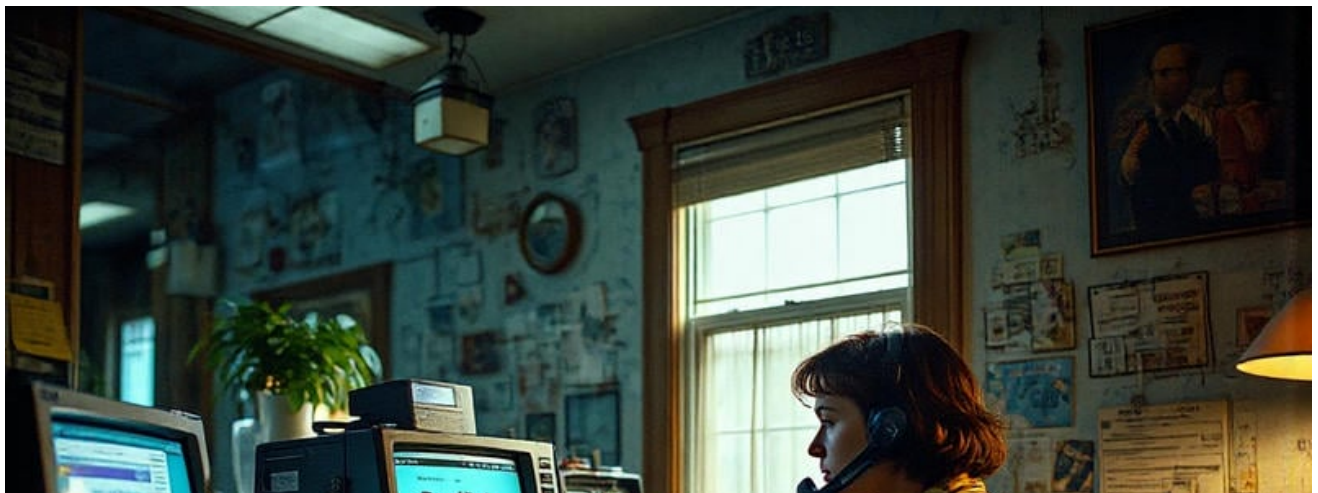


- **Choosing Appropriate Units for Mobile Home HVAC Upgrades**
Choosing Appropriate Units for Mobile Home HVAC Upgrades Steps for Removing Outdated AC Systems in Mobile Homes Evaluating Space Requirements for Mobile Home Heating Installation Wiring Considerations for Mobile Home HVAC Retrofits Overcoming Structural Challenges in Mobile Home AC Replacement Aligning Duct Modifications with Mobile Home Layout Configuring Vent Placement in Mobile Home Retrofit Projects Minimizing Air Leaks During Mobile Home HVAC Installation Using Modern Components for Efficient Mobile Home Heating Adapting Mobile Home Interiors for New AC Systems Verifying Proper Refrigerant Levels in Mobile Home Retrofitting Evaluating Permits and Rules for Mobile Home HVAC Changes
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Exploring Extended Service Agreements for Mobile Home AC Units

Importance of Selecting the Right Units for Upgrades

When it comes to maintaining comfort in a mobile home, the air conditioning unit is one of the most critical components. Mobile homes often face unique challenges due to their structure and location, making a reliable AC system indispensable during sweltering summer months. To ensure these units function optimally, regular maintenance is crucial. Furthermore, exploring extended service agreements for mobile home AC units can offer peace of mind and additional benefits that safeguard against unexpected breakdowns.

Regular maintenance for mobile home AC units is vital for several reasons. Properly sealed ductwork prevents energy loss in mobile home HVAC systems **hvac unit for mobile home** wall. First and foremost, it ensures efficiency. Over time, dust and debris can accumulate in an AC unit's filters and coils, reducing its ability to cool effectively. This not only leads to discomfort but also higher energy bills as the system works harder to maintain desired temperatures. Routine cleaning and inspections help prevent such inefficiencies by keeping the system clean and running smoothly.

Moreover, consistent maintenance prolongs the lifespan of an AC unit. Regular check-ups allow technicians to identify potential issues before they escalate into costly repairs or complete system failures. For example, identifying a minor refrigerant leak early on can prevent significant damage down the line. By investing in routine upkeep, homeowners can avoid premature replacements and extend the life of their current systems.

Safety is another compelling reason for regular maintenance. Faulty AC units can pose risks such as electrical fires or gas leaks if not properly inspected and serviced. Ensuring that all components are functioning correctly minimizes these hazards, protecting both the home and its occupants.

Given these benefits, many mobile homeowners are considering extended service agreements as an additional layer of protection for their AC units. These agreements typically cover routine maintenance visits along with specific repair services should any issues arise within the contract period.

One significant advantage of extended service agreements is cost predictability. Instead of facing unexpected repair bills when something goes amiss, homeowners pay a fixed fee upfront or through manageable installments over time. This financial planning aspect allows for better budget management while ensuring that essential services are always covered.

Furthermore, extended service agreements often provide priority scheduling with service providers. In peak seasons when demand for repairs surges, those with service contracts may receive faster response times compared to non-contract customers-a valuable benefit during a heatwave when every minute without cooling feels like an eternity.

In conclusion, regular maintenance of mobile home AC units is essential not only for efficiency and longevity but also for safety reasons. Exploring extended service agreements offers additional advantages by providing financial predictability and priority access to services when needed most. Together, routine care paired with strategic planning via service contracts ensures that mobile home dwellers remain comfortable no matter how high temperatures climb outside their doors.

In the evolving landscape of homeownership, mobile homes have carved out a unique niche, offering flexibility and affordability to many. However, like any other residence, they come with their own set of maintenance challenges. A crucial component that often requires attention is the air conditioning unit. Given its importance in ensuring comfort during sweltering summer months, understanding extended service agreements for mobile home AC units becomes essential.

An extended service agreement (ESA), commonly referred to as an extended warranty, is essentially a contract that extends beyond the standard warranty offered by manufacturers. This agreement provides repair and maintenance services for AC units over an agreed-upon period. The primary purpose of such agreements is to provide peace of mind by safeguarding homeowners against unexpected repair costs after the original manufacturer's warranty has lapsed.

One significant benefit of ESAs is financial predictability. Repairs or replacements of critical components in an AC unit can be financially draining if unforeseen problems arise. An ESA helps mitigate these financial risks by covering parts and labor costs associated with breakdowns, thereby preventing sudden expenditures that could disrupt a household budget.

Additionally, extended service agreements often include regular maintenance checks as part of their package. Routine maintenance ensures that minor issues are identified before they escalate into major problems, thus prolonging the lifespan of the AC unit. Furthermore, these scheduled inspections improve energy efficiency by keeping the system operating at optimal performance levels, which can lead to lower utility bills—a boon for cost-conscious mobile homeowners.

Another compelling advantage is access to professional expertise and quality service. ESAs typically partner with certified technicians who possess specialized knowledge about specific brands and models of AC units. This ensures that repairs are conducted proficiently and efficiently, maintaining high standards of workmanship that might not be guaranteed through independent contractors or DIY attempts.

Moreover, having an ESA simplifies logistics when repairs are needed. Homeowners do not need to worry about finding a reputable technician or negotiating repair costs; everything is streamlined through one point of contact provided by the service agreement provider.

In conclusion, exploring extended service agreements for mobile home AC units unveils a host of benefits tailored to meet the unique needs inherent in mobile home living. By offering financial protection against unexpected breakdowns, enhancing efficiency through regular maintenance, ensuring expert repairs, and simplifying logistical processes, ESAs represent a prudent investment for those looking to secure comfort and reliability in their mobile homes' climate control systems. As such agreements continue to gain popularity among homeowners seeking peace of mind and financial security, understanding their intricacies becomes all the more important in making informed decisions about property care and management.

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Energy Efficiency and Environmental Impact

When considering an extended service agreement for your mobile home air conditioning unit, it's crucial to understand the key features that can offer peace of mind and financial protection. Mobile home AC units often face unique challenges due to their compact design and specific installation requirements, making a comprehensive service plan all the more valuable. Here are some essential aspects to examine when exploring these agreements.

Firstly, coverage scope is paramount. A robust extended service agreement should cover both parts and labor. Air conditioning units comprise various components such as compressors, condensers, and refrigerant lines, which can be costly to repair or replace. Ensuring that your agreement includes these parts can save significant expenses in the long run. Additionally, including labor costs provides reassurance that you won't face unexpected fees when technicians are needed.

Another vital feature is the duration of coverage. Extended service agreements vary in length; some might offer one or two additional years beyond the manufacturer's warranty, while others could extend even further. Consider how long you plan to keep your mobile home and whether a longer-term agreement aligns with those plans.

