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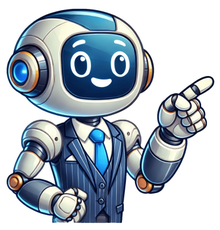

See: All About PV Solar photovoltaic All about home electronics and appliances Zero energy Homes, Schools and other buildings Soon all new buildings will be energy zero. California, the European Union, Japan and several Chinese jurisdictions have ambitious Zero Energy Building projects for the next decade. Zero Energy Buildings are within our reach. They arent a distant or an expensive green dream. See: Zero energy buildings Passive Solar Houses Houses and Other Buildings energy ConsumptionBuildings waste a prodigious amount of energy. Americas buildings consume more than 70% of the electricity and around 35% of the natural gas used in the country. They are the largest single contributor to CO2 and other harmful gas emissions. The average American household spends more than $2.000 per year in electricity and gas - more than $100.000 over 50 years. But it doesn't have to be this way. If you are building or buying a new home, you can reduce energy bills to a small fraction. Low and zero energy buildings do not mean privation or less comfort. On the contrary.An Easy way to make Energy Savings in your House: efficient appliances Domestic appliances and electronics consume about 40-50% of the average household electricity consumption. A lot, indeed! But new efficient refrigerators and freezers can cut refrigeration costs by as much as 50% or more. And the same is true for clothes dryers, dishwashers or clothes washersSee: Energy Efficient Appliances and Electronics Super-Insulation and Air-TightnessSmart home design and very high levels of insulation and air sealing are key to reduce residential energy consumption and improve thermal comfort. See: Insulation Guide for home energy improvement Home Air Sealing Guide Buildings energy consumption in the US: about 80% of the electricity and 35% of the GasMany dozens of infographics here ideas In new construction and large scale renovations consider: - smart house design and proper, orientation, size, shape and layout; - high levels of insulation and airtightness;, - high-efficient windows and exterior doors, - energy efficient appliances and electronics, - energy-efficient lighting, See: New Houses guidelines "Small" home energy improvements: - metallic window films; - small sealing and insulation projects; - zoning and thermostats - energy efficient appliances and electronics - switch off or unplug electronics and appliances as much as possible; - new energy efficient lights, - low-flow rate faucets and shower head, - strategies involving ceiling fans and the settings of air conditioners. most fundamental principle of home energy efficiency We dont need super-smart houses or technological breakthroughs to dramatically reduce our energy consumption and to minimize energy waste. See: The Golden Rule For House Energy Improvements 30 Misconceptions about House Energy Improvements 20 Commandments for Home Energy Improvements Design, Architecture & House ConstructionWorking and finding construction professionalsFirst Priorities When Building a New House or Making a Big Renovation Top House-Energy savings estimation toolWant to know how much energy you can save by using new energy efficient appliances, new lighting bulbs, new windows and exterior doors, higher levels of insulation, metallic window films, ceiling fans and more... much more? See: Energy Savings Estimation Tool New Houses, Schools and other buildings have to be more energy efficient Building codes have failed and are still failing to provide guidance for very energy efficient homes and Zero Energy Houses. Energy auditors often complain about homeowners: We go back to the same houses, and make the same recommendations that are never implemented. See: House Energy book: 101 Ideas to Improve your New Home New Houses Guide Tell your Mayor that you Support Green Building Rating your City Green Building Programs Cities with Great Green Building Programs Top House design: do not compromise If building a new house, consider carefully its siting and shape, and its orientation to the sun. . Wrong decisions will make your home less comfortable and less energy-efficient. Also consider carefully the size of the house. Homes should be modest in size to be energy-efficient; large buildings are difficult to heat and to cool. If possible, keep the size of your home around 2,000 square feet or less. See: House Orientation, Shape House Siting and Size for Energy Savings Top hot climates & Cooling If you live in a hot climate shade your window and walls as much as possible (and the ground around your house). Use trees and shrubs and also devices like awnings, shades and pergolas. Shade and natural ventilation are key elements for energy savings. Consider breezes and outside fresh air to cool your house. Open your windows to breezes and use ventilation fans and whole-house fans to bring outside fresh air into your home. See: Natural Cooling Guide Cooling