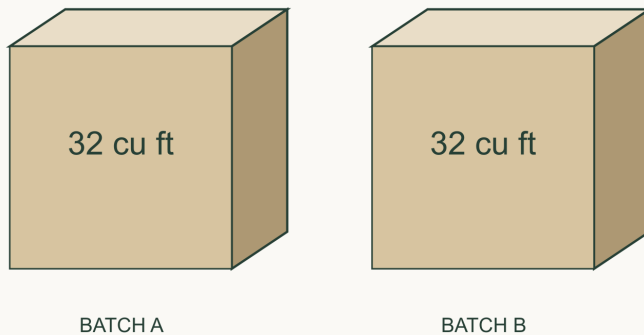


# Two-bay firewood storage study

Two separately labelled stacks share an open loading face. Compare the wood volume with the space needed to put it away and bring it back out.

## Two bays. Room to load.

A volume and access study



64 cu ft total / selected 48 x 24 x 48 in stacks

Original envelope sketch. Not a construction detail.

## How much wood remains after you reserve space to handle it?

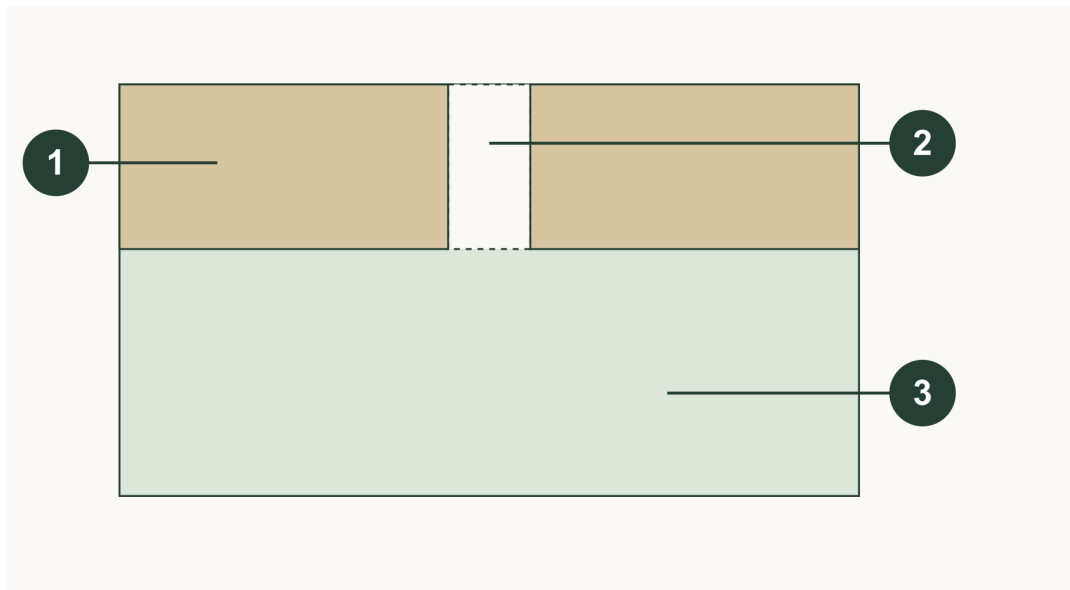
The baseline holds a selected 64 cubic feet of stacked-volume envelopes and leaves a 36 in front strip. Deeper stacks add half as much volume again, but take 12 in from that same strip.

Neither arrangement establishes safe stacking height, drying performance, structural capacity or enough room for your actual handling task.

All dimensions are selected planning assumptions. This is not a construction package. EPA build resources describe a separate design.

Edition 2026-10-12-firewood-v1 / Letter and A4 copies contain the same reference.

# Count the wood, not the loading space



Two 48 x 24 x 48 in stack envelopes total 64 cubic feet. A selected 12 in gap and 36 in front strip are excluded from the wood volume.

**Only the filled stack envelopes count toward the half-cord example.**

## Two stack envelopes

Each selected 48 x 24 x 48 in envelope is 32 cubic feet; together they are 64 cubic feet, or 0.5 cord equivalent.

## Batch separation

The chosen 12 in gap is excluded from capacity. It is not a validated airflow gap, structural support bay or a passage for a person.

## Front handling strip

The selected 36 in front strip is working space, not wood volume. Try your own carrying or wheeling task before choosing its depth.

