

Mortar Joint Types: The Profiles Between Your Bricks and Where Each One Fails

The Little Lines of Mortar That Decide Whether Your Wall
Lives or Dies

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Chapter 1: What a Mortar Joint Actually Does

Look at any brick wall and you'll see two things: the bricks and the lines between them. Those lines are the mortar joints, and they do more work than they get credit for. The brick is the muscle of the wall. The mortar is the part that thinks.

A mortar joint has three jobs. First, it bonds the bricks together so the wall acts like one thing instead of a pile of loose rectangles. Second, it's the sacrificial part — softer than the brick by design, so when the wall moves, the mortar gives and the brick doesn't crack. Third, and this is the one this whole book is about, it's the wall's raincoat. A properly finished joint sheds water off the wall. A poorly finished one invites water in, holds it, and lets it do its slow damage.

Here's what most homeowners never realize: the shape of that little line of mortar — its profile — decides how well it does that third job. There are eight mortar joint types you'll actually see on houses, and they are not equal. Some of them are water-shedding machines that'll protect a wall for thirty years. Some of them are practically gutters in reverse, funneling water into the wall from the day they're tooled.

I've been laying and repairing brick in Texas for fifty years, and I can read a wall's future by reading its joints. A concave joint on a thirty-year-old wall tells me the builder knew what he was doing, and that wall has probably got another decade before it needs me. A raked joint on the same wall tells me I'm going to be cutting mortar out of it sooner, and the homeowner's going to be paying me to fix water damage that the joint profile helped cause.

This book walks through all eight mortar joint profiles: what each one looks like, how a mason makes it, which ones shed water and which ones drink it, and — the part that matters when you're paying for repointing — how the joint profile decides how long your repointing job lasts. By the end, you'll be able to look at your own walls and know exactly what you're looking at, and exactly what to tell a mason when it's time to fix them.

Chapter 2: The Concave Joint — The Workhorse

If you live in a brick house in Texas, the joints on your walls are probably concave. It's the most common mortar joint in residential masonry in America, and there's a good reason for that: it's the best all-around joint ever invented for keeping water out of a wall.

A concave joint is a smooth, shallow inward curve — like a tiny valley running between the bricks. The mason makes it with a curved steel tool called a jointer, running it along the joint when the mortar is what we call "thumbprint hard." That's the stage where the mortar holds the imprint of your thumb without sticking to it. Too wet and the tool smears it. Too dry and you can't shape it. Hitting that window is craft, and it's the first thing that separates a real mason from a guy with a trowel.

The magic of the concave joint isn't the curve itself. It's what the tooling does. When that steel jointer presses into the joint, it compresses the mortar — packs it dense against the brick on both sides. That compaction does two things: it closes up

the microscopic shrinkage cracks that form as mortar cures, and it creates a tight bond at the edges where mortar meets brick. Water's favorite entry point into any wall is that hairline gap between mortar and brick. A well-tooled concave joint seals it shut.

Then the curve does its part. Rain running down a brick wall hits the concave joint and keeps moving — the smooth curve sheds water instead of catching it. There's no ledge for water to sit on, no pocket for it to pool in. The joint is slightly recessed, so the brick faces take the weather and the mortar sits protected behind them.

Industry guidance backs this up completely. The Brick Industry Association's technical notes and the national masonry standards both list concave — along with the V-joint — as the recommended profile for exterior walls. Brick manufacturers' construction guides rate concave joints as suitable for the most severe weathering conditions. When a product has to survive thirty years of Texas sun, driving rain, and the occasional ice storm, the concave joint is what the people who write the standards reach for.

How does a concave joint fail? Honestly, when it's done right, it mostly just ages out. After twenty-five to thirty years of

Texas weather, even good mortar powders and recedes. The joint doesn't fail because of its shape — it fails because mortar is mortal. That's the ideal failure: slow, even, predictable. When I repoint a wall with concave joints, I'm usually replacing mortar that died of old age, not mortar that was murdered by its own profile.

The one way a concave joint fails early is bad tooling. If the mason tools it too wet, the surface gets a weak, watery skin that flakes off in a few years. If he tools it too dry, the mortar doesn't compact and the bond lines open up. Same joint, same shape — but the hands matter as much as the profile. Keep that in mind, because it's going to come up in every chapter: the profile sets the potential, but the mason sets the reality.

When I repoint a wall, I match the profile that's already there, and on Texas homes that's concave nine times out of ten. A repointed concave joint, properly cut deep and properly tooled, gives you another twenty-five to thirty years. That's the benchmark everything else in this book gets measured against.

