BILL'S HOME TECH

Home & Small Business Tech Solutions

An Extended Guide · No. 1529

Snow and Wind Load in Ohio

Engineering a roof mount for Ohio weather

Tech Made Simple — Service Made Personal

BillsHomeTech.com · (330) 200-8042 · Atwater, Ohio

Free & printable — share it with someone who needs it

Book a visit —
billshometech.com/book

! Read this first — this is professional, on-the-roof work

Putting solar on a roof is expert, permitted work — not a weekend project. It means drilling into your roof and sealing every hole against water for decades, or setting heavy ballast your roof has to carry, all while working at a height where a fall can be deadly and around wiring that is live whenever the sun is up. This guide is here to help you understand and judge that work — so you can hire the right people and ask good questions — not to walk you up a ladder to do it yourself. For any roof-mounted system, use a licensed, insured, properly credentialed solar installer, make sure the required permit and inspection actually happen, and protect your roof's warranty before the first hole is drilled. And please don't climb up to inspect or adjust anything yourself — the roof is their job, not yours. In this guide we're looking at how a roof mount is engineered to handle Ohio's snow and wind — and one very real hazard worth knowing about: panels can shed accumulated snow in sheets, so the ground below an array deserves respect too.

Let's talk about Ohio weather and your roof mount

Ohio gives a roof-mounted solar system a real workout every year — real snow, real wind, sometimes both in the same week. This guide explains how a mount is engineered to handle it, in plain English.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. I help older adults and busy families make sense of home technology decisions without the sales pressure or the jargon. Snow and wind engineering is one of those topics that sounds technical but boils down to a few plain ideas worth understanding.

None of this asks you to do any calculating. There are no pounds-per-square-foot or mile-per-hour figures in this guide — those numbers belong to your installer and the local building department. What you need is the plain-English picture.

★ The numbers aren't yours to guess

Your installer and the local building department handle the actual figures for your site. I'm glad to help you understand what they tell you. Call or text me anytime at (330) 200-8042.

The whole guide, on one page

If you remember only these things, you'll understand how your roof mount handles an Ohio winter better than most people who already have solar.

- ❑ Ohio gets real snow and real wind, and a roof-mounted solar system has to be engineered to handle both, not just bolted on and hoped for.
- ❑ Codes require the mount be engineered for the local snow load and wind uplift, based on figures the building department sets for your area.
- ❑ Wind wants to lift a solar array the way it lifts a kite — attachment quantity and spacing are engineered specifically to resist that uplift.
- ❑ Snow presses down and adds real weight — the same attachment plan has to carry that load too.
- ❑ Panels are smooth and can shed snow in sheets all at once — never stand or park directly underneath an array in winter.
- ❑ This is exactly why attachment spacing is engineered by professionals and checked by a permit and inspection, not eyeballed.

> **✔ Read it in any order**
> Skip straight to the snow-shedding hazard, the two-forces section, or the common questions at the end. You won't miss anything you need.

Why "it's just Ohio weather" is actually the whole point

A roof mount doesn't just have to survive installation day — it has to survive winter after winter for as long as it's up there.

Ohio has real seasonal snow and real wind events, sometimes arriving together in the same storm. A roof-mounted solar system has to be built to take that, year after year, without loosening, shifting, or failing.

That's exactly why local codes exist to set snow and wind requirements for your specific area, rather than leaving it to guesswork or a generic, one-size-fits-all mounting plan.

> **✔ A simple way to think about it**
> A roof mount isn't just built for a sunny install day — it's built for the worst storm your area is expected to see, over and over, for decades.

Wind pushes up, snow pushes down

Two very different forces act on a roof-mounted array, and the mount has to answer both at once.

Wind uplift

Wind gets under and around an array and wants to lift it, much like wind catches and lifts a kite. The racking's job is to resist that pull at every single attachment point, not just a few of them.