## Try this with your own measurements

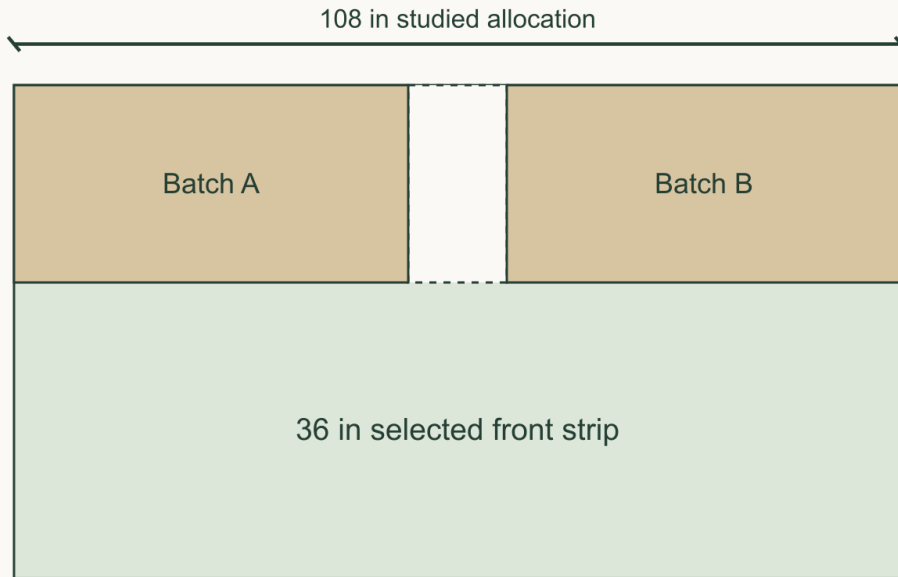
Mark out two actual stacks and the separate handling strip. Calculate each filled stack volume before adding them together.

# Stack dimensions and volume

Selected stack envelopes. Dimensions do not specify a structure or establish safe stacking height.

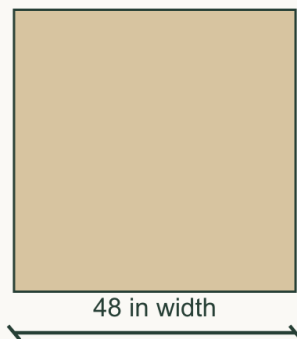
## Two stacks: 64 cubic feet / 0.5 cord equivalent

Assumed filled envelopes; not a measured delivery or safe stacking limit.



Plan view. Supports and cover are not drawn.

### Each stack in elevation



Depth: 24 in

$48 \times 24 \times 48 / 1728$

$= 32$  cubic feet per stack

$2 \times 32 = 64$  cubic feet

$64 / 128 = 0.5$  cord

# Study notes: Stack volume

Original dimensional study. All stack dimensions and handling reservations are selected assumptions; no construction design or verified drying performance.

The plan view shows positions; the full labelled sheet adds the selected 48 in stack height in elevation. The height is an assumption, not a stability recommendation.

One cubic foot is 1728 cubic inches. Two selected stacks give  $2 \times 48 \times 24 \times 48 / 1728 = 64$  cubic feet. Dividing by 128 gives 0.5 cord equivalent.

The nominal storage enclosure is unspecified. Supports, covering and usable clearances can increase the required footprint beyond the drawn allocation.

## **Record the difference in your own setup**

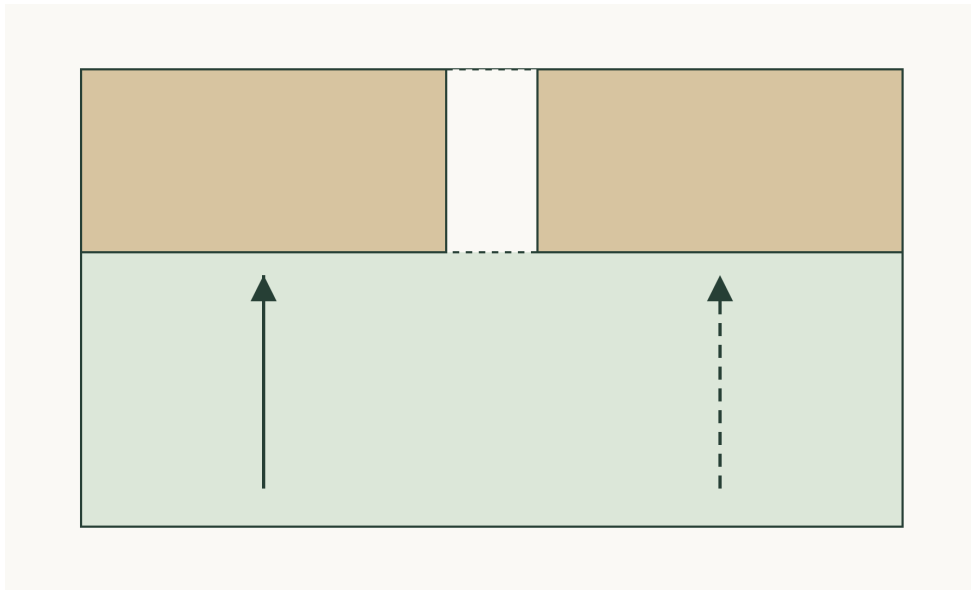
Actual dimensions / task / unresolved questions:

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# Keep both batches reachable from the front



Front-loading routes reach either batch without passing through the other. Arrows show task direction, not a measured carrier or person.