Chapter 3: The V-Joint — The Concave's Sharp-Dressed Cousin

The V-joint looks like somebody took the concave joint's smooth curve and folded it into a sharp V — a crisp groove running down the center of the joint, with two angled faces meeting at a point. It makes a strong shadow line, which is why architects and builders who want the brickwork to look crisp and deliberate choose it. On the right house, it looks fantastic — every joint reads as a clean, precise line.

Like the concave joint, the V is made with a steel jointer — this one V-shaped instead of curved — and like the concave, the tooling compresses the mortar tight against the brick. The Brick Industry Association's guidance puts the V-joint right alongside concave as a recommended exterior profile, and brick manufacturers rate it for severe weathering conditions. From a water-shedding standpoint, it's in the top tier. The angled faces shed rain, there's no flat ledge to catch water, and the compaction seals the bond lines.

So what's the difference between concave and V in the real world? A few things, and this is the concave vs. V joint brick

question I get from homeowners who are building or repointing and want to choose.

First, the V has a sharp inside corner at the bottom of the groove. On a well-tooled joint that's no problem — but if the tooling is sloppy, that inside corner can hold a tiny line of water instead of shedding it. The concave's smooth curve is more forgiving of imperfect tooling. In practice, this means the V demands a steadier hand. A good mason makes a V-joint that performs every bit as well as concave. A mediocre mason makes a V that underperforms a mediocre concave.

Second, that sharp point at the center of the V is the thinnest, most exposed part of the joint. Over decades of weathering, the point can erode a little faster than the rest. It's cosmetic more than structural — the joint still sheds water fine — but on a thirty-year-old wall you'll sometimes see V-joints where the crisp groove has softened into something closer to a shallow concave. The joint is telling you it's aging. That's normal.

Third is looks, and looks matter on your own house. The V-joint throws stronger shadow lines, which makes the brickwork pattern pop. On smooth, uniform brick it looks sharp and modern. On rustic or irregular brick, the crisp V

can fight with the brick's character — the concave's softer curve usually sits better. When I'm repointing, I always match what the wall already has. But if a homeowner asks me to choose on new work, I ask what the brick looks like and go from there.

How does a V-joint fail? Same as concave: mostly old age, given good tooling. The failure mode to watch for is the poorly tooled V — the one where water sat in the groove year after year because the mason didn't compact it right. You'll see it as joints that are eroded deeper in the center than at the edges, sometimes with a dark damp line running down the middle of the joint after rain. If your V-joints hold a visible wet line long after the rest of the wall has dried, the tooling was the problem, not the profile.

Bottom line on the V: it's a top-tier weather joint, equal to concave in the standards and in the hands of a good mason. When you're getting a wall repointed and the original joints are V, make sure your mason re-tools V — not concave because it's easier, not flush because it's faster. The profile is part of the wall's design, and changing it changes how the wall handles water.

Chapter 4: The Weathered Joint — The Angled Shedder

The weathered joint is the one that looks like it's leaning. The mason strikes the joint at an angle — the top of the joint is recessed back from the brick face, and the bottom sits flush with it. The result is a little sloped shelf of mortar that sheds water outward and down, the way a windowsill sheds rain. It's used on horizontal joints, and on the right wall it does its job well.

Some masonry references call the weathered joint one of the most watertight profiles out there, and the logic is sound: water hitting that slope has only one way to go, and it's away from the wall. Brick manufacturers rate it for moderate weathering conditions — a step below concave and V, but respectable. You'll see weathered joints on a lot of mid-century brickwork in Texas, especially on houses where the builder wanted a little more character than a plain concave but still cared about shedding water.

But the weathered joint has a weak spot, and it's built into the geometry. Look at the top of the joint, where the mortar is

recessed deepest. That top edge — where the angled mortar meets the underside of the brick above — is a bond line sitting in a little pocket. If the mortar wasn't packed tight against that upper brick when it was tooled, water running down the wall can work its way into that pocket and sit against the bond line. Over time, you get shrinkage cracks along that upper edge, and once water gets behind the face of the joint, the joint starts failing from the inside.

This is why the weathered joint is fussier than concave or V about workmanship. The angle has to be consistent, the mortar has to be fully packed into that upper recess, and the tooling has to happen at exactly the right moment. A good mason's weathered joint sheds water beautifully for decades. A rushed one develops that telltale crack along the top edge within a few years, and then every rain drives water into it.

How does a weathered joint fail? From the top down. You'll see a hairline crack running along the upper edge of the joint, sometimes with a little staining below it where water has been entering. In Texas, where our rains come sideways in spring storms, that upper pocket takes a beating. If your house has weathered joints, they're worth a close look every few years — run your eye along the tops of the horizontal

joints and look for that crack line.