with Shade Cooling with Ventilation Solar Heat Gains Control Partner site: Pandemic Economics Top Saving energy with Ceiling Fans and Air Conditioners. They Can Work in Conjunction Ceiling fans and air conditioners cool by distinctly different methods. But they can work in conjunction. Each one degree increase (F) in the thermostat setting can decrease your air conditioner bills by, say, 5%. And ceiling fans make that possible. See: Ceiling Fans with AC Top You May Not Need (Central) Air Conditioners Central air conditioners are expensive to install and to run. You can greatly reduce your cooling bills by using very energy efficient windows, shading devices (overhangs, porches; awnings, blinds, shades, shutters), tree-shade and high levels of attic and roof insulation... See: Air Conditioners Guide Air Conditioners Alternatives Top energy savings: Pay attention to electronic devices in Standby and Idle Mode. Top energy wasters in our homes may be hidden or go unnoticed. Many home appliances have surprisingly high energy costs. Be aware. Pay attention to refrigerators, clothes washers and other domestic appliances. But do not forget vacuum cleaners, personal computers, printers, routers and mobile telephone chargers and telephone answering machines; or CD players, video game consoles, grills, electric ice-cream makers, electric bread makers, electric juice extractors, electric knifes, electric egg boilers, electric toasters, coffee machines, hair-dryers, electric toothbrushes, electric razors, electrically powered towel rails, electric blankets, electric and more, much more Thats just a part of a much larger list. See: House Electronics Infographics and Videos We have dozens of illustrated stories and high quality infographics on green building that you can use freely on your site or blog. See their list here: Stories/Images List. For videos see here. Top Saving energy in our homes with Heat Pumps: Electric Heating and Cooling Heat pumps provide both heating and cooling at lower prices that other electric equipment. They are a reliable technology, excellent for moderate climates. But which is their role in efficient homes, in cold climates? See: Heat Pumps Guide Top House Heating Savings & Furnaces Systems A small furnace, properly installed and with a short and straight duct system, can provide significant energy savings. That's a good choice for cold climates, in large buildings with conventional levels of insulation and airtightness. But furnaces aren't the ideal heating system for zero energy houses.. See: Furnaces Guide Top Fireplaces Are Unhealthy and 90% of the Heat Goes Up Through the Chimney There are dozens of millions of homes with fireplaces worldwide. Unfortunately they heat too little and they emit dangerous pollutants. As the American Lung Association puts it: "Burning wood emits harmful toxins and fine particles in the air that can worsen breathing problems and lead to heart and lung disease and even early death" See: Fireplaces and Heating Stoves Guide Top high efficient Windows & Tubular Skylights Windows are a weak link in the thermal envelope of any house. They are responsible for many thousands of dollars in energy costs, during their lifetime, in average homes. As to skylights, they can be great for natural lighting, but they can also increase your energy bills by hundreds of dollars, every year. Don't be fooled by dreams of beautiful views at the top of your rooms. See: Windows & House Energy Efficiency Skylights Guide Top Lighting Savings of About 75% Lighting accounts for about 5%-10% of residential energy bills. In the USA that amounts to $100-$200 per year/household... But it's not difficult to reduce lighting consumption. New efficient light bulbs and fixtures combined with simple strategies, can easily cut home lighting bills in half or more. See: Lighting Guide Outdoor Lighting Guide Top Buying a New Energy Efficient House Energy Starcertified houses (EUA, Canada), 6-10 Star homes (Australia) and European homes with a A or B energy performance certification can provide significant energy savings. But they fall short of the best. See: Buying a House See: House Energy Audits Top energy savings: Electric vs. Gas Small Heaters See: Small Electric and Gas Heaters Guide Solar energy for our Buildings Solar water heating is now part of millions of homes worldwide. On the other hand, much of the future of our planet relies largely on photovoltaic systems... See: Residential Solar Guide Top Selecting a Water Heating System Water heating bills amount to $300 to $450 per year in most households. Water heating is one of our biggest energy expenses. There are several types of water heaters to choose from: 1)Solar 2)Gas tankless (condensing and regular); 3)Gas storage (condensing and regular); 4)Electric; 5) Integrated heating-watersystems. See: Water Heating Guide Top Energy-Efficient Exterior Doors Consider energy efficient exterior doors. Be careful with metal and patio glass doors. They are affordable and may