acceptance criteria	stands steady on its intended support; easy access to the clips; rim without sharp edges; no visible cracks after the process
Clay body: maker · product · batch	Example Maker · Example Clay Body M-01 (fictitious) · batch L-0000
Technical sheet and recommended range	sheet M-01, rev. 2 · range: cone 6 (EXAMPLE: copy yours from your sheet)
SDS for the clay body and each coating	SDS M-01, version 3, “Sheets” folder on the shelf · no coatings
Blends, additions or unknown information	no blends or additions
Decoration and glaze: maker · product · batch	not applicable: unglazed, undecorated piece

Route and observations

Stage and date	Observed state, operation and support	Check and next decision
Planning · 2 Mar	intention, clay body and firing recorded	clay body sheet at hand · go on
Forming and joining · 2 Mar	plastic · pinched on the ware board	wall even to the touch · go on
Finishing and application · 3 Mar	leather-hard · rim smoothed with a damp sponge	no cracks · leave to dry
Drying · from 3 Mar	covered at first, then uncovered, on the board	dryness checked by the procedure the service accepts · only then deliver
Delivery and firing · 12 Mar	dry, packed, label TE-01	service receipt received
Return and inspection · 26 Mar	fired, unglazed	steady on its support, rim without sharp edges, no visible cracks · use for clips

Figure C01-25 — part 1 of 2

Sheet C01-B · continued (fictitious example)

All data are fictitious · same fields as Sheet C01-B in the workbook

Cone 06 ≠ cone 6
copy the leading zero exactly as on the sheet

2 · Continuation for the firing service	
Piece ID	TE-01 · Study bowl 01
Service and person responsible	Example Studio (fictitious) · operator: Bruno Example
Contracted stage and accepted materials	final firing of an unglazed piece · clay body M-01 accepted by the service
Agreed cone, thermal condition and atmosphere	cone 6 (EXAMPLE), as on the clay body sheet · oxidation · the service's standard schedule, as stated by them
Quantity and piece IDs	1 piece · TE-01
External dimensions per piece, with unit	height 6 cm · maximum width 10 cm, measured dry
Unglazed areas and accepted kiln supports	whole piece unglazed · placed directly on the shelf, at the operator's discretion
Delivery condition, support and packing	dry · on the board · box with paper · label TE-01
Delivery date · Record received	12 Mar · yes, receipt 0000 (fictitious)
Deadline, quote and terms for refusal or damage	collection on 26 Mar · quote approved in writing · refusal and damage per the service's terms
Result, defects, use decision	no cracks or warping; steady on its support · use for holding paper clips
Linked photos	TE-01_front, TE-01_side, TE-01_base (before) · TE-01_after

Dates, names, clay body and service are invented; drying time varies with the piece and the place. Cone and atmosphere come from your clay body's sheet and from what your service accepts. Missing information: write "unknown", "to be confirmed" or "not applicable".

Figure C01-25 — part 2 of 2
Figure C01-25. Sheet C01-B filled in with entirely fictitious data (person, clay body, service and dates invented), using the same fields as the workbook. The cone and atmosphere values belong to the example: use those in your clay body's technical sheet and those your service accepts. SenseCraft schematic.

6.1 What to send the service

Give your name, the identification of the pieces, the quantity and the external dimensions, including projecting parts such as handles. State whether the pieces are raw, already bisque-fired or glazed. Send the manufacturer and code of the clay body, its recommended range and technical sheet; add the batch when available and declare blends, additions or any information that is still unknown.

For each product applied, give the manufacturer, name or code and the state in which it was applied. Identify glazes, decoration, resists (areas protected from the coating) or added materials. If the piece has already been fired, attach that firing record. Photographs help locate the piece and show its form and surface, but they do not replace identification of the materials.

Explain the intended use. The service can carry out the firing and provide records without certifying every functional property of the object. Do not assume that "fired in the studio kiln" means "fit for food contact".