When I repoint weathered joints, I re-tool them weathered. It's tempting to "upgrade" to concave — and honestly, on a full repoint, some masons will suggest it — but the wall was designed with that profile, the shadows and lines are part of the house's face, and a properly executed weathered joint performs well. Match what's there. Do it right. The joint will outlive us both.

Chapter 5: The Struck Joint — The One That Invites Water In

Now we get to the joints that cause trouble, and the struck joint is the first one every homeowner should know by sight — because if your house has struck joints on exterior walls, your walls have been fighting their own mortar since the day they were built.

The struck joint is the weathered joint's evil twin. It's also struck at an angle, but the angle goes the wrong way: the top of the joint sits flush with the brick face, and the bottom is recessed. Read that again, because the geometry is everything. The slope of the mortar leads inward and down — water running down the wall hits the joint and gets guided toward the inside of the wall instead of away from it.

Masonry guidance is blunt about this one: the struck joint is a poor weather joint, not recommended for exterior use, because water penetrates through the lower edge of the mortar. Brick manufacturers rate it for moderate weathering at best, and several major manufacturers explicitly do not recommend struck joints on exterior walls at all. The

recessed lower edge creates a pocket where water collects against the bond line — the exact opposite of what you want.

Why does this joint exist at all? It emphasizes the horizontal lines of the brickwork — the angled shadow makes each course read crisply. On interior walls, where there's no rain, it's a fine-looking joint and perfectly durable. Somebody, somewhere, decided it looked good enough to use outside, and that's how houses end up with a joint profile that's been working against them for thirty years.

How does a struck joint fail? From the bottom up, exactly where the geometry says it will. Water sits in that recessed lower pocket, works into the bond line between mortar and brick, and the joint starts crumbling at its lower edge first. You'll see it as joints where the bottom half is eroded and powdery while the top still looks solid — a lopsided failure that's the signature of a struck joint doing what struck joints do. In Texas, where spring storms drive rain hard against walls, struck joints on the windward sides of a house can fail years before the same joints on sheltered walls.

Here's the practical question: if your house has struck joints and they need repointing, what do you do? You have two honest options. Option one: repoint struck, matching the

original. It keeps the house's look, and fresh struck joints will last a good while — the profile is bad at shedding water, but new mortar is new mortar. Option two: repoint concave. It changes the look of the wall — the shadow lines get softer — but it upgrades the wall's weather performance for the next thirty years. There's no wrong answer, but it's a real conversation to have with your mason, and any mason who doesn't bring it up when he sees struck joints on an exterior wall isn't thinking about your wall's future.

I'll tell you what I tell my customers: if the struck joints are on a covered porch or a sheltered wall that never takes direct rain, match them struck and don't worry about it. If they're on a wall that takes weather, seriously consider the switch to concave. You're paying for the repointing either way — you might as well buy the next thirty years instead of the next twenty.

Chapter 6: The Flush Joint — Simple, Honest, and Middling

The flush joint is exactly what it sounds like: the mortar is struck off flat, even with the face of the brick. No curve, no groove, no angle, no bead. The mason just cuts the excess mortar off with his trowel and leaves it flat. It's the simplest joint to make, the fastest to execute, and the most common profile you'll see on commercial and industrial brickwork.

For a homeowner, the flush joint's appeal is its clean, flat look — the wall reads as one continuous surface of brick with thin flat lines between. On modern architecture with crisp lines, it looks right. And in terms of water behavior, flat seems like it should be fine: no ledges, no pockets, nothing to catch water.

The problem with the flush joint isn't its shape — it's what the shape skips. Remember what makes concave and V joints perform: the steel jointer compressing the mortar tight against the brick, sealing the bond lines. A flush joint is cut with a trowel, not compressed with a jointer. The mortar at the face of the joint is never packed dense. Those microscopic shrinkage cracks that tooling closes? On a flush joint, they

stay open. The bond between mortar and brick at the face? Never tightened.

That's why the masonry standards are cool toward flush joints on exterior walls. Several major brick manufacturers explicitly do not recommend flush joints for exterior use, rating them for negligible weathering resistance — the lowest tier. The guidance from rain-penetration best practices is direct: avoid flush joints on exterior walls because they're not compacted and they leave the brick's horizontal surfaces exposed to water sitting right against unsealed bond lines.

How does a flush joint fail? It erodes from the face inward, evenly and unremarkably. Because the surface mortar was never compacted, it's softer and more porous than the mortar deeper in the joint. Rain and wind wear it back — slowly, then faster as the weakened surface exposes more weakened surface. You'll see flush joints that have receded a quarter inch or more behind the brick face while the wall is still structurally fine. It looks tired before its time, and it lets water sit against the joint face in a way a compacted joint wouldn't.