look nice, but that comes at a high cost. They are a major source of heat loss and gain. See: Doors Guide Be Aware of Leaky and Un-Insulated Ducts That hidden and unnoticed network of tubes in the walls, ceilings or floors, carrying the air from your homes furnace or heat pump or AC to the several rooms, can be a big energy waster. Leaky and un-insulated ducts can add hundreds of dollars to energy bills. See: Home Ducts Guide Top Home Moisture Problems Keep excess moisture out of your home. Moisture is a leading cause of damage in homes, and also of higher energy bills and serious health hazards. See: Home Moisture Guide Roofs and Attics The key job of a roof is to keep water out. Roofs cant ever be a significant source of useful heat gains. See: Roofs Guide Top Walls guide for energy savings Walls need insulation. Without it, heat will flow to the outside through the materials they are made from. Wood, steel, concrete and other construction materials do not impede heat flow. See: Walls Guide for Home Energy Improvement Floors & Flooring When building or renovating a home, when it comes to floors, people generally think of floor coverings or radiant floor heating Mmost homeowners and builders do not recognize the importance of floors for house energy savings and they end up with buildings that are expensive to heat and cool. See: Floors & House energy efficiency Flooring Guide Top House design and Efficiency & Basements If you are going to build a new home, unless you are building on a small lot or confronted with height restrictions, and unless you do need below-grade space, a slab-on-grade foundation is a better choice than basements (or crawlspaces).See: Basements Guide Do Not Forget your Yard and your Pool A single gas-powered leaf blower can emit as much pollution in one hour as dozens of cars operating for the same period of time. And typical gas mowers are responsible for about 5% of the worlds pollution, which is awesome. Pay attention to your yard equipment efficiency, and also to your pool, if you have one. See: Swimming Pools Energy Improvement Energy Efficient Yards Top energy improvements Are a Powerful Tool For Creating a Better Environment Residential energy efficiency is a powerful means for creating a better environment and a better world. See: Energy Improvements & EnvironmentPassive Solar Guide Residential Solar Photovoltaic Solar Water Heaters Guide Room Space Heating with Solar Small Wind Systems Guide Small Hydro Systems Guide Green Electricity Guide Top Landscaping for House Energy Efficiency The landscape around your houseis not just about privacy and good looks; it has also a great impact on your comfort and energy consumption. See: Landscaping for House Energy Efficiency Save Energy, Save Money... Find the best ways for Home Energy Efficiency with us Google+ Top Homeowners who live in regions that are hurricane-prone often secure their homes with sturdier windows. Making this investment, along with other precautions and preparedness steps, goes a long way towards protecting themselves, their families, and their homes.While homeowners know they want to install stronger windows to help provide better protection, they are often confused when it comes down to making a choice of which type of windows to purchase.One of the most common questions we see relates to the differences between impact windows and storm windows. In our post today, well aim to demystify these questions to help you make an educated decision when buying your new windows.Are Impact Windows and Storm Windows the Same?Impact and storm windows are not the same. Many people, even sometimes those working in the industry, tend to use the terms impact and storm interchangeably when it comes to windows. The thing is, while the two types of windows share many similarities, they are also quite different in many ways.These differences are primarily due to the level of protection each style of window offers. Make no mistake, both types offer better protection than standard glass windows. However, impact windows generally provide more protection since they go well beyond the minimum requirements. Storm windows, while a definite upgrade, do not offer the same level of strength.What is an Impact Window?Impact windows, also referred to as hurricane windows, are designed with reinforced frames and impact-resistant glass. This means the glass wont shatter or be compromised by heavy winds. You can rest easy knowing your family will not be injured by flying debris or flying glass shards if struck by an object during a storm.What is a Storm Window?Storm windows is a window that is installed on an existing window. These windows will provide notable protection features for your family and home. In addition to their functional abilities, you will find many styles and colors to choose from to beautify your home.How Do I Choose Between Impact and Storm Windows?Choosing between impact and storm windows isnt always the easiest decision. Essentially, your final