- **Identifying Common Issues and Symptoms of residential foundations**
  Identifying Common Issues and Symptoms of residential foundations Spotting Early Warning Signs of Foundation Stress Recognizing Cracks and Shifts in Concrete Floors Understanding Sticky Doors and Window Alignment Pinpointing Sinking Spots around the Foundation Perimeter Tracking Water Intrusion as a Contributor to Structural Damage How Uneven Floors Reveal Deeper Foundation Concerns Identifying Subtle Changes in Exterior Walls When Hairline Drywall Cracks Indicate Movement Monitoring Seasonal Soil Movement for Foundation Clues Evaluating Soil Erosion and Its Impact on Stability Noting Shifting Porches and Deck Attachments Examining Sloping Floors for Underlying Settlement
- **Soil and Environmental Factors influencing home foundations**
  Soil and Environmental Factors influencing home foundations Examining Expansive Clay in Residential Areas Understanding Sandy Loam and Drainage Properties Measuring Soil Moisture for Stabilizing Foundations Impact of Freeze Thaw Cycles on Concrete Slabs Recognizing Erosion Patterns that Undermine Support Coordinating Landscaping to Control Soil Shifts Evaluating Groundwater Levels for Long Term Stability Identifying Seasonal Soil Movement in Coastal Regions Reviewing Impact of Tree Roots on Foundation Integrity Forecasting Effects of Prolonged Drought on Soil Behavior Managing Flood Risk through Strategic Elevation Observing Climate Trends for Anticipating Soil Swell
- **About Us**

*** Understanding the Relationship Between Climate Change, Soil Moisture, and Foundation Damage**

Okay, so you're looking at how climate change messes with the ground under our houses, right? Extreme weather conditions can weaken a foundation over time foundation repair service near me property. It's a tricky thing, but basically, climate change is throwing a curveball at soil moisture levels, and that's having a direct impact on whether your foundation stays put or starts cracking.

Think about it. We're seeing more extreme weather events. Hotter, longer droughts parch the soil, sucking out all the moisture. Then, boom, you get these intense bursts of rainfall that saturate the ground. This constant yo-yoing between bone-dry and soaking wet is really hard on the soil. Specifically, some soils, especially those with a lot of clay, are really sensitive to moisture changes. When they dry out, they shrink. When they get wet, they swell.

Now, your house is sitting on that soil. So when the soil shrinks, it can pull away from the foundation, leaving it unsupported. Conversely, when it swells, it can push against the foundation, creating pressure that leads to cracks, shifts, and all sorts of expensive problems.

Observing climate trends is key here. We need to understand how temperature and rainfall patterns are changing in specific regions. Are we seeing more prolonged droughts followed by heavier downpours? That's a red flag for foundation damage. Are average temperatures steadily rising, leading to increased evaporation and drier soil conditions? Another warning sign. By tracking these climate trends, we can anticipate where soil swell and shrink are likely to cause problems and take proactive measures, whether it's improving drainage around a house, choosing different foundation designs for new construction, or even considering soil stabilization techniques. It's all about being prepared for the ground to move beneath our feet, literally.

*** Identifying Key Climate Trends Affecting Soil Swell Potential in Specific Regions**

Okay, so you're thinking about soil swell, right? That's that sneaky thing where earth expands and contracts based on how much water's around, and it can wreak havoc on foundations and infrastructure. And we're talking about figuring out how climate change is going to mess with it. Makes perfect sense.

The key is to really dig into the specific climate trends happening in different areas. It's not a one-size-fits-all situation. For example, the American Southwest might be seeing longer, more intense droughts punctuated by short, brutal bursts of rainfall. That's going to affect soil moisture in a completely different way than, say, the Midwest, which might be experiencing more consistent, heavier rainfall overall.

What we're looking for are patterns. Are temperatures generally increasing, leading to greater evaporation and drier soils for longer periods? Are rainfall patterns shifting, causing more intense wet-dry cycles? Are there more frequent extreme weather events, like flooding or prolonged heatwaves, that drastically alter soil moisture content? Tracking these changes over time, using long-term climate

data and localized weather records, is absolutely essential.

Then, you've got to tie those climate trends directly to soil swell potential. This means understanding the type of soil you're dealing with. Clay-rich soils, for example, are much more prone to swelling than sandy soils. So, knowing the soil composition of a region combined with the climate trend allows you to better predict where and how severely soil swell problems might arise.

Basically, it's about becoming a climate detective, noticing the clues the environment is giving us, and connecting those clues to the specific risks associated with soil swell in a particular place. It's about observation, analysis, and ultimately, informed predictions that can help us build more resilient infrastructure in a changing world.

*** Recognizing Soil Types Most Susceptible to Swelling and Contraction Due to Climate Variability**

Okay, so we're talking about soil, climate change, and the headache of swelling and shrinking. Think of it this way: soil isn't just dirt. It's a complex system, and some soils are way more sensitive to the weather's mood swings than others. When we talk about "climate variability," we mean those unpredictable shifts – longer droughts followed by intense rains, warmer winters, hotter summers. These changes really mess with certain types of soil.

The big offenders are often clay-rich soils. Imagine them like sponges. They soak up a lot of water when it's wet, expanding significantly. Then, when things dry out, they lose that water and shrink dramatically. This swelling and shrinking puts tremendous stress on anything built on top of them – foundations crack, roads buckle, pipelines break. It's a costly problem.

So, which soils are the most vulnerable? We're looking at soils with a high percentage of "expansive clays," like montmorillonite. These clays have a layered structure that allows water to easily slip in between the layers, causing significant volume changes. You'll find these kinds of soils in places with distinct wet and dry seasons. Knowing where these soils are located is the first step.

But it's not just about the type of clay. Things like drainage and vegetation also play a role. Poorly drained soils stay wetter for longer, amplifying the swelling. A lack of vegetation means the soil is more exposed to the elements, increasing the rate of moisture loss during dry periods.

Observing climate trends is key. Are we seeing more extreme rainfall events? Are droughts becoming more frequent and severe? This information, combined with soil maps and knowledge of local conditions, allows us to anticipate where the worst problems are likely to occur. It's about being proactive and understanding how a changing climate is directly impacting the ground beneath our feet. Identifying those susceptible soil types and connecting that to observable climate data empowers us to plan better, build smarter, and minimize the damage caused by this constant swelling and shrinking act of nature.

*** Analyzing Historical Foundation Damage Data in Relation to Past Climate Patterns**

Okay, let's talk about how old houses crumbling can actually tell us something important about climate change. I mean, think about it: we're not just talking about some leaky faucet or a bit of peeling paint. We're talking about foundations – the literal base of buildings – cracking, shifting, and sometimes failing altogether. And a lot of the time, that's because the soil underneath is expanding and contracting like some kind of subterranean lung.

Now, soil swell, as the fancy scientists call it, isn't random. It's directly tied to moisture levels. More rain, more swell. Less rain, less swell, maybe even shrinkage. So, if we dig into historical records of foundation damage – insurance claims, building inspection reports, even old newspaper articles talking about collapsing porches – and then cross-reference that data with past climate records, we can start to paint a picture. We can look for patterns. Did a surge in foundation cracks follow a period of intense rainfall? Did drier-than-normal years lead to different types of damage?