There's a second failure mode specific to flush joints: they're the easiest joint to do badly and the hardest to spot it. A

concave joint done wrong looks wrong — the curve is lumpy, the edges ragged. A flush joint done wrong looks... flush. The trowel cut hides a multitude of sins: mortar that was too wet, joints that weren't filled full, bond lines that never sealed. When I'm called to look at a wall with prematurely failing flush joints, half the time the profile isn't the main problem — the invisible workmanship underneath it is.

If your house has flush joints and they need repointing, match them flush — but make sure your mason knows the standard for a proper flush repoint: cut deep, pack full, and understand that he's not getting the compaction benefit of a tooled joint, so the mortar mix and the curing matter even more. And if the wall takes serious weather, it's worth asking whether a switch to concave makes sense. Same conversation as the struck joint, same honest trade: looks versus longevity.

Chapter 7: The Raked Joint — The Ledge That Catches Everything

The raked joint is the easiest profile to recognize and the hardest to defend on an exterior wall. The mortar is raked — scraped — back from the face of the brick, leaving a flat recess, usually around a quarter to a half inch deep. The result is a deep shadow line around every brick. It looks dramatic. It looks architectural. On a garden wall or an interior accent wall, it looks genuinely great.

On the outside of your house, it's a series of tiny shelves, and shelves catch things.

Every horizontal raked joint is a little ledge, and that ledge collects whatever the weather brings: rainwater that sits instead of shedding, dust that turns to mud, and in a North Texas winter, ice. The masonry references are unanimous: raked joints are not recommended for exterior walls because the ledge lets water, snow, and ice sit on top of the brick course below. Water sitting against mortar is water soaking into mortar. Soaked mortar in a freeze — and yes, Texas gets freezes — expands and breaks apart from the inside.

There's a second problem with the raked joint that's less obvious. When you rake the mortar back, you expose the top surface of the brick below the joint — a horizontal brick face that was never meant to be a weathering surface. Brick faces are fired to shed water running down them, not to have water sitting on them. And the recess creates a pocket where the mortar joint meets the brick core — on cored brick, that pocket can give water a direct path into the wall. The references describe exactly this: the space created where the core exists lets water enter and penetrate into the wall.

How does a raked joint fail? It saturates and crumbles, usually starting on the horizontal joints — the bed joints — because those are the ledges. You'll see the mortar in the recess turning soft and powdery, sometimes with white staining (efflorescence) below the joints where water has been moving through carrying mineral salts out. On walls that take driving rain, raked joints can deteriorate dramatically faster than concave joints on the same house — I've seen twenty-year-old raked joints that look worse than forty-year-old concave.

Now, the honest complication: raked joints are everywhere on certain styles of Texas homes. The deep shadow line was

fashionable, and plenty of builders used it. If your house has raked joints, you didn't do anything wrong — the builder made an aesthetic choice that the standards now advise against. Your job is just to manage what you've got.

When raked joints need repointing, you face the same choice as with struck: match or upgrade. Matching raked keeps the house's distinctive look — and on some houses, that shadow line is a big part of the architecture. But you're recommitting to a profile that will need repointing again sooner than a concave joint would. Switching to concave or V during repointing is the single biggest durability upgrade you can make to a raked-joint wall, and it doesn't change the brick or the pattern — just the profile of the lines. I've had customers go both ways, and I respect both decisions, as long as it's an informed one. What I won't do is repoint raked without telling the homeowner what the trade-off is. That's not a choice I make for people — it's information they deserve before they pay.

Chapter 8: The Beaded Joint — Jewelry on Your Wall

The beaded joint is the fancy one. Instead of being recessed or flat, the mortar stands proud of the brick face in a raised, rounded bead — a little rope of mortar running along every joint. The mason forms it with a special tool called a beader, working the mortar when it's at just the right firmness. Done well, it's beautiful: the bead catches light and shadow, and the brickwork looks crafted in a way that flat joints never achieve.

You'll see beaded joints on older, higher-end brickwork — it's a traditional profile with roots in formal masonry — and occasionally on new work where the homeowner wanted something distinctive. In Texas, I run into it on some of the older nicer homes in established neighborhoods, the kind of brickwork that was somebody's pride.

Here's the problem with putting jewelry on the outside of a house: jewelry breaks. That raised bead is the most exposed mortar on the entire wall. It's the first thing rain hits, the first thing hail hits, the first thing a ladder bumps, the first thing

ice forms around. And because it stands proud of the brick face, water doesn't shed off it cleanly — it wraps around it, wets it from multiple sides, and the bead stays damp longer than a recessed joint would after every rain.