**Keep a direct front approach to each separately identified batch.**

**Handle one batch without crossing the other**

## 1. Identify the batch

Label the bays by delivery or storage date. Their left/right positions do not establish whether either batch is ready to use.

## 2. Load or collect at the front

Approach the selected bay through the front strip. The arrows do not represent a measured wheelbarrow, carrier or person.

## 3. Leave the route available

Remove loose pieces and containers from the handling strip. Include the complete route back to the delivery or use point in your own trial.

## Independent loading faces

Both arrows enter from the front. Neither drawn route passes through the neighboring stack.

## A strip is not a handling test

No carrier dimensions, turning circle, reach or body envelope are included. The route outside this allocation is also unknown.

## Try this with your own measurements

Tape the selected front strip on the ground and try the real loaded carrier at each bay, including setting it down and returning.

# Study notes: Load & retrieve

Original dimensional study. All stack dimensions and handling reservations are selected assumptions; no construction design or verified drying performance.

Separate batch labels support a storage routine, but the drawing cannot identify dryness or readiness from age or location.

EPA guidance discusses keeping stored wood off the ground and protecting it from weather. A base and cover need their own design; this plan does not specify their construction.

**Record the difference in your own setup**

Actual dimensions / task / unresolved questions:

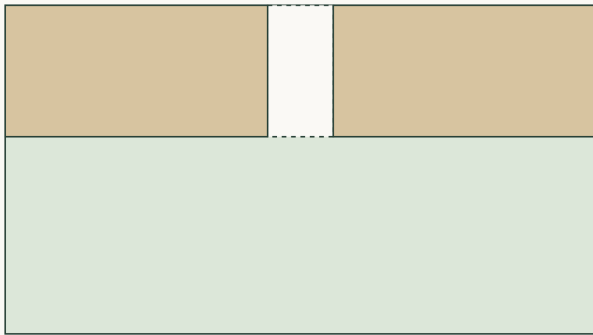
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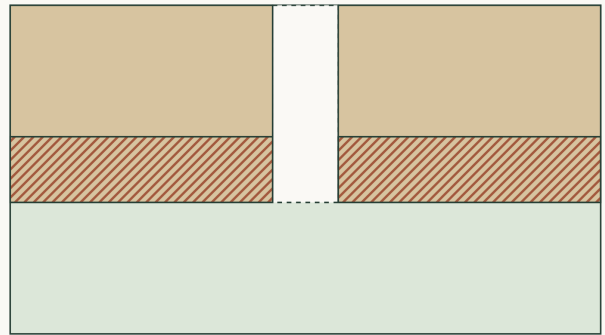
# More stack depth leaves less handling space

**24 in stacks / 36 in handling**



Two 48 x 24 x 48 in stacks give 64 cubic feet (0.5 cord equivalent). The front handling strip is 36 in deep.

**36 in stacks / 24 in handling**



Two 48 x 36 x 48 in stacks give 96 cubic feet (0.75 cord equivalent). The same allocation leaves a 24 in front strip.

Tan blocks are stack footprints. Pale green is the remaining handling area. Hatching marks the extra 12 in of stack depth. Both panels share a scale; stack height is held at the selected 48 in.

64 to 96 cubic feet: 50% more selected volume, with 12 in less front handling depth.

## Try this with your own measurements

Compare both marked-out strips with your actual task. If the deeper stack blocks handling, reduce stored depth or enlarge the allocation.

# Study notes: Depth trade-off

Original dimensional study. All stack dimensions and handling reservations are selected assumptions; no construction design or verified drying performance.

The added storage footprint is  $2 \times 48 \times 12 = 1152$  square inches. At the selected 48 in height it adds 32 cubic feet.

The smaller front strip is a trade-off, not an automatic safety failure. This comparison does not determine a minimum aisle width or validated stack capacity.

**Record the difference in your own setup**

Actual dimensions / task / unresolved questions:

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# Choose the stored volume after checking the task

Complete these checks before carrying the arrangement into your own plan.