This isn't just about fixing old houses, though. The real value is in using the past to predict the future. If we can see how changes in rainfall patterns have affected soil stability in the past, we can start to anticipate how future climate trends – more intense storms, longer droughts – might impact our buildings and infrastructure. It gives us a heads-up, so we can build smarter, reinforce existing structures, and ultimately, be better prepared for the challenges that a changing climate is throwing our way. In essence, the cracks in our foundations become a kind of early warning system, whispering secrets about the planet's future.

*** Utilizing Climate Projections to Forecast Future Soil Swell Risks for Homeowners**

Okay, so we're thinking about how climate change is going to mess with our homes, specifically through soil swell. And that's a big deal because swelling soil can crack foundations, warp floors, and generally make life pretty miserable for homeowners.

Think about it: soil swell happens when certain types of clay soil get wet. They soak up the water like a sponge and expand. Then, when things dry out, they shrink back down. This constant expansion and contraction puts a ton of pressure on anything built on top of it.

Now, climate change is throwing a wrench into the whole equation. We're seeing changes in rainfall patterns. Some areas are getting wetter, some drier, and others are experiencing more extreme swings between the two. This means the soil is going through even more dramatic cycles of wetting and drying.

That's where climate projections come in. Scientists are using models to predict how rainfall and temperature will change in the future. By looking at these projections, we can get a better idea of which areas are likely to see increased soil swell risks. Maybe a region that used to have fairly consistent rainfall will start experiencing prolonged droughts followed by intense storms. That's a recipe for serious soil problems.

For homeowners, this kind of information is invaluable. If you're buying a house in an area predicted to have increased soil swell risk, you might want to get a more thorough foundation inspection. You might also consider landscaping that helps with drainage or even structural modifications to your home. It's all about being proactive and understanding the risks so you can protect your investment – your home. Ignoring those climate trends might mean expensive repairs down the line, so paying

attention now can really save you a lot of headache and money in the long run.

*** Implementing Preventative Measures and Early Detection Strategies for Foundation Problems**

Okay, so we're looking at climate trends, right? And how those trends might be messing with the ground under our houses, specifically soil swell. Nobody wants their foundation cracking or shifting because the weather's gone wonky. So, what can we actually *do* about it?

Well, first off, let's talk prevention. Think of it like a good diet for your foundation. Proper drainage is HUGE. Make sure rainwater is flowing *away* from your house. Gutters should be clean, downspouts should extend far enough, and the ground around your foundation should slope away, not towards, the building. It's basic, but it's often overlooked. We're basically trying to avoid having the soil around the foundation becoming a waterlogged sponge that expands and pushes against the concrete.

Then there's managing the moisture content of the soil itself. Some people install root barriers to stop tree roots from sucking up all the moisture near the foundation, which can also lead to soil movement. Others use irrigation systems to maintain a more consistent moisture level, especially in areas prone to drought. It sounds counterintuitive to add water when we're worried about swell, but consistent moisture is better than dramatic swings.

Early detection is key, too. It's like checking yourself for lumps – you'd rather find something small early than let it grow into a bigger problem. Regularly inspect your foundation for cracks, especially after periods of heavy rain or drought. Pay attention to doors and windows that start sticking or not closing properly. Look for signs of sloping floors or walls. These can all be red flags that something's going on underground.

It's not about being a construction expert – just being observant. If you see something that doesn't look right, call in a professional engineer or foundation specialist. They can assess the situation, determine the cause, and recommend appropriate repairs before things get really expensive and disruptive.

Ultimately, anticipating soil swell in a changing climate means being proactive. We need to understand the local climate trends, implement preventative measures to manage soil moisture, and be vigilant about early detection. It's an investment in the long-term health of our homes, and honestly, a whole lot cheaper than dealing with a major foundation repair down the road. Makes sense, right?

*** How Residential Foundation Repair Services Can Adapt to Climate-Driven Soil Changes**

Okay, so climate change, right? We hear about it impacting everything from polar bears to politics. But let's bring it home, literally. Think about your house, sitting there, sturdy and dependable. Except, what if the ground beneath it starts shifting? That's where climate-driven soil changes come in, and it's a bigger deal than most people realize.

We're not just talking about slightly wetter springs. We're talking about prolonged droughts followed by intense deluges. This wild fluctuation messes with the soil's moisture content. Think of it like a sponge.

When it's dry, it shrinks. Soak it, and it expands. Soil does the same thing, and when it's right under your foundation, that swelling and shrinking can cause serious problems.

Residential foundation repair services, the folks who keep our houses from crumbling, they need to be paying attention. They can't just use the same old techniques they've always used. They need to be observing climate trends in their specific areas. Are summers getting hotter and drier? Are winters bringing more intense rainfall? This data informs everything.

Knowing these trends allows them to anticipate soil swell. Maybe they need to recommend deeper foundation supports in areas prone to drought, or better drainage systems in areas expecting more frequent floods. Perhaps they'll start using more moisture-resistant materials in their repairs. The point is, adaptation is key.

It's not just about fixing cracks after they appear. It's about proactively mitigating the risk based on what climate science is telling us. It's about understanding that the ground beneath our homes is becoming less predictable, and that foundation repair services need to evolve to keep up. It's about keeping our homes safe and sound, even as the climate throws us curveballs. It's a challenge, sure, but one that we can meet with a little foresight and a lot of careful observation.

*** The Importance of Climate-Informed Assessments in Foundation Repair and Maintenance**

Okay, so we're talking about foundations, right? The things that literally hold our houses up. We often think about foundation repair as something you deal with *after* you see cracks or doors start sticking. But what if we could see those problems coming? That's where understanding the climate, and specifically how climate trends affect the soil around your house, becomes seriously important.

Think about it: soil expands and contracts based on how much moisture it's holding. We've always known that. But now, with climate change, we're seeing more extreme weather events. Longer droughts followed by intense rainfall. These aren't just minor fluctuations; they're significant shifts that can put a *lot* of stress on your foundation. A foundation that's used to gradual seasonal changes might not be able to handle these rapid cycles of swelling and shrinking soil.

By paying attention to these climate trends – observing how rainfall patterns are changing in your area, tracking temperature fluctuations, and even looking at long-term predictions – you can get a much better handle on the potential risks to your foundation. This isn't just about being a worried homeowner; it's about smart, proactive maintenance.

Climate-informed assessments allow foundation specialists to do a better job. They can anticipate potential problems based on the expected soil behavior. Maybe it means adjusting drainage around the house, reinforcing certain areas, or even choosing different building materials in the first place.

Ignoring these trends is like ignoring a weather forecast when you're planning a picnic. You might get lucky, but you're much more likely to end up with a soggy sandwich and a ruined afternoon. In the same way, ignoring climate trends when it comes to your foundation is a gamble. A gamble that could end up costing you a whole lot more in the long run. So, paying attention to the climate might just be the smartest thing you can do to keep your house standing strong for years to come.