The masonry references rate beaded joints for moderate weathering — better than raked or flush, worse than concave or V — and they flag the obvious vulnerability: the raised profile is susceptible to damage from impact and exposure. A bead that's chipped or cracked doesn't just look bad; the damage opens the joint to water entry at exactly the point where the joint is most exposed.

How does a beaded joint fail? The bead breaks down. You'll see sections where the rounded bead has chipped away, leaving a ragged, irregular joint — sometimes the bead is gone entirely in spots, exposing the flat mortar behind it. Hail is the classic Texas killer of beaded joints; one good hailstorm can pepper a beaded wall with chips. Freeze-thaw works on any micro-cracks in the bead and pops pieces off. And once the bead starts going, it goes unevenly, which makes the wall look patchy long before the joints are actually failing structurally.

Repointing beaded joints is specialist work. The beader tool,

the timing, the consistency of the bead — it takes a mason who's done it before, and there aren't as many of us left who have. If your house has beaded joints and they need work, find a mason with beaded-joint experience specifically, and ask to see a wall he's done. A bad beading job looks worse than no beading at all — lumpy, inconsistent beads draw the eye to every flaw.

Should you keep the bead or switch? On a historic or high-character home, the beaded joint is part of what makes the house what it is — I'd match it, with a mason who knows the craft. On a regular house where a previous owner just liked the look, it's worth an honest conversation about whether the maintenance premium is worth it. A beaded wall will always need attention sooner than a concave one. That's the price of the jewelry.

Chapter 9: The Grapevine Joint — The Old-Timer

The grapevine joint is the one with history in it. It's an old American profile — the name comes from the tool, a grapevine jointer, and the wavy, slightly irregular line it leaves looks like the handwork of the early American masons who invented it. You'll see it on historic brickwork, on restoration projects, and on new work that's trying to look old — wood-mold brick, handmade brick, that kind of thing.

Here's what surprises people about the grapevine: for all its old-time looks, it's actually a good weather joint. The grapevine jointer compresses the mortar as it forms that wavy line, so you get the compaction benefit — tight bond lines, closed shrinkage cracks — just like a concave joint. Brick manufacturers rate grapevine for severe weathering conditions, right alongside concave and V. The wave doesn't catch water the way a raked ledge does; it's a tooled, compressed joint with character.

So why isn't every house built with grapevine joints? Two reasons: fashion and labor. The wavy line is a specific look —

historic, rustic, handcrafted — and it doesn't suit every house. Put grapevine joints on a sleek modern brick box and it'll look like a costume. And the tooling is slower and fussier than running a standard concave jointer down a joint. Time is money, and most production builders aren't paying for character in the joints.

How does a grapevine joint fail? Like concave — mostly old age, given good tooling. The profile itself doesn't create a failure mode. But grapevine joints show up most often on old brick, and old brick brings its own issue: soft brick and soft lime mortar. On a historic Texas home — and we've got them, especially in the older towns — the question is never really about the grapevine profile. It's about the mortar. Old lime mortar is soft and even a little self-healing; small cracks seal themselves over time. The danger is a mason who sees failing grapevine joints and reaches for a bag of hard modern mortar. Hard mortar against soft historic brick doesn't care what profile you tool it into — it'll crack the brick faces within a few years. The rule is absolute: match the mortar's strength to the old mortar, and never put mortar harder than the brick.

If your house has grapevine joints, you've probably got a

house with some age and some character, and the repointing conversation is about preservation, not just repair. Match the profile — the wavy line is part of the house's story — match the mortar type, and hire a mason who's worked on historic brick before. This is not the job for the lowest bidder. The cheapest mason on a historic wall is the most expensive mistake in this book.

Chapter 10: The Extruded Joint — The Rustic Squeeze

There's a ninth profile you'll see around Texas, mostly on fences, garden walls, and rustic outbuildings, and it deserves an honorable mention because homeowners ask about it: the extruded joint — also called the squeezed or weeping joint. This is what happens when the mason lays the brick, lets the excess mortar squeeze out of the joint, and just leaves it there. No tooling, no striking, no shaping. The mortar blobs out between the bricks and hardens in whatever shape it took.

It looks rustic. On a ranch fence or a garden wall, rustic is the whole point, and an extruded joint looks like it belongs. Nobody's arguing with that.

But as a weather joint, it's the worst of the bunch. Those squeezed-out blobs of mortar catch water from every direction. They create dozens of little pockets and overhangs where water sits. The mortar was never compacted — never touched by a jointer — so it's porous and weak at exactly the points most exposed to weather. Brick manufacturers rate

extruded joints for negligible weathering resistance, the bottom tier, and explicitly do not recommend them for exterior walls.