The reputation and reliability of the provider cannot be overlooked. Conduct research on potential companies offering extended service agreements to ensure they have a solid track record for customer satisfaction and timely service delivery. Reading reviews and seeking recommendations from other mobile home owners can provide invaluable insights into how well a company honors its commitments.

Response time is another critical feature to consider. Mobile homes may have less insulation than traditional houses, making efficient AC operation essential during hot weather months. A prompt response time guarantees that any issues with your unit will be addressed quickly, minimizing discomfort during breakdowns.

Moreover, check if annual maintenance services are included in the agreement. Regular maintenance not only prolongs the life of your unit but also enhances its efficiency-ultimately reducing energy bills. Some agreements offer annual inspections or tune-ups as part of their package, an advantageous addition that ensures consistent performance.

Lastly, scrutinize any exclusions or limitations within the policy meticulously. Every contract has fine print detailing what isn't covered or circumstances under which coverage might be voided (such as neglecting regular maintenance). Understanding these limitations helps prevent unpleasant surprises when filing a claim.

In conclusion, selecting an extended service agreement for your mobile home's AC unit involves careful consideration of various key features-coverage scope for parts and labor, duration of protection, provider reputation and responsiveness are all pivotal factors influencing decision-making processes related specifically towards safeguarding investments

against unforeseen malfunctions while enhancing overall comfort levels experienced throughout ownership tenures ultimately leading towards more satisfactory outcomes derived holistically through informed choices made proactively prior engagements undertaken thereafter accordingly thus ensuring optimal satisfaction achieved therein subsequently realized effectively thereby fulfilling expectations comprehensively altogether conclusively eventually attained optimally indeed truly validated affirmatively assuredly guaranteed positively delivered dependably consistently reliably substantively meaningfully successfully beneficially advantageously favorably profitably worthwhile commendable commendably undoubtedly unquestionably remarkably notably distinctively outstandingly exceptionally particularly considerably significantly importantly vitally critically crucially essentially fundamentally inherently intrinsically indispensable indispensable absolutely necessarily essentially necessarily quintessentially characteristically definitively authoritatively conclusively decisively convincingly compellingly persuasively persuasively categorically unequivocally unmistakably unambiguously transparently transparently clearly evidently manifestly demonstrably obviously patently apparently visibly perceptibly observably noticeably discernibly distinctly perceptibly tangibly identifiably recognizably detectably sensorially apprehensibly perceivably experientially palpably concretely materially physically objectively existentially empirically authentically genuinely factually truthfully veridically realistically pragmatically practically functionally



Cost-Effectiveness and Budget Considerations

When it comes to maintaining a comfortable living environment in a mobile home, the air conditioning unit is often at the center of attention. These units are essential for providing relief during sweltering summer months and ensuring indoor air quality throughout the year. However, like all mechanical systems, mobile home AC units are prone to wear and tear over

time. This brings into focus the concept of extended service agreements (ESAs) and whether they present a worthwhile investment through cost-benefit analysis.

Extended service agreements are contracts that offer repair and maintenance services beyond the standard warranty period provided by manufacturers. For mobile home owners, these agreements can be both a financial safeguard and a source of peace of mind. To determine their value, it's crucial to weigh the costs against potential benefits.

The cost component of an ESA typically includes an upfront fee or periodic payments that cover potential repairs, parts replacement, and sometimes regular maintenance check-ups. On average, these costs can range from a few hundred to over a thousand dollars depending on the duration and extent of coverage offered by various providers.

In contrast, the benefits of ESAs for mobile home AC units can be significant. Firstly, they provide financial predictability; unexpected repair costs-especially those involving major components like compressors or coils-can easily surpass the initial cost of an ESA. Secondly, having a service agreement ensures prompt access to professional technicians who are familiar with your specific AC model, reducing downtime during repairs.

Moreover, regular maintenance checks included in many ESAs can prolong the lifespan of an AC unit by identifying issues before they escalate into more costly problems. This proactive approach not only saves money but also sustains energy efficiency-lowering utility bills over time.

However, not all mobile homeowners may find ESAs beneficial. Those with newer models or with technical know-how might prefer handling minor issues themselves or relying on standard warranties until they expire. Additionally, some might argue that setting aside savings for potential repairs could be more financially prudent than committing to an ESA.

Ultimately, deciding whether to invest in an extended service agreement requires careful consideration of individual circumstances: age and condition of the AC unit, likelihood of usage intensity based on geographical location and climate conditions, personal comfort with handling minor repairs versus reliance on professionals-all play pivotal roles in this decision-making process.

In conclusion, while extended service agreements for mobile home AC units come with their own set of costs and considerations-they do offer tangible benefits that cannot be overlooked-from financial protection against unforeseen expenses to extending equipment longevity through routine maintenance care. As such decisions hinge largely upon personal preferences alongside practical needs-it remains essential for each homeowner conducting this analysis thoroughly before committing one way or another toward safeguarding their indoor comfort year-round effectively yet economically wise manner possible!

Sizing and Compatibility with Mobile Home Structures

Extended service agreements, often referred to as extended warranties or service contracts, are designed to provide peace of mind by covering repair costs beyond the manufacturer's warranty. When it comes to mobile home air conditioning units, these agreements can be particularly useful given the climate variations that many mobile homes endure. However, there are several common misconceptions about extended service agreements that can lead consumers to misunderstand their value and purpose.

One prevalent misconception is that extended service agreements are unnecessary because of the reliability of modern AC units. While it's true that advancements in technology have made air conditioning systems more reliable than ever before, no mechanical system is infallible. Parts wear out over time due to normal use, and unexpected failures can still occur. Given the unique stresses placed on mobile home AC units-such as exposure to elements and fluctuating temperatures-the likelihood of a breakdown might even be higher than for stationary home systems.

Another misunderstanding revolves around coverage specifics. Many consumers incorrectly assume that an extended service agreement covers all repairs or replacements without exception. In reality, these agreements typically outline specific parts and types of damage they cover, much like an insurance policy does with covered perils. For instance, routine maintenance issues or damage caused by improper installation may not be included in the agreement. It's crucial for mobile homeowners to read the fine print carefully and understand what is-and isn't-covered.

Cost concerns also fuel skepticism about extended service agreements. Some consumers believe that these plans are overpriced compared to potential repair costs. It's important to consider this concern within context; while upfront costs for an extended agreement might seem steep, they can ultimately save money if a major component fails after the manufacturer's warranty has expired. Additionally, purchasing peace of mind has its own intrinsic value which shouldn't be underestimated-especially during extreme weather conditions when timely repair services become critical.

Lastly, there's a misconception regarding who benefits from these agreements-often seen as merely profit generators for sellers rather than helpful tools for consumers. While it's true that companies do profit from selling extended warranties, this doesn't negate their utility for customers who experience costly breakdowns post-warranty period.

In conclusion, understanding what extended service agreements truly offer requires dispelling common myths surrounding them. They should not be viewed simply as unnecessary add-ons but rather as strategic investments in long-term comfort and financial protection for mobile home AC units. By recognizing their real benefits and limitations through informed research and careful contract review, homeowners can make better decisions regarding whether such an agreement would serve their needs effectively.



Installation Challenges and Solutions

Choosing the right extended service agreement provider for your mobile home air conditioning (AC) unit is a crucial decision that can significantly impact both your budget and comfort. With the rising costs of repairs and maintenance, having an extended service agreement can provide peace of mind by ensuring that unexpected breakdowns are not only covered but also promptly addressed. However, with numerous providers in the market, selecting the right one requires careful consideration of several factors.

Firstly, it is essential to evaluate the coverage offered by different providers. Not all extended service agreements are created equal; some may cover only specific parts or types of repairs while others might offer comprehensive protection. Carefully read through the terms to understand what is included and excluded. It's important to ensure that major components like compressors and evaporators are covered since these tend to be costly when they fail.

Secondly, consider the reputation and reliability of the provider. A company with a strong track record in customer satisfaction and efficient claim processing should be at the top of your list. Reading reviews from other customers and checking ratings on platforms like Better Business Bureau can provide valuable insights into how a provider handles claims and customer service issues.

Another key factor to consider is the cost of the extended service agreement relative to its benefits. While it may be tempting to go for a cheaper option, this could result in inadequate coverage or higher out-of-pocket expenses when repairs are needed. It's crucial to balance affordability with comprehensive coverage to ensure you're getting value for your money.

Additionally, assess whether there are any additional perks or services included in the agreement that could add value, such as regular maintenance checks or priority service during peak seasons. These extras can enhance your overall experience by keeping your AC unit in optimal condition while reducing downtime during urgent repair needs.

Finally, scrutinize any fine print regarding cancellation policies or renewal terms. Some agreements may have rigid conditions that make it difficult or costly to cancel early if you're unsatisfied with their service.