Facebook about us:

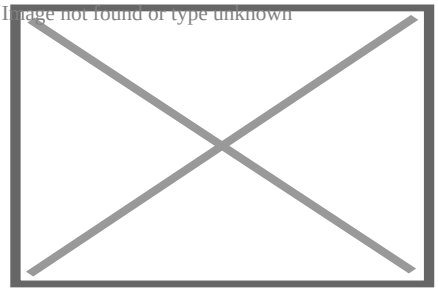
Residential Foundation Repair Services

Strong Foundations, Strong Homes

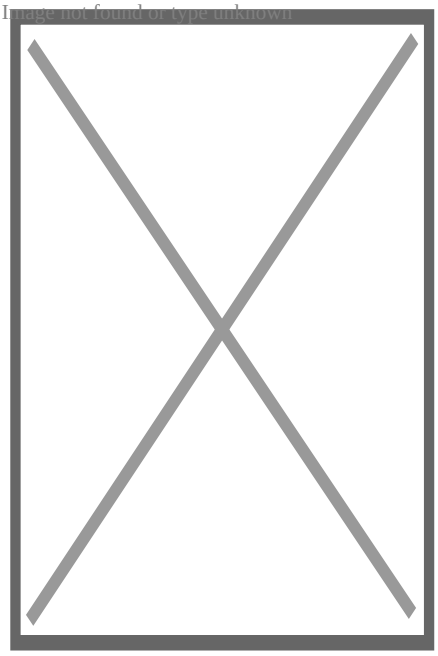
About home repair

For the novel by Liz Rosenberg, see Home Repair (novel).
For other uses of "repair", see Maintenance.

This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.
Find sources: "Home repair" – news · newspapers · books · scholar · JSTOR *(January 2017) (Learn how and when to remove this message)*



A mobile home being repaired in Oklahoma



A person making these repairs to a house after a flood

Home repair involves the diagnosis and resolution of problems in a home, and is related to home maintenance to avoid such problems. Many types of repairs are "do it yourself" (DIY) projects, while others may be so complicated, time-consuming or risky as to require the assistance of a qualified handyperson, property manager, contractor/builder, or other professionals.

Home repair is not the same as renovation, although many improvements can result from repairs or maintenance. Often the costs of larger repairs will justify the alternative of investment in full-scale improvements. It may make just as much sense to upgrade a home system (with an improved one) as to repair it or incur ever-more-frequent and expensive maintenance for an inefficient, obsolete or dying system.

Worn, consumed, dull, dirty, clogged

[edit]

Repairs often mean simple replacement of worn or used components intended to be periodically renewed by a home-owner, such as burnt out light bulbs, worn out batteries, or overfilled vacuum cleaner bags. Another class of home repairs relates to restoring something to a useful condition, such as sharpening tools or utensils, replacing leaky faucet washers, cleaning out plumbing traps, rain gutters. Because of the required precision, specialized tools, or hazards, some of these are best left to experts such as a plumber. One emergency repair that may be necessary in this area is overflowing toilets. Most of them have a shut-off valve on a pipe beneath or behind them so that the water supply can be turned off while repairs are made, either by removing a clog or repairing a broken mechanism.

Broken or damaged

[edit]

Perhaps the most perplexing repairs facing a home-owner are broken or damaged things. In today's era of built-in obsolescence for many products, it is often more convenient to replace something rather than attempt to repair it. A repair person is faced with the tasks of accurately identifying the problem, then finding the materials, supplies, tools and skills necessary to sufficiently effect the repair. Some things, such as broken windows, appliances or furniture can be carried to a repair shop, but there are many repairs that can be performed easily enough, such as patching holes in plaster and drywall, cleaning stains, repairing cracked windows and their screens, or replacing a broken electrical switch or outlet. Other repairs may have some urgency, such as broken water pipes, broken doors, latches or windows, or a leaky roof or water tank, and this factor can certainly justify calling for professional help. A home handyperson may become adept at dealing with such immediate repairs, to avoid further damage or loss, until a professional can be summoned.

Emergency repairs

[edit]

Emergencies can happen at any time, so it is important to know how to quickly and efficiently fix the problem. From natural disasters, power loss, appliance failure and no water, emergency repairs tend to be one of the most important repairs to be comfortable and confident with. In

most cases, the repairs are DIY or fixable with whatever is around the house. Common repairs would be fixing a leak, broken window, flooding, frozen pipes or clogged toilet. Each problem can have a relatively simple fix, a leaky roof and broken window can be patched, a flood can be pumped out, pipes can be thawed and repaired and toilets can be unclogged with a chemical. For the most part, emergency repairs are not permanent. They are what you can do fast to stop the problem then have a professional come in to permanently fix it.[1] Flooding as a result of frozen pipes, clogged toilets or a leaky roof can result in very costly water damage repairs and even potential health issues resulting from mold growth if not addressed in a timely manner.

Maintenance

[edit]

Periodic maintenance also falls under the general class of home repairs. These are inspections, adjustments, cleaning, or replacements that should be done regularly to ensure proper functioning of all the systems in a house, and to avoid costly emergencies. Examples include annual testing and adjustment of alarm systems, central heating or cooling systems (electrodes, thermocouples, and fuel filters), replacement of water treatment components or air-handling filters, purging of heating radiators and water tanks, defrosting a freezer, vacuum refrigerator coils, refilling dry floor-drain traps with water, cleaning out rain gutters, down spouts and drains, touching up worn house paint and weather seals, and cleaning accumulated creosote out of chimney flues, which may be best left to a chimney sweep.

Examples of less frequent home maintenance that should be regularly forecast and budgeted include repainting or staining outdoor wood or metal, repainting masonry, waterproofing masonry, cleaning out septic systems, replacing sacrificial electrodes in water heaters, replacing old washing machine hoses (preferably with stainless steel hoses less likely to burst and cause a flood), and other home improvements such as replacement of obsolete or ageing systems with limited useful lifetimes (water heaters, wood stoves, pumps, and asphaltic or wooden roof shingles and siding.

Often on the bottom of people's to-do list is home maintenance chores, such as landscaping, window and gutter cleaning, power washing the siding and hard-scape, etc. However, these maintenance chores pay for themselves over time. Often, injury could occur when operating heavy machinery or when climbing on ladders or roofs around your home, so if an individual is not in the proper physical condition to accomplish these chores, then they should consult a professional. Lack of maintenance will cost more due to higher costs associated with repairs or replacements to be made later. It requires discipline and learning aptitude to repair and maintain the home in good condition, but it is a satisfying experience to perform even seemingly minor repairs.

Good operations

[edit]

Another related issue for avoiding costly repairs (or disasters) is the proper operation of a home, including systems and appliances, in a way that prevents damage or prolongs their usefulness. For example, at higher latitudes, even a clean rain gutter can suddenly build up an ice dam in winter, forcing melt water into unprotected roofing, resulting in leaks or even flooding inside walls or rooms. This can be prevented by installing moisture barrier beneath the roofing tiles. A wary home-owner should be alert to the conditions that can result in larger problems and take remedial action before damage or injury occurs. It may be easier to tack down a bit of worn carpet than repair a large patch damaged by prolonged misuse. Another example is to seek out the source of unusual noises or smells when mechanical, electrical or plumbing systems are operating—sometimes they indicate incipient problems. One should avoid overloading or otherwise misusing systems, and a recurring overload may indicate time for an upgrade.