How does an extruded joint fail? The blobs erode and break off, unevenly. You'll see a fence wall where some joints still have their squeezed-out mortar and others have lost it, leaving ragged gaps. Water gets behind the remaining blobs and works them loose from the inside. It's a fast, ugly failure cycle — which is fine on a fence, where the stakes are low and the look is the point, and terrible on a house.

You'll almost never see extruded joints on a house wall, and if you do, it's usually a mistake or a very deliberate rustic choice. If you're repointing a fence or garden wall with extruded joints, match them — the look is the reason they're there. Just know you're signing up for the shortest-lived joint profile in masonry, and plan the maintenance accordingly. On a house? If a mason suggests extruded joints on your home's walls, get a different mason.

Chapter 11: The Water Ranking — Which Joints Shed and Which Ones Drink

Let's put it all together. After fifty years of watching these profiles age on Texas walls, here's the honest ranking, from best to worst at keeping water out:

Tier 1 — The shedders. Concave and V. Tooled, compacted, no ledges, no pockets. The standards recommend them, the manufacturers rate them for severe weathering, and my own eyes confirm it: these are the joints that go thirty years without drama. If your house has these, the builder did right by you.

Tier 2 — The capable. Weathered and grapevine. Good water behavior from sound geometry and proper tooling, with a specific vulnerability to watch — the upper bond line on weathered, the need for correct mortar on grapevine's historic brick. Well executed, they serve for decades. Poorly executed, they show it sooner than Tier 1 would.

Tier 3 — The compromised. Beaded and struck. The beaded joint's exposure and the struck joint's backward slope both work against the wall from day one. They can last — new

mortar is new mortar — but they're fighting their own geometry, and in Texas weather that fight has a cost measured in years.

Tier 4 — The drinkers. Flush and raked. The flush joint's uncompacted face and the raked joint's water-catching ledge both invite moisture in. Manufacturers don't recommend either for exterior walls. They fail sooner, they fail wetter, and they drag water-related problems — efflorescence, saturation, freeze damage — along with them.

Tier 5 — The rustic. Extruded. Fine for a fence. Not a house joint.

Two things to remember about this ranking. First, it's about the profile's potential, not its guarantee. A perfectly executed raked joint outlasts a sloppily tooled concave — the hands matter as much as the shape, every time. I've seen beautiful raked work that's held up fine for decades on sheltered walls, and I've seen concave joints that failed in ten years because the mason tooled them soupy-wet on a 105-degree August afternoon.

Second, water isn't the only thing that kills joints. Sun, soil movement, sprinklers spraying the wall, mortar mixed

wrong for the brick — all of it matters. But the joint profile is the one factor that was decided before you ever bought the house, it's working for or against you every time it rains, and unlike the soil or the sun, it's something you can actually change when you repoint.

Which brings us to the part where this book saves you money.

Chapter 12: What This Means When You Repoint

Here's where the eight profiles stop being trivia and start being a decision you're going to make with your checkbook. When your mortar needs repointing — and if you own a brick house long enough, it will — the joint profile is one of the three decisions that determine how long the job lasts. The other two are the mortar mix and the depth of the cut. But the profile is the one homeowners never think to ask about, and it's the one where a mason's default choice might not be your best choice.

The default rule: match what's there. When I repoint a wall, my starting position is to re-tool the same profile the wall was built with. The house was designed with those shadow lines and those curves. The neighbors' houses match. The historic character, if there is any, stays intact. Nine times out of ten, matching is the right call, and any mason who changes your joint profile without discussing it with you first has made a decision that wasn't his to make.

The exception: upgrading a Tier 3 or Tier 4 joint. If your

wall has struck, raked, or flush joints on weather-exposed walls, repointing day is your one chance — for the next twenty-five years — to upgrade the wall's water-shedding ability without changing anything else about the house. Switching raked to concave doesn't change the brick, the pattern, or the color. It changes the shape of the lines between the bricks, and it buys you years. I bring this up with every customer who has Tier 3 or Tier 4 joints on exposed walls. Some say keep it original. Some say upgrade. Both are valid — but only if the homeowner knew there was a choice.

What to put in the contract. Whatever you decide, write the profile into the bid. "Repoint front elevation, concave joint profile to match existing." Not "repoint front elevation." The word "match" without a profile name is how you end up with a mason's default — which might be fine, or might be a flush joint troweled flat because it was faster. The profile is a line item. Treat it like one.

The tooling window matters more than the profile name. I said it in Chapter 2 and I'll say it again because it's the most expensive sentence in this book: a joint must be tooled when the mortar is thumbprint hard. Too wet, and the surface is weak. Too dry, and the bond lines never seal. When you're

watching a repointing crew work — and you should watch at least some of it — you're watching for timing. A mason who tools a whole wall at once, racing the set, is not giving your joints the attention the profile demands. A mason who works in sections, tooling each as it reaches the right firmness, is doing it right. You don't need to know masonry to see the difference. You just need to know to look.