6.2 What to confirm before delivery

- Which clay bodies, coatings and types of work are accepted, and what information must accompany each piece.
- Which stage will be carried out, which cone or thermal condition is offered, and whether the kiln atmosphere is compatible with the products. Atmosphere is the condition of the gases inside the kiln, and it can change the result.
- How the service assesses and receives dry work and how much notice it needs. Do not promise that a piece will be dry by a fixed date without assessing it.
- Which limits of size, shape, weight, support and loading apply. Ask for the service's instructions for unglazed areas and firing supports; do not adopt a universal width for cleaning the base.
- How to identify, pack and deliver; whether packaging will be removed before loading; who may move the work; and how quotes, lead times, records and collection work.
- How unknown materials, refused work, breakage, glaze runs and damage to the equipment or to other pieces are handled.

6.3 Delivery and collection

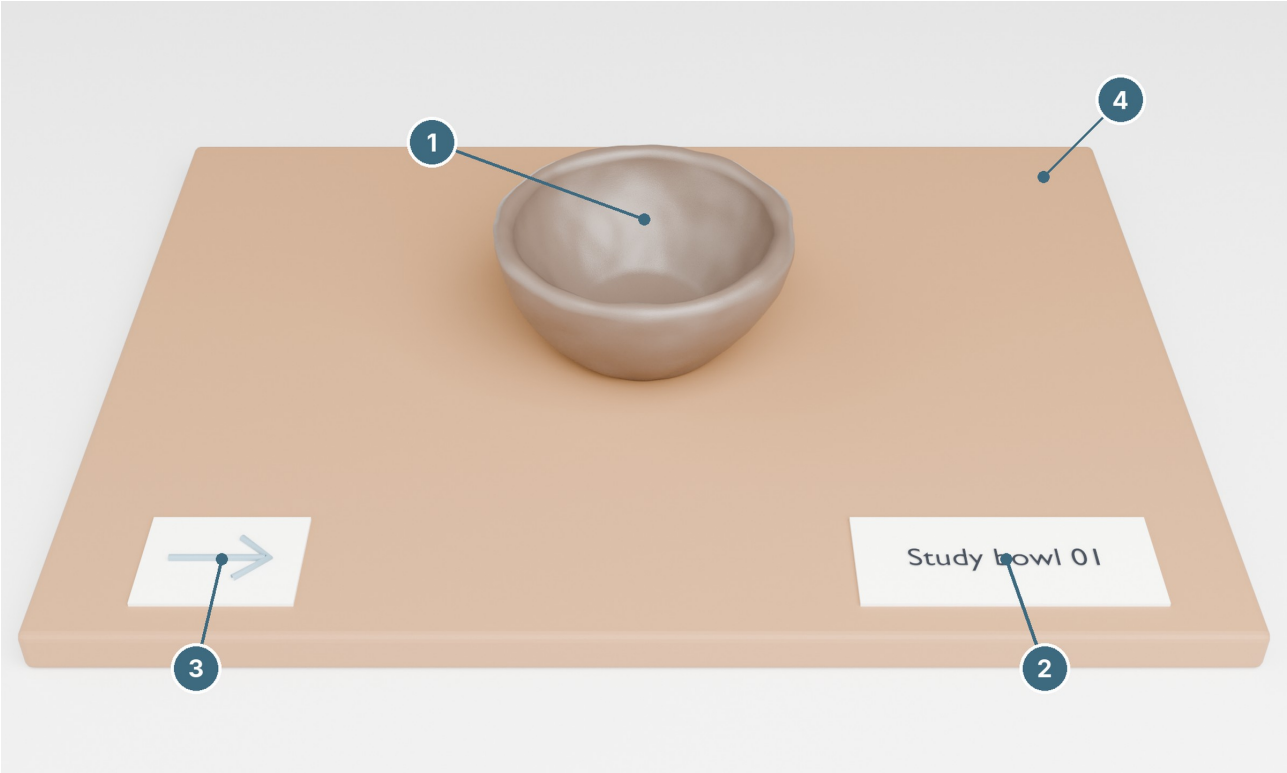
Check piece by piece, keep the identification and record the condition of each one before transport. Use packaging that protects without putting load on the piece and carry it on a support suited to its fragility. Follow the service's instructions; do not enter the kiln area or touch controls without authorization and training.

On collection, check that the piece matches the record, which stage was carried out and what information about the firing was provided. Record defects and differences before deciding on the next operation. A crack that appears after firing does not, on its own, prove that the cause began in the kiln: compare it with your earlier observations.