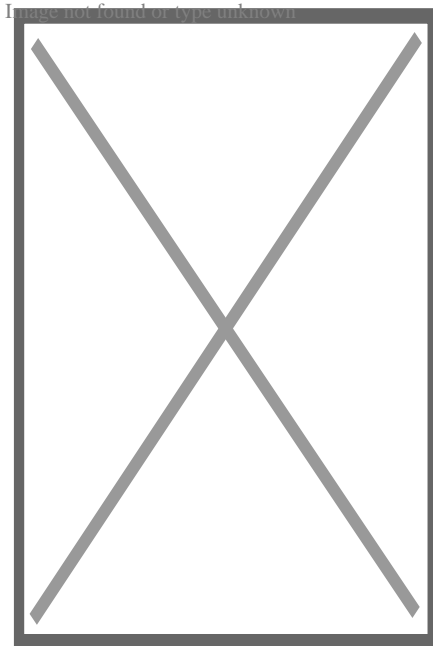
In conclusion, choosing the right extended service agreement provider for your mobile home AC unit involves more than just comparing prices. It requires a thorough assessment of coverage options, provider reputation, cost-benefit analysis, added perks, and contract terms. By taking these factors into account, you can make an informed decision that ensures long-

term comfort and financial security while safeguarding against unforeseen repair costs.

About Refrigerant



This article's lead section **may be too short to adequately summarize the key points**. Please consider expanding the lead to provide an accessible overview of all important aspects of the article. *(March 2021)*



A DuPont R-134a refrigerant

A **refrigerant** is a working fluid used in cooling, heating or reverse cooling and heating of air conditioning systems and heat pumps where they undergo a repeated phase transition from a liquid to a gas and back again. Refrigerants are heavily regulated because of their toxicity and flammability^[1] and the contribution of CFC and HCFC refrigerants to ozone depletion^[2] and that of HFC refrigerants to climate change.^[3]

Refrigerants are used in a direct expansion (DX- Direct Expansion) system (circulating system) to transfer energy from one environment to another, typically from inside a building to outside (or vice versa) commonly known as an air conditioner cooling only or cooling & heating reverse DX system or heat pump a heating only DX cycle. Refrigerants can carry 10 times more energy per kg than water, and 50 times more than air.

Refrigerants are controlled substances and classified by International safety regulations ISO 817/5149, AHRAE 34/15 & BS EN 378 due to high pressures (700–1,000 kPa (100–150 psi)), extreme temperatures (?50 °C [?58 °F] to over 100 °C [212 °F]), flammability (A1 class non-flammable, A2/A2L class flammable and A3 class extremely flammable/explosive) and toxicity (B1-low, B2-medium & B3-high). The regulations relate to situations when these refrigerants are released into the atmosphere in the event of an

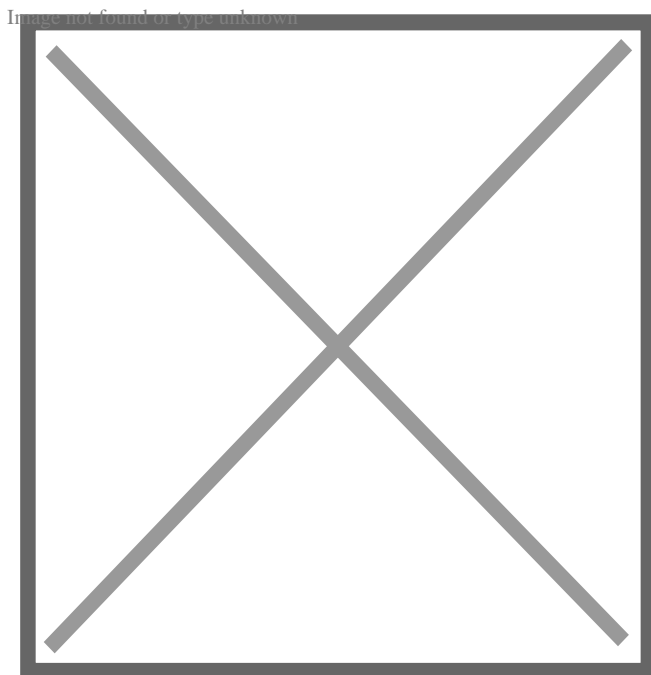
accidental leak not while circulated.

Refrigerants (controlled substances) must only be handled by qualified/certified engineers for the relevant classes (in the UK, C&G 2079 for A1-class and C&G 6187-2 for A2/A2L & A3-class refrigerants).

Refrigerants (A1 class only) Due to their non-flammability, A1 class non-flammability, non-explosivity, and non-toxicity, non-explosivity they have been used in open systems (consumed when used) like fire extinguishers, inhalers, computer rooms fire extinguishing and insulation, etc.) since 1928.

History

[edit]



The observed stabilization of HCFC concentrations (left graphs) and the growth of HFCs (right graphs) in earth's atmosphere.

The first air conditioners and refrigerators employed toxic or flammable gases, such as ammonia, sulfur dioxide, methyl chloride, or propane, that could result in fatal accidents when they leaked.^[4]

In 1928 Thomas Midgley Jr. created the first non-flammable, non-toxic chlorofluorocarbon gas, *Freon* (R-12). The name is a trademark name owned by DuPont (now Chemours) for any chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC), or hydrofluorocarbon (HFC) refrigerant. Following the discovery of better synthesis methods, CFCs such as R-11,^[5] R-12,^[6] R-123^[5] and R-502^[7] dominated the market.

Phasing out of CFCs

[edit]

See also: Montreal Protocol

In the mid-1970s, scientists discovered that CFCs were causing major damage to the ozone layer that protects the earth from ultraviolet radiation, and to the ozone holes over polar regions.^{[8][9]} This led to the signing of the Montreal Protocol in 1987 which aimed to phase out CFCs and HCFC^[10] but did not address the contributions that HFCs made to climate change. The adoption of HCFCs such as R-22,^{[11][12][13]} and R-123^[5] was accelerated and so were used in most U.S. homes in air conditioners and in chillers^[14] from the 1980s as they have a dramatically lower Ozone Depletion Potential (ODP) than CFCs, but their ODP was still not zero which led to their eventual phase-out.

Hydrofluorocarbons (HFCs) such as R-134a,^{[15][16]} R-407A,^[17] R-407C,^[18] R-404A,^[7] R-410A^[19] (a 50/50 blend of R-125/R-32) and R-507^{[20][21]} were promoted as replacements for CFCs and HCFCs in the 1990s and 2000s. HFCs were not ozone-depleting but did have global warming potentials (GWPs) thousands of times greater than CO₂ with atmospheric lifetimes that can extend for decades. This in turn, starting from the 2010s, led to the adoption in new equipment of Hydrocarbon and HFO (hydrofluoroolefin) refrigerants R-32,^[22] R-290,^[23] R-600a,^[23] R-454B,^[24] R-1234yf,^{[25][26]} R-514A,^[27] R-744 (CO₂),^[28] R-1234ze(E)^[29] and R-1233zd(E),^[30] which have both an ODP of zero and a lower GWP. Hydrocarbons and CO₂ are sometimes called natural refrigerants because they can be found in nature.

The environmental organization Greenpeace provided funding to a former East German refrigerator company to research alternative ozone- and climate-safe refrigerants in 1992. The company developed a hydrocarbon mixture of propane and isobutane, or pure isobutane,^[31] called "Greenfreeze", but as a condition of the contract with Greenpeace could not patent the technology, which led to widespread adoption by other firms.^{[32][33][34]} Policy and political influence by corporate executives resisted change however,^{[35][36]} citing the flammability and explosive properties of the refrigerants,^[37] and DuPont together with other companies blocked them in the U.S. with the U.S. EPA.^{[38][39]}

Beginning on 14 November 1994, the U.S. Environmental Protection Agency restricted the sale, possession and use of refrigerants to only licensed technicians, per rules under sections 608 and 609 of the Clean Air Act.^[40] In 1995, Germany made CFC refrigerators illegal.^[41]

In 1996 Eurammon, a European non-profit initiative for natural refrigerants, was established and comprises European companies, institutions, and industry experts.^{[42][43][44]}

In 1997, FCs and HFCs were included in the Kyoto Protocol to the Framework Convention on Climate Change.