Water infiltration is one of the most insidious sources of home damage. Small leaks can lead to water stains, and rotting wood. Soft, rotten wood is an inviting target for termites and other wood-damaging insects. Left unattended, a small leak can lead to significant structural damage, necessitating the replacement of beams and framing.

With a useful selection of tools, typical materials and supplies on hand, and some home repair information or experience, a home-owner or handyperson should be able to carry out a large number of DIY home repairs and identify those that will need the specialized attention of others.

Remediation of environmental problems

[edit]

When a home is sold, inspections are performed that may reveal environmental hazards such as radon gas in the basement or water supply or friable asbestos materials (both of which can cause lung cancer), peeling or disturbed lead paint (a risk to children and pregnant women), in-ground heating oil tanks that may contaminate ground water, or mold that can cause problems for those with asthma or allergies. Typically the buyer or mortgage lender will require these conditions to be repaired before allowing the purchase to close. An entire industry of environmental remediation contractors has developed to help home owners resolve these types of problems.

See also

[edit]

- Image not found or type unknown Housing portal
- Electrical wiring
- Handyperson

- Housekeeping
- Home improvement
- Home wiring
- HVAC
- Maintenance, repair, and operations
- Plumbing
- Right to repair
- Smoke alarm
- Winterization

References

[edit]

1. ^ *Reader's Digest New Complete Do-it-yourself Manual. Montreal, Canada: Reader's Digest Association. 1991. pp. 9–13. ISBN 9780888501783. OCLC 1008853527.*

- v
- t
- e

Rooms and spaces of a house

Shared rooms

- Bonus room
- Common room
- Den
- Dining room
- Family room
- Garret
- Great room
- Home cinema
- Kitchen
  - dirty kitchen
  - kitchenette
- Living room
- Gynaeceum
  - harem
- Andron
  - man cave
- Recreation room
  - billiard room
- Shrine
- Study
- Sunroom

Private rooms

- Bathroom
  - toilet
- Bedroom / Guest room
  - closet
- Bedsit / Miniflat
- Boudoir
- Cabinet
- Nursery

Spaces

- Atrium
- Balcony
- Breezeway
- Conversation pit
- Cubby-hole
- Deck
- Elevator
  - dumbwaiter
- Entryway/Genkan
- Fireplace
  - hearth
- Foyer
- Hall
- Hallway
- Inglenook
- Lanai
- Loft
- Loggia
- Overhang
- Patio
- Porch
  - screened
  - sleeping
- Ramp
- Secret passage
- Stairs/Staircase
- Terrace
- Veranda
- Vestibule

Technical, utility and storage	○ Attic ○ Basement ○ Carport ○ Cloakroom ○ Closet ○ Crawl space ○ Electrical room ○ Equipment room ○ Furnace room / Boiler room ○ Garage ○ Janitorial closet ○ Larder ○ Laundry room / Utility room / Storage room ○ Mechanical room / floor ○ Pantry ○ Root cellar ○ Semi-basement ○ Storm cellar / Safe room ○ Studio ○ Wardrobe ○ Wine cellar ○ Wiring closet ○ Workshop

Great house areas

- Antechamber
- Ballroom
- Kitchen-related
  - butler's pantry
  - buttery
  - saucery
  - scullery
  - spicery
  - still room
- Conservatory / Orangery
- Courtyard
- Drawing room
- Great chamber
- Great hall
- Library
- Long gallery
- Lumber room
- Parlour
- Sauna
- Servants' hall
- Servants' quarters
- Smoking room
- Solar
- State room
- Swimming pool
- Turret
- Undercroft

Other

- Furniture
- Hidden room
- House
  - house plan
  - styles
  - types
- Multi-family residential
- Secondary suite
- Duplex
- Terraced
- Detached
- Semi-detached
- Townhouse
- Studio apartment

Architectural elements	○ Arch
	○ Balconet
	○ Baluster
	○ Belt course
	○ Bressummer
	○ Ceiling
	○ Chimney
	○ Colonnade / Portico
	○ Column
	○ Cornice / Eaves
	○ Dome
	○ Door
	○ Ell
	○ Floor
	○ Foundation
	○ Gable
	○ Gate
	  ○ Portal
	○ Lighting
	○ Ornament
	○ Plumbing
	○ Quoins
	○ Roof
	  ○ shingles
	○ Roof lantern
	○ Sill plate
	○ Style
	  ○ list
	○ Skylight
	○ Threshold
	○ Transom
	○ Vault
	○ Wall
	○ Window

Related

- Backyard
- Driveway
- Front yard
- Garden
  - roof garden
- Home
- Home improvement
- Home repair
- Shed
- Tree house

- Image not found or type unknown Category: Rooms

About radon mitigation

Image not found or type unknown

This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.
Find sources: "Radon mitigation" – news · newspapers · books · scholar · JSTOR *(March 2015) (Learn how and when to remove this message)*

Globe icon
Image not found or type unknown

The examples and perspective in this article **deal primarily with North America and do not represent a worldwide view of the subject**. You may improve this article, discuss the issue on the talk page, or create a new article, as appropriate. *(June 2019) (Learn how and when to remove this message)*

Image not found or type unknown

This article **may be too technical for most readers to understand**. Please help improve it to make it understandable to non-experts, without removing the technical details. *(November 2021) (Learn how and when to remove this message)*

Image not found or type unknown

This article has multiple issues. Please help **improve it** or discuss these issues on the **talk page**. *(Learn how and when to remove these messages)*

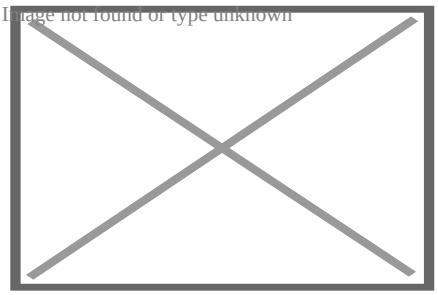
(Learn how and when to remove this message)

Radon mitigation is any process used to reduce radon gas concentrations in the breathing zones of occupied buildings, or radon from water supplies. Radon is a significant contributor to environmental radioactivity and indoor air pollution. Exposure to radon can cause serious health problems such as lung cancer.[1]

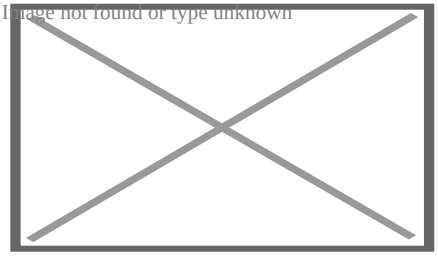
Mitigation of radon in the air by active soil depressurization is most effective. Concrete slabs, sub-floors, and/or crawlspaces are sealed, an air pathway is then created to exhaust radon above the roof-line, and a radon mitigation fan is installed to run permanently. In particularly troublesome dwellings, air exchangers can be used to reduce indoor radon concentrations. Treatment systems using aeration or activated charcoal are available to remove radon from domestic water supplies. There is no proven link between radon in water and gastrointestinal cancers; however, extremely high radon concentrations in water can be aerosolized by faucets and shower heads and contribute to high indoor radon levels in the air.