Depth of cut still rules. None of this profile talk matters if the mason doesn't cut deep enough. New mortar needs at least a half inch to an inch of depth to bond — deeper on badly deteriorated joints. A beautiful concave profile tooled over a shallow smear of new mortar is lipstick on a failing joint. It'll look perfect for a year and pop off in sheets. When you're interviewing masons, ask about cut depth before you ask about profile. Depth is structure. Profile is the raincoat. You need both. And when you're ready to hire that work out, make sure you're getting real [tuckpointing and repointing](<https://championbrickrepair.com>) from a mason who names the profile in the bid — not a handyman with a trowel and a prayer.

The repointing job done right — deep cut, matched mortar, correct profile, proper tooling — lasts twenty-five to thirty years on standard mortar. The profile you choose is a measurable part of that lifespan. On a weather-exposed wall, the difference between a Tier 1 profile and a Tier 4 profile, all

else equal, can be a decade. That's a decade you're either paying for once or paying for twice. Choose like it matters, because it does.

Chapter 13: Reading Your Own Walls — A Joint Profile Field Guide

Before you call anybody, go read your own walls. You now know more about mortar joint types than ninety percent of homeowners, and fifteen minutes with this chapter will tell you what profiles you're living with and what they're telling you.

Step one: identify the profile. Go outside and look at a joint up close — reading glasses help. Is the joint a smooth inward curve? Concave. A sharp V groove? V-joint. Angled, with the top recessed? Weathered. Angled the other way, top flush and bottom recessed? Struck. Flat and even with the brick? Flush. Scraped back into a deep shadow? Raked. A raised rounded rope standing proud? Beaded. A wavy hand-tooled line? Grapevine. Blobs of mortar squeezed out and left? Extruded.

Check all four sides of the house. It's common to find different profiles in different places — the original builder might have used concave on the walls and something else around a feature, or a previous repair might have repointed one wall in a different profile. Note every change. A wall with

two profiles has had work done, and you want to know which wall and when.

Step two: read the wear. Now that you know the profile, look at how it's aging — and compare what you see against the failure modes in this book. Concave joints receding evenly? Normal aging. V-joints holding a damp line in the groove after rain? Tooling issue. Weathered joints cracking along the top edge? The classic weathered failure. Struck joints crumbling at the lower edge? Geometry doing its thing. Flush joints worn back behind the brick face? Uncompacted surface giving up. Raked joints soft and powdery in the recess, white staining below? Saturation. Beaded joints chipped and ragged? Impact and exposure. You're not diagnosing — you're observing. But an observed wall gets a better bid than a mysterious one.

Step three: the screwdriver test, profile by profile. Drag a flat screwdriver firmly across the joints. On concave and V, sound mortar resists — the tool leaves a mark but the joint holds. On raked joints, test the mortar at the back of the recess, not the brick edges. On beaded joints, don't pry at the bead — test the joint behind it. If the mortar powders, flakes, or scoops out, that joint is failing regardless of its profile. Test

the weather sides — south and west in Texas — and the chimney. Those tell you the wall's worst case.

Step four: note the water story. After the next good rain, walk the walls and look at how each profile handles it. Concave and V should shed clean — the wall dries evenly. Raked joints will stay damp longest — look for dark, slow-drying recesses. Struck joints may show dampness concentrated at the lower edge of each joint. Beaded joints stay wet around the bead. This is your wall demonstrating everything in Chapter 11 in real time. A profile that stays wet for a day after rain is a profile that's working against you, and that's useful information whether you're maintaining or repointing.

Write it all down: profile by elevation, wear patterns, screwdriver results, water behavior. When the mason arrives, hand him the notes. You've just done half his assessment for him, and a homeowner who can say "the west elevation is raked and it's powdering at the back of the recess" gets a straighter bid than one who says "the mortar looks bad." Knowledge is leverage. This book just gave you some.

Chapter 14: Questions Homeowners Ask Me

Can you change the joint profile when you repoint, or do you have to keep what's there? You can change it — it's your wall and your money. The practical constraint is looks: changing the profile changes the wall's appearance, sometimes subtly, sometimes a lot. Going from raked to concave is a visible change up close and nearly invisible from the street. Going from beaded to anything else transforms the wall's character. There's no technical barrier to switching — the cut-out and repointing process is the same regardless of what profile gets tooled at the end. The decision is aesthetic plus the durability trade-off in Chapter 12. Just make sure it's your decision, discussed upfront, not something you discover when the crew is halfway done.