In 2000 in the UK, the Ozone Regulations^[45] came into force which banned the use of ozone-depleting HCFC refrigerants such as R22 in new systems. The Regulation banned the use of R22 as a "top-up" fluid for maintenance from 2010 for virgin fluid and from 2015 for recycled fluid.^[citation needed]

Addressing greenhouse gases

[edit]

With growing interest in natural refrigerants as alternatives to synthetic refrigerants such as CFCs, HCFCs and HFCs, in 2004, Greenpeace worked with multinational corporations like Coca-Cola and Unilever, and later Pepsico and others, to create a corporate coalition called Refrigerants Naturally!.^{[41][46]} Four years later, Ben & Jerry's of Unilever and General Electric began to take steps to support production and use in the U.S.^[47] It is estimated that almost 75 percent of the refrigeration and air conditioning sector has the potential to be converted to natural refrigerants.^[48]

In 2006, the EU adopted a Regulation on fluorinated greenhouse gases (FCs and HFCs) to encourage to transition to natural refrigerants (such as hydrocarbons). It was reported in 2010 that some refrigerants are being used as recreational drugs, leading to an extremely dangerous phenomenon known as inhalant abuse.^[49]

From 2011 the European Union started to phase out refrigerants with a global warming potential (GWP) of more than 150 in automotive air conditioning (GWP = 100-year warming potential of one kilogram of a gas relative to one kilogram of CO₂) such as the refrigerant HFC-134a (known as R-134a in North America) which has a GWP of 1526.^[50] In the same year the EPA decided in favour of the ozone- and climate-safe refrigerant for U.S. manufacture.^{[32][51][52]}

A 2018 study by the nonprofit organization "Drawdown" put proper refrigerant management and disposal at the very top of the list of climate impact solutions, with an impact equivalent to eliminating over 17 years of US carbon dioxide emissions.^[53]

In 2019 it was estimated that CFCs, HCFCs, and HFCs were responsible for about 10% of direct radiative forcing from all long-lived anthropogenic greenhouse gases.^[54] and in the same year the UNEP published new voluntary guidelines,^[55] however many countries have not yet ratified the Kigali Amendment.

From early 2020 HFCs (including R-404A, R-134a and R-410A) are being superseded: Residential air-conditioning systems and heat pumps are increasingly using R-32. This still has a GWP of more than 600. Progressive devices use refrigerants with almost no climate impact, namely R-290 (propane), R-600a (isobutane) or R-1234yf (less flammable, in cars). In commercial refrigeration also CO₂ (R-744) can be used.

Requirements and desirable properties

[edit]

A refrigerant needs to have: a boiling point that is somewhat below the target temperature (although boiling point can be adjusted by adjusting the pressure appropriately), a high heat of vaporization, a moderate density in liquid form, a relatively high density in gaseous form (which can also be adjusted by setting pressure appropriately), and a high critical temperature. Working pressures should ideally be containable by copper tubing, a commonly available material. Extremely high pressures should be avoided.^[citation needed]

The ideal refrigerant would be: non-corrosive, non-toxic, non-flammable, with no ozone depletion and global warming potential. It should preferably be natural with well-studied and low environmental impact. Newer refrigerants address the issue of the damage that CFCs caused to the ozone layer and the contribution that HCFCs make to climate change, but some do raise issues relating to toxicity and/or flammability.^[56]

Common refrigerants

[edit]

Refrigerants with very low climate impact

[edit]

With increasing regulations, refrigerants with a very low global warming potential are expected to play a dominant role in the 21st century,^[57] in particular, R-290 and R-1234yf. Starting from almost no market share in 2018,^[58] low GWPO devices are gaining market share in 2022.

Code	Chemical	Name	GWP		Status	Commentary
			20yr ^[59]	100yr ^[59]		

R-290	C_3H_8	Propane		3.3[60]	Increasing use	Low cost, widely available and efficient. They also have zero ozone depletion potential. Despite their flammability, they are increasingly used in domestic refrigerators and heat pumps. In 2010, about one-third of all household refrigerators and freezers manufactured globally used isobutane or an isobutane/propane blend, and this was expected to increase to 75% by 2020.[61]
R-600a	$HC(CH_3)_3$	Isobutane		3.3	Widely used	See R-290. Commonly used before the popularisation of CFCs, it is again being considered but does suffer from the disadvantage of toxicity, and it requires corrosion-resistant components, which restricts its domestic and small-scale use.
R-717	NH_3	Ammonia	0	0[62]	Widely used	Anhydrous ammonia is widely used in industrial refrigeration applications and hockey rinks because of its high energy efficiency and low cost.
R-1234yf HFO-1234yf	$C_3H_2F_4$	2,3,3,3-Tetrafluoropropene		<1		Less performance but also less flammable than R-290. [57] GM announced that it would start using "hydro-fluoro olefin", HFO-1234yf, in all of its brands by 2013.[63]

R-744	CO ₂	Carbon dioxide	1	1	In use	<p>Was used as a refrigerant prior to the discovery of CFCs (this was also the case for propane)^[4] and now having a renaissance due to it being non-ozone depleting, non-toxic and non-flammable. It may become the working fluid of choice to replace current HFCs in cars, supermarkets, and heat pumps. Coca-Cola has fielded CO₂-based beverage coolers and the U.S. Army is considering CO₂ refrigeration.^{[64][65]} Due to the need to operate at pressures of up to 130 bars (1,900 psi; 13,000 kPa), CO₂ systems require highly resistant components, however these have already been developed for mass production in many sectors.</p>
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Most used

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	GWP 100yr ^[59]	Status	Commentary
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R-32 HFC-32	CH ₂ F ₂	Difluoromethane	2430	677	Widely used	Promoted as climate-friendly substitute for R-134a and R-410A, but still with high climate impact. Has excellent heat transfer and pressure drop performance, both in condensation and vaporisation. ^[66] It has an atmospheric lifetime of nearly 5 years. ^[67] Currently used in residential and commercial air-conditioners and heat pumps.
R-134a HFC-134a	CH ₂ FCF ₃	1,1,1,2-Tetrafluoroethane	3790	1550	Widely used	Most used in 2020 for hydronic heat pumps in Europe and the United States in spite of high GWP. ^[58] Commonly used in automotive air conditioners prior to phase out which began in 2012.
R-410A		50% R-32 / 50% R-125 (pentafluoroethane)	Between 2430 (R-32) and 6350 (R-125)	> 677	Widely Used	Most used in split heat pumps / AC by 2018. Almost 100% share in the USA. ^[58] Being phased out in the US starting in 2022. ^[68] ^[69]

Banned / Phased out

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	GWP 100yr ^[59]	Status	Commentary
R-11 CFC-11	CCl ₃ F	Trichlorofluoromethane	6900	4660	Banned	Production was banned in developed countries by Montreal Protocol in 1996

R-12 CFC-12	CCl_2F_2	Dichlorodifluoromethane	10800	10200	Banned	Also known as Freon, a widely used chlorofluorocarbon halomethane (CFC). Production was banned in developed countries by Montreal Protocol in 1996, and in developing countries (article 5 countries) in 2010. ^[70]
R-22 HCFC-22	CHClF_2	Chlorodifluoromethane	5280	1760	Being phased out	A widely used hydrochlorofluorocarbon (HCFC) and powerful greenhouse gas with a GWP equal to 1810. Worldwide production of R-22 in 2008 was about 800 Gg per year, up from about 450 Gg per year in 1998. R-438A (MO-99) is a R-22 replacement. ^[71]
R-123 HCFC-123	CHCl_2CF_3	2,2-Dichloro-1,1,1-trifluoroethane	292	79	US phase-out	Used in large tonnage centrifugal chiller applications. All U.S. production and import of virgin HCFCs will be phased out by 2030, with limited exceptions. ^[72] R-123 refrigerant was used to retrofit some chiller that used R-11 refrigerant Trichlorofluoromethane. The production of R-11 was banned in developed countries by Montreal Protocol in 1996. ^[73]

Other

[edit]

Code	Chemical	Name	Global warming potential 20yr ^[59]	GWP 100yr ^[59]	Commentary
R-152a HFC-152a	CH ₃ CHF ₂	1,1-Difluoroethane	506	138	As a compressed air duster
R-407C		Mixture of difluoromethane and pentafluoroethane and 1,1,1,2-tetrafluoroethane			A mixture of R-32, R-125, and R-134a
R-454B		Difluoromethane and 2,3,3,3-Tetrafluoropropene			HFOs blend of refrigerants Difluoromethane (R-32) and 2,3,3,3-Tetrafluoropropene (R-1234yf). ^{[74][75][76][77]}
R-513A		An HFO/HFC blend (56% R-1234yf/44%R-134a)			May replace R-134a as an interim alternative ^[78]
R-514A		HFO-1336mzz-Z/trans-1,2- dichloroethylene (t-DCE)			An hydrofluoroolefin (HFO)-based refrigerant to replace R-123 in low pressure centrifugal chillers for commercial and industrial applications. ^{[79][80]}

Refrigerant reclamation and disposal

[edit]