Testing

[edit]



A typical radon test kit



Fluctuation of ambient air radon concentration over one week, measured in a laboratory

The first step in mitigation is testing. No level of radiation is considered completely safe, but as it cannot be eliminated, governments around the world have set various *action levels* to provide guidance on when radon concentrations should be reduced. The World Health Organization's International Radon Project has recommended an action level of 100 Bq/m^3 (2.7 pCi/L) for radon in the air.[2] Radon in the air is considered to be a larger health threat than radon in domestic water. The US Environmental Protection Agency recommendation is to not test for radon in water unless a radon in air test shows concentrations above the action level. However, in some U.S. states such as Maine where radon levels are higher than the national average, it is recommend that all well water should be tested for radon. The U.S. government has not set an action level for radon in water.

Air-radon levels fluctuate naturally on a daily and seasonal basis. A short term test (90 days or less) might not be an accurate assessment of a home's average radon level, but is

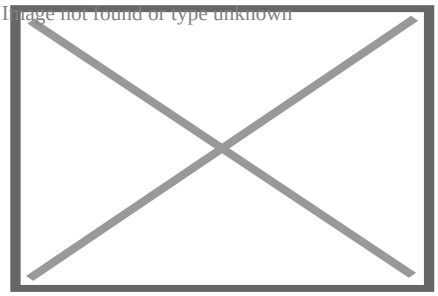
recommended for initial testing to quickly determine unhealthy conditions. Transient weather such as wind and changes in barometric pressure can affect short-term concentrations as well as ventilation, such as open windows and the operation of exhaust fans.

Testing for radon in the air is accomplished using passive or active devices placed in the building. Some devices are promptly sent to a laboratory for analysis, others calculate the results on-site including digital Radon detectors. Radon-in-water testing requires a water sample being sent to a laboratory.

Retesting is recommended in several situations, for example, before spending money on the installation of a mitigation system. Test results which exceed accuracy tolerances also require re-testing. When a mitigation system installation is warranted, a retest after the system is functional is advised to be sure the system is effectively reducing the radon concentration below the action level, and after any mitigation system repairs such as replacing a fan unit. The US EPA recommends retesting homes with radon problems every two years to ensure proper system function. Due to the vast fluctuation in indoor radon levels, the EPA recommends all homes be tested at least once every five years.[3]

Testing in the United States

[edit]



Radon map of the United States

ASTM E-2121 is a US standard for reducing airborne radon in homes as far as practicable below the action level of 4 picocuries per liter (pCi/L) (148 Bq/m^3).[4][5] Some states recommend achieving 2.0 pCi/L or less.

Radon test kits are commercially available[6] and can be used by homeowners and tenants and in limited cases by landlords, except when a property is for sale.

Commercially available test kits include a passive collector that the user places in the lowest livable floor of the house for 2 to 7 days. The user then sends the collector to a laboratory for analysis. Long-term kits, taking collections from 91 days to one year, are also available. Open land test kits can test radon emissions from the land before construction begins, but are not

recommended by the EPA because they do not accurately predict the final indoor radon level. The EPA and the National Environmental Health Association have identified 15 types of radon test devices.[7] A Lucas cell is one type of device.

Retesting is specifically recommended in several situations. Measurements between 4 and 10 pCi/L (148 and 370 Bq/m^3) warrant a follow-up short-term or long-term radon test before mitigation. Measurements over 10 pCi/L (370 Bq/m^3) warrant only another short-term test (not a long-term test) so that abatement measures are not unduly delayed.

Progress has been made regarding radon in the home. A total of 37 states have now[*when?*] passed legislation requiring home-sellers to disclose known radon levels before completing the transaction (although only a handful have introduced criminal penalties for misrepresentation).[8] And over half the legislatures have written radon into their state's building code.[9] Purchasers of real estate may delay or decline a purchase if the seller has not successfully abated radon to less than 4 pCi/L.

The accuracy of the residential radon test depends upon whether closed house conditions are maintained. Thus the occupants will be instructed not to open windows, etc., for ventilation during the pendency of test, usually two days or more. However, the occupants, if the present owners, will be motivated to pass the test and insure the sale, so they might be tempted to open a window to get a lower radon score. Moreover, there may be children or immature teens or young adults in the house who will open a window for ventilation notwithstanding instructions not to do so, particularly in uncomfortably hot weather. Accordingly, whether the potential purchaser should trust the result of such a test is problematic.

Management of radon service provider certification has evolved since being introduced by the EPA in 1986. In the 1990s this service was "privatized" and the National Environmental Health Association (NEHA) helped transition the voluntary National Radon Proficiency Program (NRPP) to be administered by private firms. As of 2012, the NRPP is administered by the American Association of Radon Scientists and Technologists (AARST).[10]

Some states, such as Maine, require landlords to test their rental properties and turn the results in to the state. In limited cases the landlord or tenants may do the testing themselves. The rules in each state vary. In many cases there are private contractors that will inspect hired by the city.

Testing in Canada

[edit]

Health Canada recommends regular annual testing, either by hiring a qualified tester or by using a home-testing kit that should be checked quarterly.[11]

Canadian Government, in conjunction with the territories and provinces, developed the guideline[12] to indicate when remedial action should be taken was originally set at 800 Bq/m^3 (becquerels per cubic meter) and since reduced to 200 Bq/m^3. This new guideline was approved by the Federal Provincial Territorial Radiation Protection Committee in October 2006.[13]

Testing in the UK

[edit]

Radon testing in the UK is managed by UKradon and the UKHSA.[14]

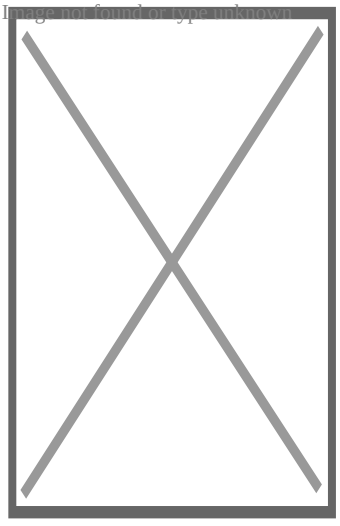
Testing in Norway

[edit]

The Norwegian Radiation and Nuclear Safety Authority (DSA) developed the protocol[15] for radon measurements in residential dwellings[16] with respect to rental accommodation, which is governed by The Radiation Protection Regulations.[17]

Methods of radon gas mitigation

[edit]

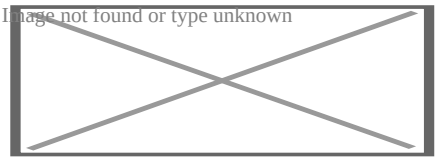


Part of a radon mitigation system including the fan and vent pipe is visible near the gutter downspout.