choice will be determined by many factors. The following bullet points help to highlight the differences youll want to consider when making your purchasing decision.Impact WindowsMade with impact-resistant glass layers.Built with durable laminated glass.Contains multiple PVB layers for protection.Protects against hurricane weather, brute force, high-speed winds, and flying debris.Does not fall apart or shatter.Constructed with strong, specially-designed frames.Offers additional protection from burglaries (e.g. it cannot be broken with hammers, axes, or other tools).Thermal insulation offers energy-efficient benefits.Construction of glass offers noise reduction.Glass construction helps block 99% of harmful UV rays.Looks the same as regular windows and comes in a variety of stylish designs.Storm WindowsProtects you from winds from storms.Does shatter into shards of glass.Will shatter after being struck by airborne debris.Offers some level of thermal insulation protection from harmful UV rays.Provides a level of noise cancellation effect. (But as strong as impact windows do.)Built as an overtop to existing windows.If you are looking strictly at price, you will pay more for impact windows than you would for Storm windows. In return, you will receive stronger protection and, in most cases, a better amount of curb appeal.Read and Understand All FeaturesWhen making your decision, its important to consider the features you want and/or need. Not everyone needs impact windows. But if you live in an area where youre at risk, such as certain designated areas of Florida, you may even be required by law to install impact windows. With similarities, such as safety glass technology, you may find you only need a lower-rated window for your home. Its a good idea to look up your local ordinances regarding what type of windows you should install in your home. Then look at features such as frame styles and other aesthetic considerations.Consumers Have Many ChoicesThe bottom line is homeowners have many choices when it comes to upgrading their home windows. The extra features of impact windows are something to consider if your home is located in a region that is particularly prone to experiencing hurricanes, tropical storms, and other severe weather. If so, youll definitely want to consider these local weather risks you face every year, even if you arent required by law to install specific types of windows.However, storm windows may be sufficient for your needs if you live in an area where you see the occasional heavy storm. As with any other major home upgrade, youll want to weigh out the pros and cons of each window option to help you make an educated decision. Homeowners who live in regions that are hurricane-prone often secure their homes with sturdier windows. 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Then look at features such as frame styles and other aesthetic considerations.Consumers Have Many ChoicesThe bottom line is homeowners have many choices when it comes to upgrading their home windows. The extra features of impact windows are something to consider if your home is located in a region that is particularly prone to experiencing hurricanes, tropical storms, and other severe weather. If so, youll definitely want to consider these local weather risks you face every year, even if you arent required by law to install specific types of windows.However, storm windows may be sufficient for your needs if you live in an area where you see the occasional heavy storm. As with any other major home upgrade, youll want to weigh out the pros and cons of each window option to help you make an educated decision. Storm windows can be a cost-effective option for cold climates, compared to common replacement windows. Storm windows are a lot more inexpensive and can provide significantly more energy savings than cheap replacement windows. See: Exterior vs. Interior storm windowsStorm windows are a typical cold climate window treatment, intended to increase the R-value/insulation of existing windows. Sophisticated storm windows two and three track exterior windows, with low-E glass will cost you a small fraction of standard replacement windows. And they may cut heat transfer by 50% or so, which you will never achieve with average windows. Inexpensive Plastic storm windowsMany inexpensive storm windows involving flexible PVC glazing, acrylic glazing and insulation film kits- which a energy- are unreliable and with a short life span. Plastic interior storm panels will cost you a few dozen dollars and are easy to install and as effective as other more expensive storm windows. But they lose quality overtime (clear plastic will soon lose transparency) or may get broken easily. Storm windows with Low-E glass and sturdy metal materials at the frames and sashes are a better choice. Storm windows Alternatives Windows films designed to reduce heat loss during the heating season are very ineffective when installed applied over the glass. Only window insulated