Main article: Refrigerant reclamation

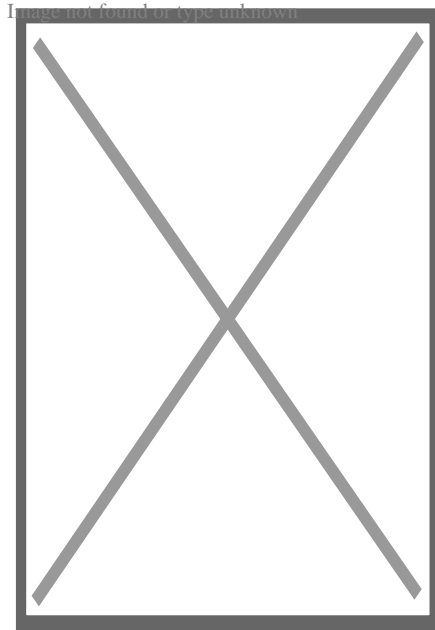
Coolant and refrigerants are found throughout the industrialized world, in homes, offices, and factories, in devices such as refrigerators, air conditioners, central air conditioning systems (HVAC), freezers, and dehumidifiers. When these units are serviced, there is a risk that refrigerant gas will be vented into the atmosphere either accidentally or intentionally, hence the creation of technician training and certification programs in order to ensure that the material is conserved and managed safely. Mistreatment of these gases has been shown to deplete the ozone layer and is suspected to contribute to global warming.^[81]

With the exception of isobutane and propane (R600a, R441A and R290), ammonia and CO₂ under Section 608 of the United States' Clean Air Act it is illegal to knowingly release any refrigerants into the atmosphere.^{[82][83]}

Refrigerant reclamation is the act of processing used refrigerant gas which has previously been used in some type of refrigeration loop such that it meets specifications for new refrigerant gas. In the United States, the Clean Air Act of 1990 requires that used refrigerant be processed by a certified reclaimer, which must be licensed by the United States Environmental Protection Agency (EPA), and the material must be recovered and delivered to the reclaimer by EPA-certified technicians.^[84]

Classification of refrigerants

[edit]



R407C pressure-enthalpy diagram, isotherms between the two saturation lines

Main article: List of refrigerants

Refrigerants may be divided into three classes according to their manner of absorption or extraction of heat from the substances to be refrigerated:^[*citation needed*]

- Class 1: This class includes refrigerants that cool by phase change (typically boiling), using the refrigerant's latent heat.
- Class 2: These refrigerants cool by temperature change or 'sensible heat', the quantity of heat being the specific heat capacity x the temperature change. They are air, calcium chloride brine, sodium chloride brine, alcohol, and similar nonfreezing solutions. The purpose of Class 2 refrigerants is to receive a reduction of temperature from Class 1 refrigerants and convey this lower temperature to the area to be cooled.
- Class 3: This group consists of solutions that contain absorbed vapors of liquefiable agents or refrigerating media. These solutions function by nature of their ability to carry liquefiable vapors, which produce a cooling effect by the absorption of their heat of solution. They can also be classified into many categories.

R numbering system

[edit]

The R- numbering system was developed by DuPont (which owned the Freon trademark), and systematically identifies the molecular structure of refrigerants made with a single halogenated hydrocarbon. ASHRAE has since set guidelines for the numbering system as follows:[⁸⁵]

$R-X_1X_2X_3X_4$

- X_1 = Number of unsaturated carbon-carbon bonds (omit if zero)
- X_2 = Number of carbon atoms minus 1 (omit if zero)
- X_3 = Number of hydrogen atoms plus 1
- X_4 = Number of fluorine atoms

Series

[edit]

- **R-xx** Methane Series
- **R-1xx** Ethane Series
- **R-2xx** Propane Series
- **R-4xx** Zeotropic blend
- **R-5xx** Azeotropic blend
- **R-6xx** Saturated hydrocarbons (except for propane which is R-290)
- **R-7xx** Inorganic Compounds with a molar mass < 100
- **R-7xxx** Inorganic Compounds with a molar mass ? 100

Ethane Derived Chains

[edit]

- **Number Only** Most symmetrical isomer
- **Lower Case Suffix (a, b, c, etc.)** indicates increasingly unsymmetrical isomers

Propane Derived Chains

[edit]

- **Number Only** If only one isomer exists; otherwise:
- **First lower case suffix (a-f):**
 - **a Suffix** Cl_2 central carbon substitution
 - **b Suffix** Cl, F central carbon substitution
 - **c Suffix** F_2 central carbon substitution
 - **d Suffix** Cl, H central carbon substitution
 - **e Suffix** F, H central carbon substitution

- **f Suffix** H₂ central carbon substitution
- **2nd Lower Case Suffix (a, b, c, etc.)** Indicates increasingly unsymmetrical isomers

Propene derivatives

[edit]

- **First lower case suffix (x, y, z):**
 - **x Suffix** Cl substitution on central atom
 - **y Suffix** F substitution on central atom
 - **z Suffix** H substitution on central atom
- **Second lower case suffix (a-f):**
 - **a Suffix** =CCl₂ methylene substitution
 - **b Suffix** =CClF methylene substitution
 - **c Suffix** =CF₂ methylene substitution
 - **d Suffix** =CHCl methylene substitution
 - **e Suffix** =CHF methylene substitution
 - **f Suffix** =CH₂ methylene substitution

Blends

[edit]

- **Upper Case Suffix (A, B, C, etc.)** Same blend with different compositions of refrigerants

Miscellaneous

[edit]

- **R-Cxxx** Cyclic compound
- **R-Exxx** Ether group is present
- **R-CExxx** Cyclic compound with an ether group
- **R-4xx/5xx + Upper Case Suffix (A, B, C, etc.)** Same blend with different composition of refrigerants
- **R-6xx + Lower Case Letter** Indicates increasingly unsymmetrical isomers
- **7xx/7xxx + Upper Case Letter** Same molar mass, different compound
- **R-xxxxB#** Bromine is present with the number after B indicating how many bromine atoms
- **R-xxxxI#** Iodine is present with the number after I indicating how many iodine atoms
- **R-xxx(E)** Trans Molecule
- **R-xxx(Z)** Cis Molecule

For example, R-134a has 2 carbon atoms, 2 hydrogen atoms, and 4 fluorine atoms, an empirical formula of tetrafluoroethane. The "a" suffix indicates that the isomer is unbalanced by one atom, giving 1,1,1,2-Tetrafluoroethane. R-134 (without the "a" suffix) would have a molecular structure of 1,1,2,2-Tetrafluoroethane.

The same numbers are used with an R- prefix for generic refrigerants, with a "Propellant" prefix (e.g., "Propellant 12") for the same chemical used as a propellant for an aerosol spray, and with trade names for the compounds, such as "**Freon** 12". Recently, a practice of using abbreviations HFC- for hydrofluorocarbons, CFC- for chlorofluorocarbons, and HCFC- for hydrochlorofluorocarbons has arisen, because of the regulatory differences among these groups.^[*citation needed*]

Refrigerant safety

[edit]

ASHRAE Standard 34, *Designation and Safety Classification of Refrigerants*, assigns safety classifications to refrigerants based upon toxicity and flammability.

Using safety information provided by producers, ASHRAE assigns a capital letter to indicate toxicity and a number to indicate flammability. The letter "A" is the least toxic and the number 1 is the least flammable.^[⁸⁶]

See also

[edit]

- Brine (Refrigerant)
- Section 608
- List of Refrigerants

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- v
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Heating, ventilation, and air conditioning

**Fundamental
concepts**

- Air changes per hour
- 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
- Solar cooling
- Solar heating
- Thermal insulation

- 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
- Grease duct
- Grille
- Ground-coupled heat exchanger

Components

**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
- Architectural acoustics
- Architectural engineering
- Architectural technologist
- Building services engineering
- Building information modeling (BIM)
- Deep energy retrofit

**Professions,
trades,
and services**

- 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)
- ASHRAE Handbook
- Building science
- Fireproofing

See also

- Glossary of HVAC terms
- Warm Spaces
- World Refrigeration Day
- Template:Home automation
- Template:Solar energy

Authority control databases: National

- United States
- France
- Japan
- Israel

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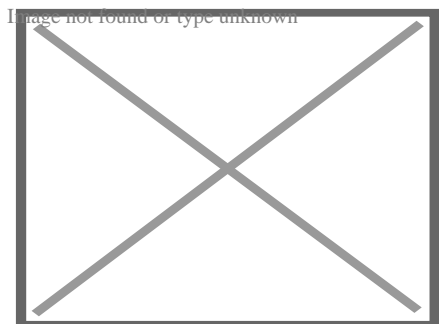
About Mobile home

This article is about the prefabricated structure. For the vehicle, see Recreational vehicle. For other uses, see Mobile home (disambiguation).