Because high levels of radon have been found in every state of the United States,[18] testing for radon and installing radon mitigation systems has become a specialized industry since the 1980s. Many states have implemented programs that affect home buying and awareness in the real estate community; however, radon testing and mitigation systems are not generally mandatory unless specified by the local jurisdiction.[19]

Anticipated high radon levels can be mitigated during building design and construction by a combination of ensuring a perfectly sealed foundation, allowing sufficient passive dispersal of under-slab gas around rather than through the building, and proper building ventilation. In many instances, such approaches may achieve a sufficient reduction of radon levels compared to other buildings where such approaches were not taken. However, quality of implementation is crucial and testing after construction is necessary. For instance, even a small gap in the sealing of the slab may be sufficient for excessive quantities of radon to enter, given pressure differentials.

Where such approaches were not taken during construction or have proven insufficiently effective, remediation is needed. According to the EPA's "A Citizen's Guide to Radon",[20] the method to reduce radon "primarily used is a vent pipe system and fan, which pulls radon from beneath the house and vents it to the outside", which is also called sub-slab depressurization, soil suction, or active soil depressurization (ASD). Generally indoor radon can be mitigated by sub-slab depressurization and exhausting such radon-laden air to the outdoors, away from windows and other building openings.[21] "EPA generally recommends methods which prevent the entry of radon. Soil suction, for example, prevents radon from entering your home by drawing the radon from below the home and venting it through a pipe, or pipes, to the air above the home where it is quickly diluted" and "EPA does not recommend the use of sealing alone to reduce radon because, by itself, sealing has not been shown to lower radon levels significantly or consistently" according to the EPA's "Consumer's Guide to Radon Reduction: How to Fix Your Home".[22] Ventilation systems can utilize a heat exchanger or energy recovery ventilator to recover part of the energy otherwise lost in the process of exchanging air with the outside. For crawlspaces, the EPA states,[22] "An effective method to reduce radon levels in crawlspace homes involves covering the earth floor with a high-density plastic sheet. A vent pipe and fan are used to draw the radon from under the sheet and vent it to the outdoors. This form of soil suction is called submembrane suction, and when properly applied is the most effective way to reduce radon levels in crawlspace homes."



High radon levels in a Minnesota (USA) basement with a passive under slab vent pipe system can be seen in the left half of the graph. After installation of a radon fan (ASD), a permanent reduction in radon levels to approximately 0.6 pCi/L can be seen in the right half of the graph.

- The most common approach is active soil depressurization (ASD). Experience has shown that ASD is applicable to most buildings since radon usually enters from the soil and rock underneath and mechanical ventilation is used when the indoor radon is emitted from the building materials. A less common approach works efficiently by reducing air pressures within cavities of exterior and demising walls where radon emitting from building materials, most often concrete blocks, collects.
- Above slab air pressure differential barrier technology (ASAPDB) requires that the interior pressure envelope, most often drywall, as well as all ductwork for air conditioning systems, be made as airtight as possible. A small blower, often no more than 15 cubic feet per minute (0.7 L/s) may then extract the radon-laden air from these cavities and exhaust it to the out of doors. With well-sealed HVAC ducts, very small negative pressures, perhaps as little as 0.5 pascal (0.00007 psi), will prevent the entry of highly radon-laden wall cavity air from entering into the breathing zone. Such ASAPDB technology is often the best radon mitigation choice for high-rise condominiums as it does not increase indoor humidity loads in hot humid climates, and it can also work well to prevent mold growth in exterior walls in heating climates.
- In hot, humid climates, heat recovery ventilators (HRV) as well as energy recovery ventilators (ERV) have a record of increasing indoor relative humidity and dehumidification demands on air conditioning systems. Mold problems can occur in homes that have been radon mitigated with HRV and ERV installations in hot, humid climates.[*citation needed*] HRVs and ERVs have an excellent record in cold dry climates.
- A recent technology is based on building science. It includes a variable rate mechanical ventilation system that prevents indoor relative humidity from rising above a preset level such as 50% which is currently suggested by the US Environmental Protection Agency and others as an upper limit for the prevention of mold. It has proven to be especially effective in hot, humid climates. It controls the air delivery rate so that the air conditioner is never overloaded with more moisture than it can effectively remove from the indoor air.
    - It is generally assumed that air conditioner operation will remove excess moisture from the air in the breathing zone, but it is important to note that just because the air conditioner cools does not mean that it is also dehumidfying. If ?*t* is 14 degrees or less, it may not dehumidify at all even though it is cooling.
    - Factors that are likely to aggravate indoor humidity problems from mechanical ventilation–based radon installations are as follows and an expert radon mitigator/building scientist will check for and correct any and all of the following when he or she performs radon mitigation procedures:
        - Air conditioner duct leaks located outside the breathing zone, such as in the attic.
        - Excessive exhaust fan operation
        - Oversize or over-capacity air conditioners
        - AC air handler fans that do not stop running when the air conditioner compressor stops running.
        - Delta *t* (?*t*), which is the amount that the air is cooled as it is passed through the air conditioner's cooling coils. A good ?*t* performance figure for home air conditioners is about 20 °F (11 °C). In comparison, automobile air conditioners

deliver ?*t* performance of 32 to 38 °F (18 to 21 °C). A ?*t* of 14 °F (8 °C) will dehumidify poorly if at all.

In South Florida, most radon mitigation is performed by use of fixed rate mechanical ventilation. Radon mitigation training in Florida does not include problems associated with mechanical ventilation systems, such as high indoor humidity, mold, moldy odors, property damage or health consequences of human occupation in high humidity of moldy environments[*citation needed*]. As a result, most Florida radon mitigators are unaware of and do not incorporate existing building science moisture management technology into mechanical ventilation radon installations. Home inspectors may not necessarily be aware of the mold risks associated with radon mitigation by mechanical ventilation.

The average cost for an ASD radon mitigation system in Minnesota is $1500.[23] These costs are very dependent on the type of home and age of construction.[24]

Methods of radon-in-water mitigation

[edit]

Radon removal from water supplies may be at a treatment plant, point of entry, or point of use. Public water supplies in the United States were required to treat for radionuclides beginning in 2003 but private wells are not regulated by the federal government as of 2014. The radon can be captured by granular activated charcoal (GAR) or released into the air through aeration of the water. Radon will naturally dissipate from water over a period of days, but the quantity of storage needed to treat the water in this manner makes home systems of this type impracticably large.[25]

Activated carbon systems capture radon from the water. The amount of radiation accumulates over time and the filter material may reach the level of requiring disposal as a radioactive waste. However, in the United States there are no regulations concerning radiation levels and disposal of radon treatment waste as of 2014.

Aeration systems move the radon from the water to the air. Radon gas discharged into the air is the release of a pollutant, and may become regulated in the United States.