films (applied to the indoor window frame) are effective at preventing heat loss. The benefits provided by storm windows, shades, or insulation kits and other window improvements are highest with older and poorly performing windows.Several manufacturers are offering two and three-cell pleated or cellular shades with dead air spaces. These shades reduce radiant heat loss in cold weather, which is important.But there is a downside: they only provide slight control of air infiltration. The insulating value of these types of shades depends on their air-sealing value; without an airtight seal around their perimeter, convective currents will short-circuit thermal performance. And since they do not provide that sealing, its hard to say their true performance. Bottom line: pleated and cellular shades should be mounted as close to the glass of the windows as possible; the sides of the shade should held close to the wall in order to get a sealed air space. The reflective surface of the shades should always face inward during the winter. Adding a second window Replacing an energy-inefficient window can be disruptive and messy. But if the window doesn't leak and is strong, consider installing a second window on the interior of the existing one. This new window will act as a special and strong storm window andcan be an excellent choice from an energy and an economic standpoint. Obviously this second window should have the same operation type and a reasonable insulation value. In cold and moderate climates, if feasible, that's a very effective way of reducing heat loss and infiltration. Choosing storm windows Storm windows are a typical cold climate window treatment, intended to increase the R-value/insulation of existing windows with energy-efficiency problems. They are an alternative to replacement windows, and do not make sense in new construction.If you are looking for storm windows, prefer units with Low-e glass panes and make sure that the storm window has a sturdy frame (aluminum can provide it), removable sashes (important for cleaning, and a standard feature in new units) and good sealing. Also prefer exterior storm windows with weep holes on their bottom (to let water out) and without plastic parts. When installing exterior storm windows do not forget that the primary windows should be properly sealed, to prevent condensation problems (in practice that means that the storm window should be slightly leakier than the main window). Some storm windows include a screen to keep insects out, whenever the pane is removed for ventilation. Interior vs Exterior Storm Windows Exterior storm windows (with a good low-e glass) are significantly more effective than interior storm windows. If you intend to buy an interior storm windows, look carefully at the seals, sashes and frames. Units using magnetic tapes and adhesives do not last long. Units with plastic glazing will lose transparency over time (due to ultraviolet radiation) and have a short lifespan. Units with glass (preferable low-e glass, for a better R-value/insulation) and metal parts ensure a longer service life. Related Content Top .... Home Page When it comes to adding comfort to your home there are many options from which to choose. We're not talking about warm prints and comfortable loungers; we're talking about having the desired temperature in your home. You may or may not have heard about storm windows.In truth, they were once popular, and new modern windows have essentially eliminated the need for them but if you have an older historic home storm windows could be an option for. you. Storm windows can provide energy efficiencywithout requiring you to replace your home's original windows. A storm window is a window that is mounted on the outside of existing window panes. Their purpose is to improve thermal insulation and soundproofing. They can also serve to protect glass windows from hail or branches that might fly about during stormy seasons. Storm windows are an alternative for homeowners who can't replace their windows without losing aesthetic value when it's time to sell. Materials used for storm windows range from thick glass units to flexible plastic sheets. Storm windows can be temporarily mounted for easy removal during warmer seasons, or fixed as a permanent solution for year-round benefits. The pane options will have different optical qualities and will also age differently over time.Wood, vinyl, and aluminum are the most common frame material options. Aluminum is strong, light, and maintenance-free, but can be a low insulating material. Wood and vinyl can be affected by extreme temperatures, expanding and contracting as a response. Buying a temporary storm window for the unbearable seasons might be your best option until you can budget for insulated replacement glass on your permanent windows.When selecting a storm window for your home, speaking to a professional will help answer your questions on the pros and cons of each feature. There are many questions surrounding