7 Plan the first piece without getting ahead of the technique

7.1 A simple intention

Imagine a small pinched bowl that, once fired, will hold paper clips (Figure C01-26). This is a planning example, with no required dimensions and no promise of food-contact use. The bowl will be open, with no handle, lid or added parts. The complete pinching procedure, including forming, finishing and final care, is in chapter 6, Pinching and Hollowing.



1. Open bowl, still raw: no handle, lid or added parts; clips only once fired and inspected.
2. Label with the same code used on the record sheet and photos.
3. Orientation arrow: always photograph with it on the same side.
4. Ware board: the piece is made, stored and moved on it.

Illustrative render of a study plan, with no required dimensions.

Figure C01-26. Plan for the first piece: open study bowl, still raw, on its board, with a label and an orientation arrow for photos. The clips stay outside: the bowl will only hold them once fired and inspected. Illustrative SenseCraft render with no required dimensions; it does not represent a tested piece or food-contact use.

Decide in advance how to recognize an acceptable result: the bowl stands steady on its intended support, gives easy access to the clips, has a rim without sharp edges and shows no visible cracks after the process. These criteria are enough to organize the study, but they do not prove properties that have not been checked.

7.2 Gather the resources

Choose a single plastic clay body that is identified and accepted by the firing service. Set out a rigid support, a simple finishing tool, a small sponge or brush if the procedure calls for one, cleaning containers and identification. Reserve a place to store the work without having to move it by its walls. Plan work clothing, hygiene and the destination of waste.

For this first study you may leave the surface undecorated and unglazed, provided the final firing is suitable for the clay body and accepted by the service. You may also follow the bisque-and-glaze route, if the products and stages are defined. Whichever you choose, it must be written on the record sheet before any material is applied to the surface.

7.3 Organize the transitions

Figure C01-27 summarizes the six transitions in the plan. At each one there is something to check before moving on.

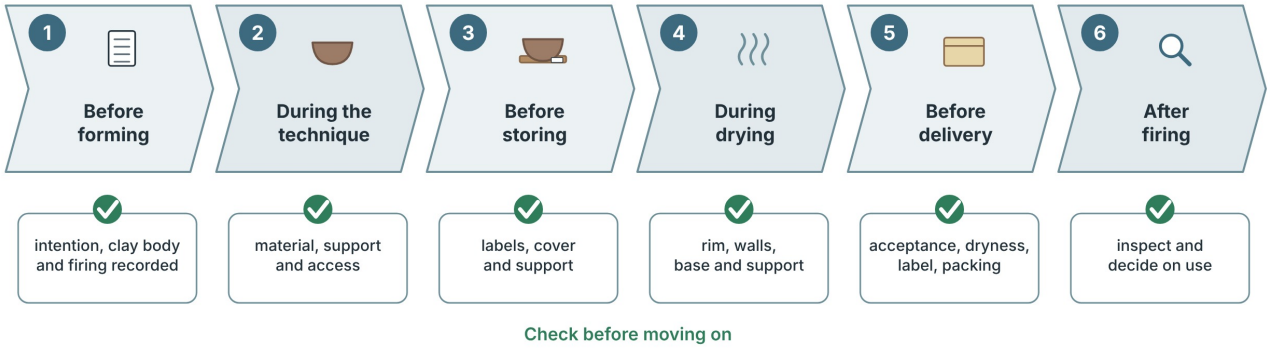


Figure C01-27. The six transitions of the first-piece plan and what to check at each. SenseCraft schematic.

1. **Before forming.** Record intention, clay body and firing destination; complete the workstation checklist; read the complete procedure in chapter 6 or work with guidance that covers every stage.
2. **During the technique.** Follow the procedure's sequence and watch the distribution of material, the support and access. Note important operations and changes, without using the clock as proof of consistency.
3. **Before storing.** Label the board and the piece, record its state and choose the cover and support the procedure indicates. If the piece deforms when you move it, review your grip and its state instead of insisting.
4. **During drying.** Follow the rim, walls, base and support. Adjustments follow the technique and the state observed; the end of the session is not the end of drying.
5. **Before delivery.** Confirm acceptance, dryness, labeling and packing with the operator. If anything is uncertain, clarify it before sending.
6. **After firing and cooling.** Record what was done, inspect and decide on the destination. A piece with a sharp edge, crack or instability is not released just because it completed the firing route.