References

[edit]

1. **^** *Nunnally, Diamond (2022-03-30). "Dangerous radon gas dangers and detection tips". WBMA. Retrieved 2022-04-10.*
2. **^** *WHO Handbook on Indoor Radon: A Public Health Perspective. World Health Organization. 2009.*
3. **^** *US EPA, OAR (2013-08-27). "Radon". www.epa.gov. Retrieved 2023-02-04.*

4. ^ *"Recommended Residential Radon Mitigation Standard of Practice". United States Environmental Protection Agency. Archived from the original on 2008-01-16. Retrieved 2008-02-02.*
5. ^ *"ASTM E2121-03 Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings". ASTM International. Retrieved 2008-02-02.*
6. ^ *"Commercially Available Radon Kits". Alpha Energy Labs. Archived from the original on 2012-07-12. Retrieved 2012-04-19.*
7. ^ *"Radon Measurement Method Definitions". The National Environmental Health Association—National Radon Proficiency Program. Archived from the original on 2007-12-24. Retrieved 2008-02-02.*
8. ^ *"State Radon Laws". lawatlas.org. Retrieved 2021-07-12.*
9. ^ *"National Conference of State Legislatures (NCSL) - Radon".*
10. ^ *"National Radon Proficiency Program - NEHA and NEHA-NRPP History". Nrpp.info. Retrieved 2015-03-30.*
11. ^ *"Home radon testing important for health". lethbridgeherald.com. 18 March 2022. Retrieved 2022-04-10.*
12. ^ *"Radon Gas | Vancouver, BC, Canada". Radoncontrol.ca. Retrieved 2015-03-30.*
13. ^ *"Radon Frequently Asked Questions - Health Canada". Hc-sc.gc.ca. 2014-07-30. Retrieved 2015-03-30.*
14. ^ *"UKradon - Home". www.ukradon.org.*
15. ^ *"Radon measurements in residential dwellings".*
16. ^ *"Radon boliger 2013" (PDF).*
17. ^ *"Legislation".*
18. ^ *"Radon: Myth vs Fact". Radon-Rid/EPA. Retrieved 2009-11-13.*
19. ^ *"Listing of States and Jurisdictions with RRNC Codes". EPA. Retrieved 2009-11-13.*
20. ^ *"A Citizen's Guide to Radon" (PDF). EPA. Retrieved 2024-12-27.*
21. ^ *"Radon Mitigation Methods". Radon Solution. Archived from the original on 2008-12-15. Retrieved 2008-12-02.*
22. ^ ***a b*** *"Consumer's Guide to Radon Reduction: How to Fix Your Home" (PDF). EPA.*
23. ^ *"Radon Mitigation System - EH: Minnesota Department of Health". Health.state.mn.us. 2014-12-10. Retrieved 2019-03-26.*
24. ^ *"Featured Radon Mitigation System Archives". Radonreductioninc.com. Retrieved 2015-03-30.*
25. ^ *""Radon in Drinking Water Health Risk Reduction and Cost Analysis: Notice"" (PDF). Federal Register. **64**. February 26, 1999. Retrieved 2015-03-30.*

External links

[edit]

- Radon at the United States Environmental Protection Agency
- National Radon Program Services hosted by Kansas State University
- Radon and Lung Health from the American Lung Association
- It's Your Health - Health Canada

- Radon's impact on your health – Quebec Lung Association

- v
- t
- e

Radiation protection

Main articles	○ Background radiation ○ Dosimetry ○ Health physics ○ Ionizing radiation ○ Internal dosimetry ○ Radioactive contamination ○ Radioactive sources ○ Radiobiology
Measurement quantities and units	○ Absorbed dose ○ Becquerel ○ Committed dose ○ Computed tomography dose index ○ Counts per minute ○ Effective dose ○ Equivalent dose ○ Gray ○ Mean glandular dose ○ Monitor unit ○ Rad ○ Roentgen ○ Rem ○ Sievert

Instruments and measurement techniques	○ Airborne radioactive particulate monitoring ○ Dosimeter ○ Geiger counter ○ Ion chamber ○ Scintillation counter ○ Proportional counter ○ Radiation monitoring ○ Semiconductor detector ○ Survey meter ○ Whole-body counting
Protection techniques	○ Lead shielding ○ Glovebox ○ Potassium iodide ○ Radon mitigation ○ Respirators
Organisations	○ Euratom ○ HPS (USA) ○ IAEA ○ ICRU ○ ICRP ○ IRPA ○ SRP (UK) ○ UNSCEAR
Regulation	○ IRR (UK) ○ NRC (USA) ○ ONR (UK) ○ Radiation Protection Convention, 1960
Radiation effects	○ Acute radiation syndrome ○ Radiation-induced cancer

See also the categories Medical physics, Radiation effects, Radioactivity, Radiobiology, and Radiation protection

- v

- t
- e

Heating, ventilation, and air conditioning

Fundamental concepts	○ Air changes per hour (ACH) ○ Bake-out ○ Building envelope ○ Convection ○ Dilution ○ Domestic energy consumption ○ Enthalpy ○ Fluid dynamics ○ Gas compressor ○ Heat pump and refrigeration cycle ○ Heat transfer ○ Humidity ○ Infiltration ○ Latent heat ○ Noise control ○ Outgassing ○ Particulates ○ Psychrometrics ○ Sensible heat ○ Stack effect ○ Thermal comfort ○ Thermal destratification ○ Thermal mass ○ Thermodynamics ○ Vapour pressure of water

Technology

- Absorption-compression heat pump
- Absorption refrigerator
- Air barrier
- Air conditioning
- Antifreeze
- Automobile air conditioning
- Autonomous building
- Building insulation materials
- Central heating
- Central solar heating
- Chilled beam
- Chilled water
- Constant air volume (CAV)
- Coolant
- Cross ventilation
- Dedicated outdoor air system (DOAS)
- Deep water source cooling
- Demand controlled ventilation (DCV)
- Displacement ventilation
- District cooling
- District heating
- Electric heating
- Energy recovery ventilation (ERV)
- Firestop
- Forced-air
- Forced-air gas
- Free cooling
- Heat recovery ventilation (HRV)
- Hybrid heat
- Hydronics
- Ice storage air conditioning
- Kitchen ventilation
- Mixed-mode ventilation
- Microgeneration
- Passive cooling
- Passive daytime radiative cooling
- Passive house
- Passive ventilation
- Radiant heating and cooling
- Radiant cooling
- Radiant heating
- Radon mitigation
- Refrigeration
- Renewable heat
- Room air distribution
- Solar air heat
- Solar combisystem

- Air conditioner inverter
- Air door
- Air filter
- Air handler
- Air ionizer
- Air-mixing plenum
- Air purifier
- Air source heat pump
- Attic fan
- Automatic balancing valve
- Back boiler
- Barrier pipe
- Blast damper
- Boiler
- Centrifugal fan
- Ceramic heater
- Chiller
- Condensate pump
- Condenser
- Condensing boiler
- Convection heater
- Compressor
- Cooling tower
- Damper
- Dehumidifier
- Duct
- Economizer
- Electrostatic precipitator
- Evaporative cooler
- Evaporator
- Exhaust hood
- Expansion tank
- Fan
- Fan coil unit
- Fan filter unit
- Fan heater
- Fire damper
- Fireplace
- Fireplace insert
- Freeze stat
- Flue
- Freon
- Fume hood
- Furnace
- Gas compressor
- Gas heater
- Gasoline heater