Snow load

Snow adds real, lasting weight on top of the array, and on the roof itself, through the winter months. The same attachment system that resists wind also has to carry that weight without giving way.

Ice

Ice complicates both problems at once — it adds its own weight on top of snow, and it makes every surface slicker. It's part of what an installer and the local code both account for.

> **! Two different forces, one engineered answer**
> Wind and snow pull in opposite directions, sometimes in the same week. That's exactly why the mount is engineered, never guessed.

What "engineered for local conditions" means in plain English

It's a phrase installers use often. Here's what it actually means for your roof.

- **The local building department sets the figures.** Snow load and wind uplift numbers for your area come from the building department, not from your installer's preference.
- **The racking is calculated to meet them.** How many attachments are used, and how far apart they're spaced, is calculated against those local figures.
- **More attachments generally means more resistance.** The specifics are an engineering calculation, not a rule of thumb you or I could eyeball.
- **It gets reviewed, not just claimed.** This calculation is part of what's checked during the permit process, so it isn't taken on faith.

> **★ A fair question to ask**
> "How did you determine the snow and wind figures for my site?" A good installer will point to the local code and their engineering, not a guess. Questions? (330) 200-8042.

Why spacing is calculated, not eyeballed

Attachment count and spacing look simple from the ground. The math behind them isn't.

It's tempting to think "more screws is just better," but the actual spacing and count come from an engineering calculation tied to your specific site, your roof, and your local snow and wind figures — not a rule of thumb a homeowner, or even a general contractor, should guess at.

This takes someone trained in that engineering and familiar with the local code requirements. It's one more reason this whole job belongs to licensed, insured professionals from the very start.

> **! Never inspect or adjust attachment spacing yourself**
> Please don't climb up to check how the array is attached, or try to add or adjust anything yourself. This is licensed, permitted, professional work, done at a dangerous height, from the very first attachment.

Picture a kite, not a sail

The kite comparison isn't just a figure of speech — it's a genuinely useful way to picture what wind does to a roof-mounted array.

Wind moving across and underneath a roof-mounted array creates lift, the same basic idea as wind catching a kite and pulling it upward. The racking system, and specifically its attachment plan, is designed to hold the array down against that force in the kind of wind Ohio actually sees.

Open, unobstructed sites tend to feel this most — there's less around them to slow the wind down before it reaches the array. That's a real factor your installer accounts for, not an afterthought.

This is also why an array is never just "screwed down somewhere convenient." Every attachment point is part of a calculated plan to keep the whole array from lifting, even in a strong gust.

> **✔ Why more attachments isn't overkill**
> If a proposal calls for more attachment points than you expected, that's usually the engineering responding to your actual site — not the installer padding the job.

The hazard worth knowing: panels shed snow in sheets

This is the one piece of this guide I want every household with roof-mounted panels to remember, every winter.

Panels have smooth, slick surfaces. Snow that accumulates on them can let go all at once and slide off in a sheet, especially as the day warms up or the wind picks up. It can happen with very little warning.

This isn't a defect or a sign anything is wrong with the install — it's simply how a smooth, sloped surface handles accumulated snow. The right response isn't to worry about the array; it's to respect the ground beneath it in winter.

> **! Never stand or park directly below an array in winter**
> Treat the area under a snow-covered array the way you'd treat the edge of a roof with icicles — give it space. A sheet of sliding snow can come down with real force and little warning.

Different seasons, same engineered plan

Wind uplift and snow load aren't separate problems solved separately — they're two demands on the very same attachment plan.

Wind and snow can both matter within the same Ohio year, and sometimes within the same week. The attachment plan an installer proposes has to satisfy both at once — it isn't "engineer for wind, or engineer for snow," it's both together, all the time.

The local building department's review is how that gets confirmed before work ever starts, and inspection afterward confirms it was actually built that way. It's a second set of eyes on a genuinely important calculation.

> ✔ **One more reason permits matter**
> The permit and inspection process is your assurance that this engineering step happened at all, not just that it was promised.