This list is deliberately not enough to make the bowl: the forming instructions are in chapter 6. It helps you prepare the route and know which procedure to look for. Meanwhile, you can practice the organization without clay: set up the workstation, walk the route to the shelf with the empty board, and fill in Sheet C01-B up to the firing-service identification field.

7.4 Record to learn from the result

Use a simple code, such as "Study bowl 01", on the record sheet, in the photographs and on the board. If you mark the piece, do it in a way suited to the technique, without creating a weak point or confusion with the product used. When photographing, keep a visual orientation reference, such as the arrow in Figure C01-26, and record the stage.

Record observed facts. "Rim firm; base still yields to the touch described in the procedure" says more than "I waited a long time". Do not carry out checks that damage the work just to fill in the sheet. If you measure, state which dimension and the state of the piece; measurements from different stages are not directly comparable.

If you already work in series, keep the same vocabulary across record sheets: "raw", "dry", "bisque-fired" and "final" must refer to states defined in the record. When you change clay body, batch, support or coating, note the change; several changes at once make the result hard to interpret.

8 Recognize problems and decide before moving on

The table brings together process-organization decisions. It does not replace troubleshooting for each technique and does not assign a single cause to any sign.

Sign or situation	What to check	Decision in this chapter
Unlabeled clay body	Origin, product, mixtures and documentation	Separate and identify before use or dispatch for firing.
Dry deposits reappear	Collection, residue traps, cloths and circulation	Review the cleaning routine and prevent dispersion. Do not compensate with a fan.
A support sticks to or marks the piece	Surface, clay state and release method	Stop the transfer and follow the technique's procedure; do not pull by the rim.
No storage space left	Amount of work, supports and shelves	Reduce simultaneous work before continuing to form.
A piece reaches the service without identification	Link between record sheet, board, photos and materials	Reconstruct the identification; accept refusal when information is insufficient.
The final result has a defect	Construction, drying, application and firing records	Set the piece aside and investigate the sequence without assigning a cause from appearance alone.

The practical outcome of this chapter can be checked: the workstation can be prepared and cleaned; materials stay identified; each piece of work has a support and a destination; and missing information is recognized before the next operation.

9 Exercises and worksheets

The exercises with commented answers and the printable worksheets for this chapter are in the Exercises and Worksheets Workbook, chapter 1: Sheet C01-A, to prepare and close down the workstation, and Sheet C01-B, to record the process and communicate with the firing service.

Image credits

Figure C01-02 (a): "Pinch Pot Workshop at Rancho Sierra Vista (38539310952)", Santa Monica Mountains National Recreation Area (NPS). Public domain. https://commons.wikimedia.org/wiki/File:Pinch_Pot_Workshop_at_Rancho_Sierra_Vista_(38539310952).jpg. Change: cropped.

Figure C01-02 (b): "Aufbaukeramik Wulsttechnik 7", Poupou l'quourouce. CC BY 3.0, https://creativecommons.org/licenses/by/3.0. https://commons.wikimedia.org/wiki/File:Aufbaukeramik_Wulsttechnik_7.JPG. Change: cropped.

Figure C01-02 (c): "Slab Building Pottery", Ellin Beltz. CC BY-SA 3.0, https://creativecommons.org/licenses/by-sa/3.0. https://commons.wikimedia.org/wiki/File:Slab_Building_Pottery.JPG. Change: cropped by SenseCraft; the adapted image is distributed under CC BY-SA 3.0.

Figure C01-23 (b): “Elektricka Komorova Pec BVD KH 125 128 C”, Mojmir Churavy. CC0 1.0, https://creativecommons.org/publicdomain/zero/1.0/. https://commons.wikimedia.org/wiki/File:Elektricka_Komorova_Pec_BVD_KH_125_128_C.jpg. Change: cropped.

All other figures in this chapter: original SenseCraft work (Blender renders and schematics).

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Full references for this chapter appear in References — Chapter 01 at the end of the book.

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Chapter 01 - Getting Started in the Studio

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