My house has different joint profiles on different walls. Is that normal? It's common, and it usually means one of three things: the original builder varied the profile deliberately (sometimes the front got the fancy joint and the sides got the fast one), a previous owner repointed one wall and the mason used his default profile instead of matching, or an addition was built later by a different crew. It's not a

structural problem. But it tells you the house has a repair history, and it's worth asking the previous owner — or your inspector's report — what was done and when. When you repoint, decide whether to unify the profiles or keep the variation. Unifying to one profile usually looks better and performs more predictably.

Does the joint profile affect what repointing costs?

Somewhat, but it's not the big driver. Concave, V, and flush are the fastest to tool — they're the baseline. Weathered and struck take a little more care with the angle. Raked takes the extra step of raking back to a consistent depth. Beaded and grapevine are the slowest — specialty tools, careful timing, fewer masons who do them well. On a typical repointing job, the profile might move the labor by ten percent or so between the simplest and the fussiest. The big cost drivers are still height, access, how much joint needs cutting, and how deep. Don't let anybody charge you a large premium "because of the joint profile" without explaining exactly what the extra work is. And be wary in the other direction: a bid that's much cheaper than the others sometimes means the mason plans to tool everything flush because it's fast, regardless of what your wall has.

Which profile should I choose for new construction? For a Texas home's exterior walls: concave. It's the standard for a reason — best water shedding, most masons do it well, matches the most existing houses, and it'll still look right in thirty years. V is the legitimate alternative if you want crisper shadow lines. Everything else on an exterior wall is either a deliberate aesthetic choice you're paying a maintenance premium for (raked, beaded), a historic reproduction (grapevine), or a mistake (struck, flush, extruded). Interiors are a different game — no weather, so choose whatever looks good.

How do I know if my mason actually knows joint profiles?

Ask him to name the profile on your walls before you tell him. A mason who walks up, looks at the joints, and says "you've got weathered joints on the front and concave on the sides" knows his trade. A mason who says "uh, they're just regular joints" might still be a decent hand, but he's telling you that profiles aren't something he thinks about — and on a repointing job, the profile is something somebody needs to think about. Follow up by asking what profile he'll tool and why. The answer should reference your wall, your weather exposure, and the existing profile — not just "that's how I always do it."

Will the wrong profile void anything — warranty, insurance, historic status? On a standard home, no — there's no code requirement dictating joint profile on residential repointing, and your homeowner's warranty won't care. The exception is historic properties: if your house is in a historic district or has a preservation easement, the local commission may require matching the original profile, and the National Park Service's preservation guidance on repointing treats matching the original joint profile as part of doing the job right. If there's any chance your house falls under historic rules, check before you repoint, not after. Changing a grapevine joint to concave on a designated historic home can create real problems with the commission.

My joints look fine but they're a different color than the brick — is that a problem? That's not a profile question, that's a mortar question — color comes from the sand and cement, not the shape of the joint. But since you asked: mortar that's a dramatically different color from the original usually means a previous repair used a generic mix without matching. It's cosmetic unless the mismatched mortar is also harder than the brick — then it's structural, and it's urgent. A mason can test the mortar's hardness and tell you which you've got.

A Final Word Before You Call

You've now got something most homeowners never get: the ability to read the lines between your bricks. Those eight profiles aren't trivia — they're the wall's autobiography. They tell you whether the builder was thinking about water or thinking about speed. They tell you how the next twenty years will go. And when it's time to repoint, they give you a real decision to make instead of a default to accept.

The concave joint on most Texas walls is there because fifty years of masons learned what works. Respect that. Match it when you repoint, or upgrade to it deliberately if your wall was built with something lesser. Tool it at the right moment, cut deep enough, use the right mortar — and those little lines will do their quiet job for another thirty years.

Your walls have been talking. Now you speak the language.

If you want to keep learning what your masonry is telling you, my [free brick repair books](<https://metro-foundation-repair.web.app/free-books/>) cover the rest of it — costs, timing, hiring, all of it in the same plain talk. And if you want the engineering side of what I told you about joint profiles, the [Brick Industry Association Technical Notes](<https://www.gobrick.com>) are the documents the

whole trade works from. Worth an evening if you're the curious type.

About the Author

Travis Nech has spent 50 years in Texas brick, masonry, and foundation work. He owns [Champion Brick Repair](<https://championbrickrepair.com>) — (817) 900-6324 — [Metro Foundation Repair](<https://metrofoundationrepair.com>) — (817) 670-4474 — and the [LintelLOCK](<https://lintlerepair.com>) lintel system — (469) 730-0650. All his books are free at [Travis Nech's Free Book Library](<https://metro-foundation-repair.web.app/free-books/>).