Two kinds of homes, two sets of needs

Snow and wind engineering applies everywhere in Ohio, but site conditions — and how exposed a roof is — can look very different depending on where you live.

If you live in town or the suburbs

In town and the suburbs, homes often have some shelter from wind thanks to neighboring houses and mature trees, though snow load figures still apply the same way regardless of shelter.

- Snow load calculations apply to every roof, sheltered or not — shelter mainly affects wind exposure, not snow weight.
- Roof shape — valleys, additions, dormers — affects how snow drifts and piles unevenly, which an installer accounts for.
- Nearby structures and trees can reduce direct wind exposure, but the engineering still confirms it rather than assuming it.
- A compact lot means the "stay clear when snow could shed" rule matters for walkways, driveways, and parking close to the house.

If you are out in the country on a well

Out in the country, open fields, hilltops, and buildings with nothing around to break the wind can see more direct exposure — and barns and pole buildings are common examples worth extra attention.

- Open, unobstructed rural sites often see more direct wind, which the engineering has to reflect for that specific site.
- Big barn and pole-building roofs can be excellent hosts for solar, but their wind exposure deserves particular attention.
- Keeping power reliable matters even more on a well, which is one more reason not to skimp on this engineering step.
- Outbuildings used for parking or equipment storage deserve the same "stay clear when snow could shed" awareness as the house.

> **★ Wondering how exposed your site really is?**
> Whether it's a suburban roofline or an open barn roof, tell me about your property and we'll think through what to ask your installer. Call (330) 200-8042.

Snow does not fall — or sit — evenly

It's easy to picture snow as a flat blanket. On a real roof, it almost never behaves that way.

Snow can drift and pile unevenly around roof features — valleys, additions, or parapet walls on a flat roof — building up much deeper in some spots than others. A flat, uniform assumption would badly undercount what those spots actually experience.

This is part of what an installer's engineering accounts for, rather than assuming a simple, even layer across the whole roof. It ties directly into whether the roof's own structure can carry the load, which our guide on whether your roof can carry solar covers in more depth.

> **★ Not something to eyeball from the yard**
> Uneven snow buildup is exactly the kind of detail that belongs to your installer's engineering, not a guess from the driveway. Happy to help you think through the questions to ask — (330) 200-8042.

Why an open, windy site gets extra attention

Not every roof experiences the same wind, even under the same regional weather.

Sites with fewer windbreaks — open fields, hilltops, or a barn standing alone — generally see more direct wind than a sheltered in-town roof tucked among trees and other houses. That difference factors into the engineering.

This doesn't rule solar out on an exposed site. It means the attachment plan should reflect the actual site, not a generic plan borrowed from a more sheltered property.

> **✔ There's no such thing as too exposed to check**
> If your property is open or exposed, ask your installer directly how they accounted for that in the plan. A good one will have a clear answer.

A few general patterns, at a glance

A short summary of everything above, worth bookmarking.

Factor	General pattern
Wind uplift	Resisted by attachment count and spacing, calculated to local code.
Snow load	Carried by the same attachment plan, engineered for local figures.
Ice	Adds weight and slickness — part of the same engineering picture.
Open or rural sites	Often see more direct wind exposure — reflected in the plan.

✔ The local building department sets the numbers

This table is the general pattern. The actual figures for your roof come from the local building department and your installer's engineering.

Snow and wind engineering doesn't stand alone

The attachment plan that resists wind and carries snow ultimately rests on — and interacts with — the rest of the roof.

Every one of those engineered loads ultimately transfers into the roof's own structure, which is why our guide on whether your roof can carry solar matters just as much as this one — they're really two halves of the same question.

The same roof also has to keep the clear pathways and setbacks that model fire codes require, which can interact with how attachments and array edges get laid out. Our guide on fire code, setbacks, and roof pathways covers that side of the picture.