Measurement and control	○ Air flow meter ○ Aquastat ○ BACnet ○ Blower door ○ Building automation ○ Carbon dioxide sensor ○ Clean air delivery rate (CADR) ○ Control valve ○ Gas detector ○ Home energy monitor ○ Humidistat ○ HVAC control system ○ Infrared thermometer ○ Intelligent buildings ○ LonWorks ○ Minimum efficiency reporting value (MERV) ○ Normal temperature and pressure (NTP) ○ OpenTherm ○ Programmable communicating thermostat ○ Programmable thermostat ○ Psychrometrics ○ Room temperature ○ Smart thermostat ○ Standard temperature and pressure (STP) ○ Thermographic camera ○ Thermostat ○ Thermostatic radiator valve

Professions, trades, and services	○ Architectural acoustics ○ Architectural engineering ○ Architectural technologist ○ Building services engineering ○ Building information modeling (BIM) ○ Deep energy retrofit ○ Duct cleaning ○ Duct leakage testing ○ Environmental engineering ○ Hydronic balancing ○ Kitchen exhaust cleaning ○ Mechanical engineering ○ Mechanical, electrical, and plumbing ○ Mold growth, assessment, and remediation ○ Refrigerant reclamation ○ Testing, adjusting, balancing
Industry organizations	○ AHRI ○ AMCA ○ ASHRAE ○ ASTM International ○ BRE ○ BSRIA ○ CIBSE ○ Institute of Refrigeration ○ IIR ○ LEED ○ SMACNA ○ UMC
Health and safety	○ Indoor air quality (IAQ) ○ Passive smoking ○ Sick building syndrome (SBS) ○ Volatile organic compound (VOC)

See also

- ASHRAE Handbook
- Building science
- Fireproofing
- Glossary of HVAC terms
- Warm Spaces
- World Refrigeration Day
- Template:Fire protection
- Template:Home automation
- Template:Solar energy

About Cook County

Photo

Image not found or type unknown
Photo

Image not found or type unknown
Photo

Image not found or type unknown
Photo

Image not found or type unknown

Things To Do in Cook County

Photo

Image not found or type unknown

Sand Ridge Nature Center

4.8 (96)

Photo

Image not found or type unknown

River Trail Nature Center

4.6 (235)

Photo

Image not found or type unknown

Palmisano (Henry) Park

4.7 (1262)

Driving Directions in Cook County

Driving Directions From Palmisano (Henry) Park to

Driving Directions From Lake Katherine Nature Center and Botanic Gardens to

Driving Directions From Navy Pier to

https://www.google.com/maps/dir/Navy+Pier/United+Structural+Systems+of+Illinois%2C+Inc/@41.8918633,-87.6050944,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-87.6050944!2d41.8918633!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-88.1396465!2d42.0637725!3e0

https://www.google.com/maps/dir/Lake+Katherine+Nature+Center+and+Botanic+Gardens/United+Structural+87.8010774,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-87.8010774!2d41.6776048!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-88.1396465!2d42.0637725!3e2

https://www.google.com/maps/dir/Palmisano+%28Henry%29+Park/United+Structural+Systems+of+Illinois%2C87.6490151,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-87.6490151!2d41.8429903!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-88.1396465!2d42.0637725!3e1

Reviews for

Image not found or type unknown

Jeffery James

(5)

Very happy with my experience. They were prompt and followed through, and very helpful in fixing the crack in my foundation.

Image not found or type unknown

Sarah McNeily

(5)

USS was excellent. They are honest, straightforward, trustworthy, and conscientious. They thoughtfully removed the flowers and flower bulbs to dig where they needed in the yard, replanted said flowers and spread the extra dirt to fill in an area of the yard. We've had other services from different companies and our yard was really a mess after. They kept the job site meticulously clean. The crew was on time and friendly. I'd recommend them any day! Thanks to Jessie and crew.

Image not found or type unknown

Jim de Leon

(5)

It was a pleasure to work with Rick and his crew. From the beginning, Rick listened to my concerns and what I wished to accomplish. Out of the 6 contractors that quoted the project, Rick seemed the MOST willing to accommodate my wishes. His pricing was definitely more than fair as well. I had 10 push piers installed to stabilize and lift an addition of my house. The project commenced at the date that Rick had disclosed initially and it was completed within the same time period expected (based on Rick's original assessment). The crew was well informed, courteous, and hard working. They were not loud (even while equipment was being utilized) and were well spoken. My neighbors were very impressed on how polite they were when they entered / exited my property (saying hello or good morning each day when they crossed paths). You can tell they care about the customer concerns. They ensured that the property would be put back as clean as possible by placing MANY sheets of plywood down prior to excavating. They compacted the dirt back in the holes extremely well to avoid large stock piles of soils. All the while, the main office was calling me to discuss updates and expectations of completion. They provided waivers of lien, certificates of insurance, properly acquired permits, and JULIE locates. From a construction background, I can tell you that I did not see any flaws in the way they operated and this an extremely professional company. The pictures attached show the push piers added to the foundation (pictures 1, 2 & 3), the amount of excavation (picture 4), and the restoration after dirt was placed back in the pits and compacted (pictures 5, 6 & 7). Please notice that they also sealed two large cracks and steel plated these cracks from expanding further (which you can see under my sliding glass door). I, as well as my wife, are extremely happy that we chose United Structural Systems for our contractor. I would happily tell any of my friends and family to use this contractor should the opportunity arise!

Image not found or type unknown

Chris Abplanalp

(5)

USS did an amazing job on my underpinning on my house, they were also very courteous to the proximity of my property line next to my neighbor. They kept things in order with all the dirt/mud they had to excavate. They were done exactly in the timeframe they indicated, and the contract was very details oriented with drawings of what would be done. Only thing that would have been nice, is they left my concrete a little muddy with boot prints but again, all-in-all a great job

Image not found or type unknown

Dave Kari

(5)

What a fantastic experience! Owner Rick Thomas is a trustworthy professional. Nick and the crew are hard working, knowledgeable and experienced. I interviewed every company in the area, big and small. A homeowner never wants to hear that they have foundation issues. Out of every company, I trusted USS the most, and it paid off in the end. Highly recommend.

Check our other pages :

- Recognizing Erosion Patterns that Undermine Support
- Understanding Sandy Loam and Drainage Properties
- Monitoring Seasonal Soil Movement for Foundation Clues
- Pinpointing Sinking Spots around the Foundation Perimeter

United Structural Systems of Illinois, Inc

Phone : +18473822882

City : Hoffman Estates

State : IL

Zip : 60169

Address : 2124 Stonington Ave

Google Business Profile

Company Website : https://www.unitedstructuralsystems.com/

USEFUL LINKS

Residential Foundation Repair Services

home foundation repair service

Foundation Repair Service

Sitemap

Privacy Policy

About Us