"Static Caravan" redirects here. For the record label, see Static Caravan Recordings.

"House on wheels" redirects here. For the South Korean variety show, see House on Wheels.

The examples and perspective in this article **deal primarily with the United States 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. *(April 2017) (Learn how and when to remove this message)*

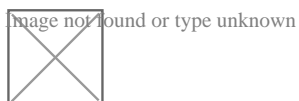


Mobile homes with detached single car garages

- v
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Part of a series on

Living spaces



Main

- House: detached
- semi-detached
- terraced
- Apartment
- Bungalow
- Cottage
- Ecohouse
- Green home
- Housing project
- Human outpost
- I-house
- Ranch
- Tenement
- Condominium
- Mixed-use development
- Hotel
- Hostel
- Castle
- Public housing
- Squat
- Flophouse
- Shack
- Slum
- Shanty town
- Villa

Issues

- Affordability
- Affordability in the United States
- Executive housing
- Environmental:
 - design
 - planning
 - racism
- Environmental security
- Eviction
- Fair housing
- Healthiness
- Homelessness
- Housing crisis
- Housing discrimination
- Housing stress
- Overpopulation
- Housing inequality
- Home ownership
- Luxury apartments
- Ownership equity
- Permit
- Rent
- Subprime lending
- Subsidized housing
- Sustainable:
 - architecture
 - development
 - living
- Sustainable city
- Toxic hotspot
- Vagrancy

Society and politics

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Other

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- Assisted living
- Boomtown
- Cottage homes
- Eco-cities
- Ecovillage
- Foster care
- Green building
- Group home
- Halfway house
- Healthy community design
- Homeless shelter
- Hospital
- Local community
- Log house
- Natural building
- Nursing home
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- Psychiatric hospital
- Residential care
- Residential treatment center
- Retirement community
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Housing portal

A **mobile home** (also known as a **house trailer**, **park home**, **trailer**, or **trailer home**) is a prefabricated structure, built in a factory on a permanently attached chassis before being transported to site (either by being towed or on a trailer). Used as permanent homes, or for holiday or temporary accommodation, they are often left permanently or semi-permanently in one place, but can be moved, and may be required to move from time to time for legal reasons.

Mobile homes share the same historic origins as travel trailers, but today the two are very different, with travel trailers being used primarily as temporary or vacation homes. Behind the cosmetic work fitted at installation to hide the base, mobile homes have strong trailer frames, axles, wheels, and tow-hitches.

History

[edit]

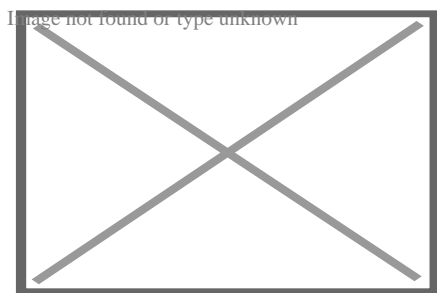
In the United States, this form of housing goes back to the early years of cars and motorized highway travel.^[1] It was derived from the travel trailer (often referred to during the early years as "house trailers" or "trailer coaches"), a small unit with wheels attached permanently, often used for camping or extended travel. The original rationale for this type of housing was its mobility. Units were initially marketed primarily to people whose lifestyle required mobility. However, in the 1950s, the homes began to be marketed primarily as an inexpensive form of housing designed to be set up and left in a location for long periods of time or even permanently installed with a masonry foundation. Previously, units had been eight feet or fewer in width, but in 1956, the 10-foot (3.0 m) wide home ("ten-wide") was introduced, along with the new term "mobile home".^[2]

The homes were given a rectangular shape, made from pre-painted aluminum panels, rather than the streamlined shape of travel trailers, which were usually painted after assembly. All of this helped increase the difference between these homes and home/travel trailers. The smaller, "eight-wide" units could be moved simply with a car, but the larger, wider units ("ten-wide", and, later, "twelve-wide") usually required the services of a professional trucking company, and, often, a special moving permit from a state highway department. During the late 1960s and early 1970s, the homes were made even longer and wider, making the mobility of the units more difficult. Nowadays, when a factory-built home is moved to a location, it is usually kept there permanently and the mobility of the units has considerably decreased. In some states, mobile homes have been taxed as personal property if the wheels remain attached, but as real estate if the wheels are removed. Removal of the tongue and axles may also be a requirement for real estate classification.

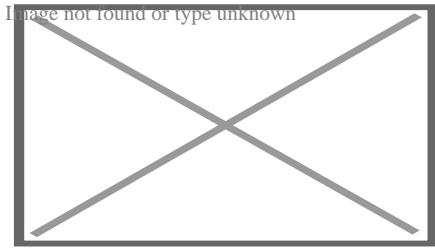
Manufactured home

[edit]

Main article: Manufactured housing



Example of a modern manufactured home in New Alexandria, Pennsylvania. 28 by 60 feet (8.5 m × 18.3 m)



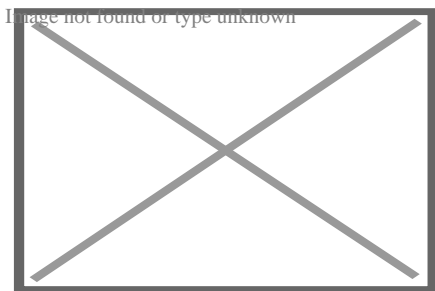
Manufactured home foundation

Mobile homes built in the United States since June 1976, legally referred to as manufactured homes, are required to meet FHA certification requirements and come with attached metal certification tags. Mobile homes permanently installed on owned land are rarely mortgageable, whereas FHA code manufactured homes are mortgageable through VA, FHA, and Fannie Mae.

Many people who could not afford a traditional site-built home, or did not desire to commit to spending a large sum of money on housing, began to see factory-built homes as a viable alternative for long-term housing needs. The units were often marketed as an alternative to apartment rental. However, the tendency of the units of this era to depreciate rapidly in resale value^[citation needed] made using them as collateral for loans much riskier than traditional home loans. Terms were usually limited to less than the thirty-year term typical of the general home-loan market, and interest rates were considerably higher.^[citation needed] In that way, mobile home loans resembled motor vehicle loans more than traditional home mortgage loans.

Construction and sizes

[edit]



Exterior wall assemblies being set in place during manufacture

Mobile homes come in two major sizes, *single-wides* and *double-wides*. Single-wides are 18 feet (5.5 m) or less in width and 90 feet (27 m) or less in length and can be towed to their site as a single unit. Double-wides are 20 feet (6.1 m) or more wide and are 90 feet (27 m) in length or less and are towed to their site in two separate units, which are then joined. *Triple-wides* and even homes with four, five, or more units are also built but less frequently.

While site-built homes are rarely moved, single-wide owners often "trade" or sell their home to a dealer in the form of the reduction of the purchase of a new home. These "used" homes are either re-sold to new owners or to park owners who use them as inexpensive rental units. Single-wides are more likely to be traded than double-wides because removing them from the site is easier. In fact, only about 5% of all double-wides will ever be moved.^[citation needed]

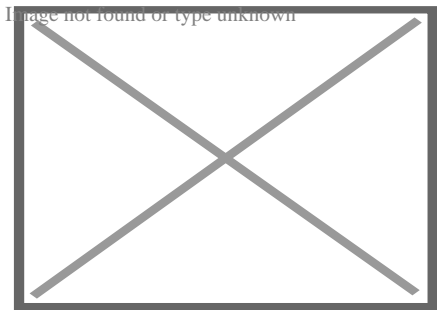
While an EF1 tornado might cause minor damage to a site-built home, it could do significant damage to a factory-built home, especially an older model or one that is not properly secured. Also, structural components (such as windows) are typically weaker than those in site-built homes.^[3] 70 miles per hour (110 km/h) winds can destroy a mobile home in a matter of minutes. Many brands offer optional hurricane straps, which can be used to tie the home to anchors embedded in the ground.

Regulations

[edit]

United States

[edit]



Home struck by tornado

In the United States, mobile homes are regulated by the US Department of Housing and Urban Development (HUD), via the Federal National Manufactured Housing Construction and Safety Standards Act of 1974. This national regulation has allowed many manufacturers to distribute nationwide because they are immune to the jurisdiction of local building authorities.^[4]^[5]

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By contrast, producers of modular homes must abide by state and local building codes. There are, however, wind zones adopted by HUD that home builders must follow. For example, statewide, Florida is at least wind zone 2. South Florida is wind zone 3, the strongest wind zone. After Hurricane Andrew in 1992, new standards were adopted for home construction. The codes for building within these wind zones were significantly

amended, which has greatly increased their durability. During the 2004 hurricanes in Florida, these standards were put to the test, with great success. Yet, older models continue to face the exposed risk to high winds because of the attachments applied such as carports, porch and screen room additions. Such areas are exposed to "wind capture" which apply extreme force to the underside of the integrated roof panel systems, ripping the fasteners through the roof pan causing a series of events which destroys the main roof system and the home.