> **! One review, many requirements**
> Structural capacity, snow and wind engineering, and fire-code pathways all get checked together during the permit and inspection process — another reason skipping it is never worth it.

What "properly engineered" looks like in practice

You won't verify the calculations yourself, but you can recognize the signs that this step was taken seriously.

- **The plan references local figures.** Tied to snow load and wind uplift numbers from the building department, not a generic template.
- **Attachment count and spacing are documented.** Shown on paperwork, not just described verbally.
- **The permit gets reviewed before work starts.** The local authority checks the plan, not just rubber-stamps it.
- **The installer can explain it plainly.** In your own words, how the plan addresses both wind and snow for your site.
- **Inspection confirms it was actually built that way.** Matching the approved plan, not a different shortcut.

> **★ Where I fit in**
> I help you make sense of an installer's explanation and paperwork — I don't calculate loads myself. That's a call away at (330) 200-8042.

Why the building department gets a say

The snow and wind figures for your site don't come from your installer's opinion — they come from local authority.

The local building department sets the snow-load and wind-uplift figures that apply to your area, and the permit process is how your specific project gets checked against them before anyone starts drilling.

An installer proposing to skip permits "to save time" is a serious red flag on any roof job — and doubly so here, given what is actually at stake structurally if the engineering was never checked.

> **! No permit means no independent check**
> Without a permit, nobody outside the installer ever confirms the snow and wind engineering was done correctly. That's not a risk worth taking on your own roof.

Wind and snow put extra stress on every attachment point

This isn't a one-time test — it's a repeated stress test, every winter, for as long as the system is up there.

Attachments that are properly engineered, flashed, and installed hold up to repeated wind and snow seasons without compromising the roof underneath. Poor workmanship, on the other hand, tends to show up exactly under this kind of repeated seasonal stress.

That's one more reason the roof's material warranty and the installer's workmanship warranty both matter here — ask for the workmanship warranty's length in writing before the first hole is drilled.

> **★ Ask before, not after**
> Getting the warranty question answered in writing up front is exactly the kind of homework I help families do. Our roof-warranty guide digs in further — I'm glad to help you use it. (330) 200-8042.

What good looks like, from the ground

You'll never inspect the attachments yourself, but a few honest signs are visible without ever leaving the yard.

- **A tidy, consistent attachment pattern.** Evenly spaced rows suggest a carefully calculated layout underneath.
- **No rattling or movement in ordinary wind.** A well-secured array should feel and sound solid, not loose.
- **No unusual snow buildup patterns you didn't expect.** Worth mentioning to your installer if something looks off.
- **Paperwork in hand.** Permits, engineering references, and inspection sign-offs, provided without you having to chase them.
- **A clear answer about the snow-shedding hazard.** A good installer mentions it proactively, not only if you ask.

> **✔ Trust your eyes, then trust the paper**
> From the ground, solid and quiet usually means well-engineered. The permit and inspection paperwork is the proof that matters most.

Questions worth asking an installer

You don't need technical answers — you need a clear, confident explanation tied to your actual site.

Q: How did you determine the snow load and wind uplift figures for my site?
A good answer points to the local building department's figures and the installer's engineering — not a guess or a generic template.

Q: How does attachment spacing change for a more exposed or rural site?
Listen for a specific explanation of how your site's exposure was factored in, not a one-size-fits-all answer.

Q: Will the engineering and permit paperwork be available for me to see?
Yes should be the easy answer. A licensed, insured installer has nothing to hide about this paperwork.

Q: What should I know about snow sliding off the array in winter?
Expect a plain warning about staying clear of the area directly below the array when snow could shed, especially as temperatures warm.

> **★ Bring the answers to me**
> If an installer's answers leave you unsure, that's a fine reason to call. I'll help you make sense of what you heard, honestly and with no stake in the sale. (330) 200-8042.

Common Questions

The questions about snow and wind load I hear most often, answered plainly.