## **Measure the wood separately from the enclosure**

Two 32 cubic foot envelopes give 64 cubic feet; the batch gap and handling strip contribute no stored volume.

Measure or try: Record the actual filled width, depth and height of each stack and divide total cubic feet by 128.

Change the arrangement if: If the logs or packing do not fill the assumed envelopes, reduce the expected quantity or change the stack dimensions.

## **Try loading and collecting from both bays**

The two drawn arrows reach the front faces without crossing the neighboring pile. They contain no person or carrier envelope.

Measure or try: Mark both stacks and try your loaded carrier, reach and return route.

Change the arrangement if: If the carrier cannot turn or be set down, enlarge or rearrange the handling allocation before increasing storage.

## **Compare depth before adding a roof or supports**

The deeper option adds 32 cubic feet but reduces the selected front strip from 36 to 24 in.

Measure or try: Keep the same overall allocation while marking each option; then add actual support and cover constraints.

Change the arrangement if: If either the handling task or enclosure needs occupy the same space, reduce volume or expand the layout. Review structure and location separately.

# Facts and selected assumptions

The selected 108 x 60 in allocation contains two stacks and a front handling strip. It is not an overall shed footprint: supports, roof overhang, drainage and external access are not dimensioned.

## **Selected width of each stack: 48 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Selected baseline stack depth: 24 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Selected stack height: 48 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Selected gap between batches: 12 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Selected baseline handling depth: 36 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Studied allocation width: 108 in**

calculated.  $48 + 12 + 48 = 108$  in; excludes supports and roof.

## **Studied allocation depth: 60 in**

calculated.  $24 + 36 = 60$  in; a task allocation, not a building exterior.

## **Baseline stack volume total: 64 ft<sup>3</sup>**

calculated.  $2 \times 48 \times 24 \times 48 / 1728 = 64$  ft<sup>3</sup>; bay separation and handling strip excluded.

## **Baseline cord equivalent: 0.5 cord**

calculated.  $64 / 128 = 0.5$ ; rectangular filled-envelope equivalent, not a measured delivery.

## **Alternative stack depth: 36 in**

planning assumption. Selected example, not a safe-height, ventilation or operating-clearance recommendation.

## **Alternative stack volume total: 96 ft<sup>3</sup>**

calculated.  $2 \times 48 \times 36 \times 48 / 1728 = 96$  ft<sup>3</sup> = 0.75 cord equivalent.

## **Alternative front strip: 24 in**

calculated.  $60 - 36 = 24$  in; adequacy for a person or carrier remains untested.

## **Volume per cord: 128 ft<sup>3</sup>**

source reported. NIST stacked-volume definition, not solid timber volume.

# Sources and construction resources

## **ShedBuildPlans: P14 original layout and volume assumptions**

Authored stack envelopes and handling reservations only; neither external source reviews this layout.

[Open original source](#) / Reviewed 2026-10-12

## **NIST: Handbook 133 (2025): stacked firewood volume**

Defines a cord as 128 cubic feet of ranked, well-stowed wood. Used only for volume conversion, not to approve storage design or stack height.

[Open original source](#) / Reviewed 2026-10-12

## **US EPA: Build Firewood Storage (historical Burn Wise record)**

General storage guidance and separate original build resources. Burn Wise ended in 2025; EPA states this content is no longer updated after October 30, 2025.

[Open original source](#) / Reviewed 2026-10-12

## **For building instructions**

Free at EPA. A separate historical design, not the construction version of this study. EPA has stopped updating Burn Wise; read the landing-page updates alongside the older PDF and video.

## **Still to establish**

Actual log sizes, packing and achievable filled-stack dimensions.

Stack restraint, stability, base capacity and structural supports.

Roof, rain protection, drainage and drying performance.

Site-specific fire separation and local placement requirements.

Actual carrier, body movement and the delivery route.

# Your preparation record

Record the stack, task and enclosure separately

## **Filled stack**

Record width, depth and height of the actual stack, rather than the overall shed. Do not count large voids or unused bay space as stored wood.

## **Handling task**

Try the actual carrier, body position and turning movement at each loading face.

## **Enclosure and site**

Record supports, cover, drainage and location separately from the chosen stack envelopes.

## **Good fit for this reference**

Comparing two separately labelled firewood batches with direct front access.

Planning stack volume before choosing an enclosure or buying a storage kit.

## **Trade-offs**

Deeper stacks increase selected volume but consume the front handling strip in the same allocation.

An open loading face leaves exposure, security and site conditions to resolve.