The popularity of the factory-built homes caused complications the legal system was not prepared to handle. Originally, factory-built homes tended to be taxed as vehicles rather than real estate, which resulted in very low property tax rates for their inhabitants. That caused local governments to reclassify them for taxation purposes.

However, even with that change, rapid depreciation often resulted in the home occupants paying far less in property taxes than had been anticipated and budgeted. The ability to move many factory-built homes rapidly into a relatively small area resulted in strains to the infrastructure and governmental services of the affected areas, such as inadequate water pressure and sewage disposal, and highway congestion. That led jurisdictions to begin placing limitations on the size and density of developments.

Early homes, even those that were well-maintained, tended to depreciate over time, much like motor vehicles. That is in contrast to site-built homes which include the land they are built on and tend to appreciate in value. The arrival of mobile homes in an area tended to be regarded with alarm, in part because of the devaluation of the housing potentially spreading to preexisting structures.

This combination of factors has caused most jurisdictions to place zoning regulations on the areas in which factory-built homes are placed, and limitations on the number and density of homes permitted on any given site. Other restrictions, such as minimum size requirements, limitations on exterior colors and finishes, and foundation mandates have also been enacted. There are many jurisdictions that will not allow the placement of any additional factory-built homes. Others have strongly limited or forbidden all single-wide models, which tend to depreciate more rapidly than modern double-wide models.

Apart from all the practical issues described above, there is also the constant discussion about legal fixture and chattels and so the legal status of a trailer is or could be affected by its incorporation to the land or not. This sometimes involves such factors as whether or not the wheels have been removed.

North Carolina

[edit]

The North Carolina Board of Transportation allowed 14-foot-wide homes on the state's roads, but until January 1997, 16-foot-wide homes were not allowed. 41 states allowed 16-foot-wide homes, but they were not sold in North Carolina. Under a trial program approved January 10, 1997, the wider homes could be delivered on specific roads at certain times of day and travel 10 mph below the speed limit, with escort vehicles in front and behind.^[6]^[7] Eventually, all homes had to leave the state on interstate highways.^[8]

In December 1997, a study showed that the wider homes could be delivered safely, but some opponents still wanted the program to end.^[9] On December 2, 1999, the NC Manufactured Housing Institute asked the state Board of Transportation to expand the program to allow deliveries of 16-foot-wide homes within North Carolina.^[8] A month later, the board extended the pilot program by three months but did not vote to allow shipments within the state.^[10] In June 2000, the board voted to allow 16-foot-side homes to be shipped to other states on more two-lane roads, and to allow shipments in the state east of US 220. A third escort was required, including a law enforcement officer on two-lane roads.^[11]

New York

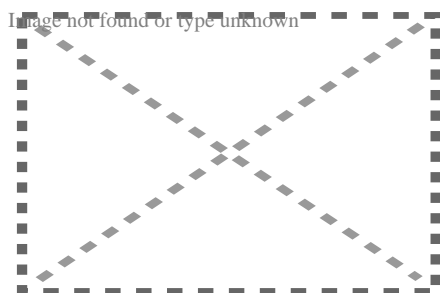
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In New York State, the Homes and Community Renewal agency tracks mobile home parks and provides regulations concerning them. For example, the agency requires park owners to provide residents with a \$15,000 grant if residents are forced to move when the land is transferred to a new owner. Residents are also granted the right of first refusal for a sale of the park, however, if the owner does not evict tenants for five years, the land sale can go ahead. State law also restricts the annual increase in land lot fee to a cap of 3 percent, unless the landowner demonstrates hardship in a local court, and can then raise the land lot fee by up to 6 percent in a year.^[12]

Mobile home parks

[edit]

Main article: Trailer park



Meadow Lanes Estates Mobile Home Park, Ames, Iowa, August 2010, during a flood

Mobile homes are often sited in land lease communities known as trailer parks (also 'trailer courts', 'mobile home parks', 'mobile home communities', 'manufactured home communities', 'factory-built home communities' etc.); these communities allow homeowners to rent space on which to place a home. In addition to providing space, the site often provides basic utilities such as water, sewer, electricity, or natural gas and other amenities such as mowing, garbage removal, community rooms, pools, and playgrounds.

There are over 38,000^[13] trailer parks in the United States ranging in size from 5 to over 1,000 home sites. Although most parks appeal to meeting basic housing needs, some communities specialize towards certain segments of the market. One subset of mobile home parks, retirement communities, restrict residents to those age 55 and older. Another subset of mobile home parks, seasonal communities, are located in popular vacation destinations or are used as a location for summer homes. In New York State, as of 2019, there were 1,811 parks with 83,929 homes.^[12]

Newer homes, particularly double-wides, tend to be built to much higher standards than their predecessors and meet the building codes applicable to most areas. That has led to a reduction in the rate of value depreciation of most used units.^[14]

Additionally, modern homes tend to be built from materials similar to those used in site-built homes rather than inferior, lighter-weight materials. They are also more likely to physically resemble site-built homes. Often, the primary differentiation in appearance is that factory-built homes tend to have less of a roof slope so that they can be readily transported underneath bridges and overpasses.^[citation needed]

The number of double-wide units sold exceeds the number of single-wides, which is due in part to the aforementioned zoning restrictions. Another reason for higher sales is the spaciousness of double-wide units, which are now comparable to site-built homes. Single-wide units are still popular primarily in rural areas, where there are fewer restrictions. They are frequently used as temporary housing in areas affected by natural disasters when restrictions are temporarily waived.^[citation needed]

Another recent trend has been parks in which the owner of the mobile home owns the lot on which their unit is parked. Some of these communities simply provide land in a homogeneous neighborhood, but others are operated more like condominiums with club homes complete with swimming pools and meeting rooms which are shared by all of the residents, who are required to pay membership fees and dues.

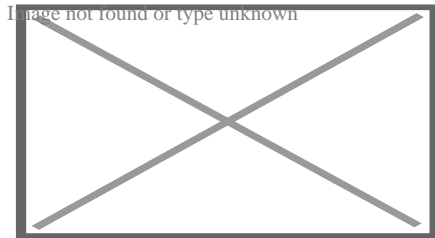
By country

[edit]

Mobile home (or mobile-homes) are used in many European campgrounds to refer to fixed caravans, purpose-built cabins, and even large tents, which are rented by the week or even year-round as cheap accommodation, similar to the US concept of a trailer park. Like many other US loanwords, the term is not used widely in Britain.^[*citation needed*]

United Kingdom

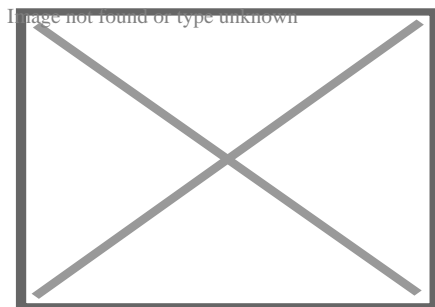
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A mobile home marketed as a holiday home

Mobile Homes or Static Caravans are popular across the United Kingdom. They are more commonly referred to as Park Homes or Leisure Lodges, depending on if they are marketed as a residential dwelling or as a second holiday home residence.

Residential Mobile homes (park homes) are built to the BS3632 standard. This standard is issued by the British Standards Institute. The institute is a UK body who produce a range of standards for businesses and products to ensure they are fit for purpose. The majority of residential parks in the UK have a minimum age limit for their residents, and are generally marketed as retirement or semi-retirement parks. Holiday Homes, static caravans or holiday lodges aren't required to be built to BS3632 standards, but many are built to the standard.



A static caravan park on the cliffs above Beer, Devon, England

In addition to mobile homes, static caravans are popular across the UK. Static caravans have wheels and a rudimentary chassis with no suspension or brakes and are therefore transported on the back of large flatbed lorries, the axle and wheels being used for movement to the final location when the static caravan is moved by tractor or 4x4. A static caravan normally stays on a single plot for many years and has many of the modern conveniences normally found in a home.

Mobile homes are designed and constructed to be transportable by road in one or two sections. Mobile homes are no larger than 20 m × 6.8 m (65 ft 7 in × 22 ft 4 in) with an internal maximum height of 3.05 m (10 ft 0 in). Legally, mobile homes can still be defined as "caravans".