Q: Does Ohio really get enough snow and wind for this to matter?
Yes. Ohio sees real seasonal snow and real wind events, which is exactly why codes require the mount be engineered for local conditions rather than a generic assumption.

Q: Can panels really shed snow all at once?
Yes. Panels are smooth and slick, and accumulated snow can let go in a sheet with little warning. Never stand or park directly below an array in winter.

Q: Is a barn or pole-building roof harder to engineer for wind?
Often it needs particular attention, since open rural sites and standalone buildings tend to see more direct wind exposure than a sheltered in-town roof.

Q: Does more attachments always mean a better job?
Not automatically — what matters is that the count and spacing match an actual engineering calculation for your site, not just "more is safer."

Q: Who actually checks that the engineering was followed?
The local building department, through the permit and inspection process — your assurance that the plan wasn't just promised, but verified.

> **★ Still have a question I didn't cover?**
> That's what I'm here for. Call or text me at (330) 200-8042 and ask — there's no such thing as a silly question about your own home.

Bringing it all together

Ohio weather asks real things of a roof mount, and now you know the plain-English version of how it answers.

Wind wants to lift an array like a kite; snow presses down with real weight; ice complicates both. Attachment quantity and spacing are engineered, using figures the local building department sets, to handle all of it together — never guessed, and always checked through the permit and inspection process.

And one hazard is worth remembering every winter: panels are slick and can shed accumulated snow in sheets, so the ground below an array deserves real respect. Understanding all of this helps you hire well and ask good questions — the engineering itself stays with your licensed, insured installer.

> **★ Let's talk through your site together**
> Whether you're just curious or comparing proposals, I'm glad to be your patient, plain-spoken second opinion — no sales pressure, ever. Call or text (330) 200-8042.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

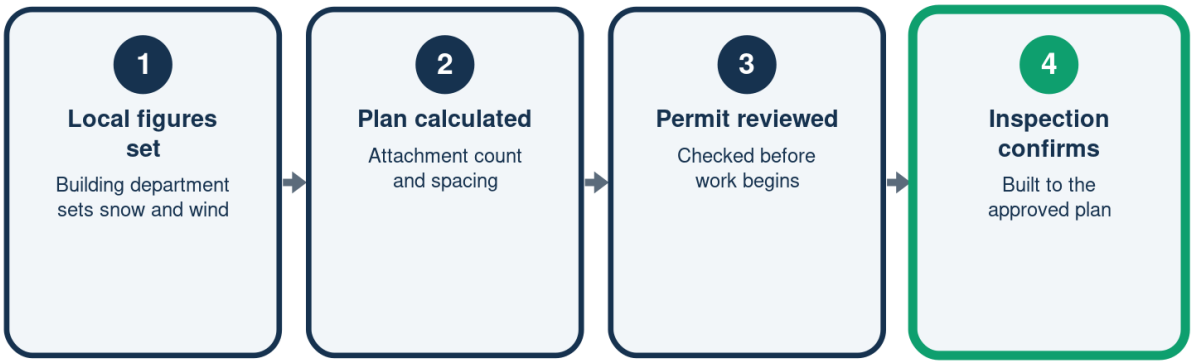
I hope this guide made understanding how your roof mount is engineered for Ohio weather feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat $99, and for the parts that don't need me on-site I can often help right on your screen for $49. Every visit comes with a 30-day, come-back-free guarantee. I don't climb on roofs or do the licensed solar, roofing, or electrical work myself — for that I'll help you line up a trustworthy, properly credentialed local pro.

> **★ Bill's Home Tech — real help, close to home**
> Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

How a Roof Mount Gets Engineered for Ohio Weather

From local numbers to an inspected install



Every step ties back to the same local numbers.

Two Forces, One Attachment Plan

Wind and snow pull in opposite directions

	What it does	What resists it
Wind uplift	Lifts like a kite	Engineered spacing
Snow load	Presses down	Same spacing plan
Ice	Adds weight, slick	Part of the plan

Local figures come from the building department -- not a guess.