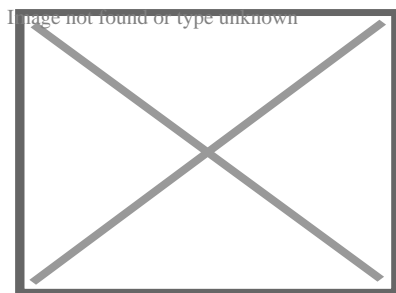
Static holiday caravans generally have sleeping accommodation for 6 to 10 people in 2, 3 or 4 bedrooms and on convertible seating in the lounge referred to as a 'pull out bed'. They tend towards a fairly "open-plan" layout, and while some units are double glazed and centrally heated for year-round use, cheaper models without double glazing or central heating are available for mainly summer use. Static caravan holiday homes are intended for leisure use and are available in 10 and 12 ft (3.0 and 3.7 m) widths, a small number in 13 and 14 ft (4.0 and 4.3 m) widths, and a few 16 ft (4.9 m) wide, consisting of two 8 ft (2.4 m) wide units joined. Generally, holiday homes are clad in painted steel panels, but can be clad in PVC, timber or composite materials. Static caravans are sited on caravan parks where the park operator of the site leases a plot to the caravan owner. There are many holiday parks in the UK in which one's own static caravan can be owned. There are a few of these parks in areas that are prone to flooding and anyone considering buying a sited static caravan needs to take particular care in checking that their site is not liable to flooding.

Static caravans can be rented on an ad-hoc basis or purchased. Purchase prices range from £25,000 to £100,000. Once purchased, static caravans have various ongoing costs including insurance, site fees, local authority rates, utility charges, winterisation and depreciation. Depending on the type of caravan and the park these costs can range from £1,000 to £40,000 per year.^[15] Some park owners used to have unfair conditions in their lease contracts but the Office of Fair Trading has produced a guidance document available for download called Unfair Terms in Holiday Caravan Agreements which aims to stop unfair practices.

Israel

[edit]

Main article: Caravan (Israel)



Posting of *caravan* in Mitzpe Hila, Israel, 1982

Many Israeli settlements and outposts are originally composed of caravans (Hebrew:

מבצע, *caravan*; pl.

מבצות, *caravanim*). They are constructed of light metal, are not insulated but can be outfitted with heating and air-conditioning units, water lines, recessed lighting, and floor tiling to function in a full-service capacity. Starting in 2005, prefabricated homes, named *caravillas*

(Hebrew:

מבצע, *caravilla*), a portmanteau of the words caravan, and villa, begin to replace mobile homes in many Israeli settlements.

Difference from modular homes

[edit]

Main article: Modular home

Because of similarities in the manufacturing process, some companies build both types in their factories. Modular homes are transported on flatbed trucks rather than being towed, and lack axles and an automotive-type frame. However, some modular homes are towed behind a semi-truck or toter on a frame similar to that of a trailer. The home is usually in two pieces and is hauled by two separate trucks. Each frame has five or more axles, depending on the size of the home. Once the home has reached its location, the axles and the tongue of the frame are then removed, and the home is set on a concrete foundation by a large crane.

Both styles are commonly referred to as factory-built housing, but that term's technical use is restricted to a class of homes regulated by the Federal National Mfd. Housing Construction and Safety Standards Act of 1974.

Most zoning restrictions on the homes have been found to be inapplicable or only applicable to modular homes. That occurs often after considerable litigation on the topic by affected jurisdictions and by plaintiffs failing to ascertain the difference. Most modern modulars, once fully assembled, are indistinguishable from site-built homes. Their roofs are usually transported as separate units. Newer modulars also come with roofs that can be raised during the setting process with cranes. There are also modulars with 2 to 4 storeys.

Gallery

[edit]

Construction starts with the frame.

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Construction starts with the
frame.

Interior wall assemblies are attached.

○

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Interior wall assemblies are
attached.

Roof assembly is set atop home.

○

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Roof assembly is set atop
home.

Drywall is completed.

○

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Drywall is completed.

Home is ready for delivery to site.

○

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Home is ready for delivery to site.

- A modern "triple wide" home, designed to look like an adobe home

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A modern "triple wide" home,
designed to look like an
adobe home

A mobile home is being moved, California.

○

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A mobile home
is being moved,
California.

- A mobile home being prepared for transport

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A mobile home being
prepared for transport

See also

[edit]

-  not found or type unknown Housing portal
- All Parks Alliance for Change
- Campervan
- Construction trailer
- Houseboat
- Manufactured housing
- Modular home
- Motorhome
- Nomadic wagons
- Recreational vehicle
- Reefer container housing units
- Small house movement
- Trailer (vehicle)
- Trailer Park Boys
- Trailer trash
- Vardo
- Prefabricated home

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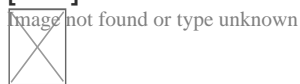
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External links

[edit]



Wikimedia Commons has media related to **Mobile homes**.

- Regulating body in the UK
- US Federal Manufactured Home Construction and Safety Standards

About Durham Supply Inc

Photo

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Things To Do in Oklahoma County

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Route 66 Park

4.6 (756)

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Oklahoma City Zoo

4.5 (14305)

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OKC Underground

4.1 (136)

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Centennial Land Run Monument

4.8 (811)

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Museum of Osteology

4.8 (2737)

Photo

The Cave House

4.6 (248)

Driving Directions in Oklahoma County

Driving Directions From Diamond Ballroom to Durham Supply Inc

Driving Directions From Oklahoma City to Durham Supply Inc

Driving Directions From Orr Nissan Central to Durham Supply Inc

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Driving Directions From Science Museum Oklahoma to Durham Supply Inc

Driving Directions From Bricktown Water Taxi to Durham Supply Inc

Driving Directions From Martin Park Nature Center to Durham Supply Inc

Driving Directions From Oklahoma City's Adventure District to Durham Supply Inc

Driving Directions From Centennial Land Run Monument to Durham Supply Inc

Driving Directions From Route 66 Park to Durham Supply Inc

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<https://www.google.com/maps/dir/Route+66+Park/Durham+Supply+Inc/@35.496913,97.6934847,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sChIJCUnZ1UoUsocRpJXqm8cX514!2m2!1d-97.6934847!2d35.4969132!1m5!1m1!1sChIJCUnZ1UoUsocRpJXqm8cX514!2m2!1d-97.4774449!2d35.3963954!3e3>

<https://www.google.com/maps/dir/Oklahoma+Railway+Museum/Durham+Supply+Inc/@35.496913,97.4671897,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sChIJCUnZ1UoUsocRpJXqm8cX514!2m2!1d-97.4671897!2d35.4671897!1m5!1m1!1sChIJCUnZ1UoUsocRpJXqm8cX514!2m2!1d-97.4774449!2d35.3963954!3e4>

97.4671897!2d35.5051862!1m5!1m1!1sChIJCUnZ1UoUsocRpJXqm8cX514!2m2!1d-97.4774449!2d35.3963954!3e0

Reviews for Durham Supply Inc

Durham Supply Inc

Image not found or type unknown

Crystal Dawn

(1)

I would give 0 stars. This isn't THE WORST company for heating and air. I purchased a home less than one year ago and my ac has gone out twice and these people refuse to repair it although I AM UNDER WARRANTY!!!! They say it's an environmental issue and they can't fix it or even try to or replace my warranted air conditioning system.

Durham Supply Inc

Image not found or type unknown

Salest

(5)

Had to make a quick run for 2 sets of ?? door locks for front and back door.. In/ out in a quick minute! They helped me right away. ?? Made sure the 2 sets had the same ? keys. The ? bathroom was clean and had everything I needed. ? ?. Made a quick inquiry about a random item... they quickly looked it up and gave me pricing. Great ? job ?

Durham Supply Inc

Image not found or type unknown

Jennifer Williamson

(5)

First we would like to thank you for installing our air conditioning unit! I'd like to really brag about our technician, Mack, that came to our home to install our unit in our new home. Mack was here for most of the day and thoroughly explained everything we had a question about. By the late afternoon, we had cold air pumping through our vents and we couldn't have been more thankful. I can tell you, I would be very lucky to have a technician like Mack if this were my company. He was very very professional, kind, and courteous. Please give Mack a pat on the back and stay rest assured that Mack is doing a great job and upholding your company name! Mack, if you see this, great job!! Thanks for everything you did!! We now have a new HVAC company in the event we need one. We will also spread the word to others!!

Durham Supply Inc

Image not found or type unknown

K Moore

(1)

No service after the sale. I purchased a sliding patio door and was given the wrong size sliding screen door. After speaking with the salesman and manager several times the issue is still not resolved and, I was charged full price for an incomplete door. They blamed the supplier for all the issues...and have offered me nothing to resolve this.

Exploring Extended Service Agreements for Mobile Home AC Units [View GBP](#)

Royal Supply Inc

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State : OK

Zip : 73149

Address : Unknown Address

Google Business Profile

Company Website : <https://royal-durhamsupply.com/locations/oklahoma-city-oklahoma/>

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