Where Wind Exposure Runs Highest

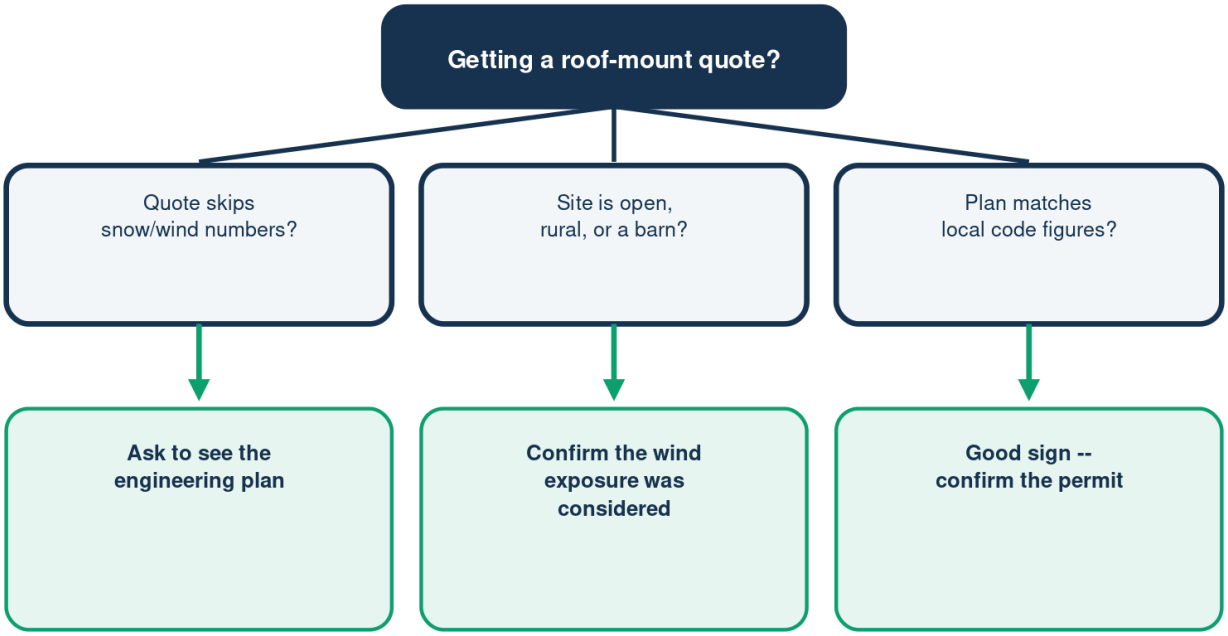
Site conditions your installer accounts for

	Wind exposure
In town, sheltered	Often lower
Open rural sites	Often higher
Barns, pole buildings	Often higher

Either way, the plan is engineered for your actual site.

Is Your Site's Snow and Wind Exposure Covered?

Three honest checks before you sign



When in doubt, ask to see the engineering before you sign anything.

Illustration - a schematic, not to scale. Your setup may differ.

BILL'S HOME TECH

Home & Small Business Tech Solutions

Need a Real Person?

You do not have to remember all of it.
You just have to remember you can call.
Friendly, in-home tech help -- I come to you.

BILL'S PROMISE

If you are not 100% happy with a visit, I will make it right -- or refund it. No awkwardness, no fine print. That is how I would want to be treated.

(330) 200-8042 · BillsHomeTech.com

Bill@BillsHomeTech.com · Mon–Sat 9:00 AM – 7:30 PM

— Bill

Prefer help without a visit?

Bill can screen-share and fix many things remotely — a flat $49, free for Support Plan members.

BILL'S HOME TECH
Home & Small Business Tech Solutions

A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

— Bill

Book a visit —
billshometech.com/book

(330) 200-8042 · BillsHomeTech.com
Bill@BillsHomeTech.com · Mon–Sat 9:00 AM – 7:30 PM