storm windows, especially because they've become less common. Below are answers to two of the most commonly asked questions about storm windows. Some models of storm windows can be opened but not all. If you choose to purchase storm windows with opening capabilities, then be sure to keep them clean and free of dust. Any debris or water that gets trapped inside a storm window could affect the impact of the window in the first place. Moisture that gets trapped between your storm window and existing home window can produce condensation and damage, such as rot in wooden frames.Will Storm Windows Reduce My Energy Bills?There are many factors involved when you want to reduce your energy bills. Each home is built differently and is susceptible to various climates. According toEnergy.gov, storm windows or double-glazed sealed units will reduce the heat loss and overall home air leakage by ten percent. Storm windows can reduce your energy bills if properly installed.The U-factor of storm windows will also impact the window's ability to resist thermal heat flow. Look for stormwindows that are made with low-E glass, therebyhelping keep harmful UV rays out as well as provide ample insulation. Insulated glass windows, also known as Insulated Glass Units (IGU), are made up of multiple panes of glass with a fixed gas in the frame. They work to act as a barrier between the temperature in your home to the outdoor elements. The multiple layers of glass, non-toxic gas, and insulating frameshelp to resist heat and cold transfer.Insulated Glass Units are Built For Energy EfficiencyArgon or krypton gas is used to fill the space between multiple panes and improves the thermal performance of windows.The glass can also combat conduction by being treated with thermal or chemical coatings or laminations.For strength and safety, windows can be made with tempered glass. With North Texas's extreme weather swingsfrom intense summer heat to severe thunderstorms and occasional winter freezesyour home's windows play a crucial role in both protection and energy efficiency. Most newer DFW homes built after the 1990s typically feature multi-pane insulated glass windows, which handle our climate well. (Check your windows to determine if they're double pane or single pane.)If your North Texas home still has single-pane windows, especially in older neighborhoods like Highland Park, Lakewood, or historic Fort Worth, you should consider upgrading. The brutal Texas summer heat can drive up your HVAC costs significantly with single-pane windows.While replacement windows are the ideal solution, storm windows can be a more budget-friendly option to improve energy efficiency and protect against our severe weather.To make the best choice for your home, consult with local window specialists who understand North Texas weather challengeslook for contractors who are familiar with ENERGY STAR requirements for our climate zone and have experience with DFW's unique housing styles. Brennan Published September 08, 2020 Updated October 21, 2024 Share Protective secondary windowThis 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:"Storm window"news newspapers books scholar JSTOR (January 2008) (Learn how and when to remove this message)Storm windows are windows that are mounted outside or inside of the main glass windows of a house.[1] Storm windows exist in North America, but are uncommon in continental Europe, where double, triple or quadruple glazing is prevalent. Storm windows can be made of glass, rigid plastic panels, or flexible plastic sheets; and may be permanently or temporarily mounted. They function similarly to insulated glazing. The term may also refer to a small openable flap found in the side window on light aircraft.In the United States, the older style of this window is often referred to as a "storm sash".[2]On modern houses they serve on existing windows in order to improve their thermal insulation[3] and soundproofing. Aside from insulation, external storm windows provide an additional measure of protection for homes against damage to costly glass panes during inclement weather such as hail. On older houses, storm windows were installed in autumn when the window screens were removed; later homes had the pieces combined in one unit. Similarly, storm doors (also called "screen doors") allow similar energy savings for the necessarily less efficient primary doors the screen allows for summer ventilation.Modern storm windows are a typical energy upgrade solution for cold climates. They are mostly intended to improve the insulation value (R-value) of existing windows, especially single-glazed units.[4]Storm windows can be very cost effective in cold climates. They are inexpensive, and can reduce heat loss by up to 50%, increasing the building's comfort and reducing the heating costs.They also reduce exterior air infiltration significantly. Storm windows are an inexpensive add-on: even the best storm windowsthree track exterior windows with low thermal emissionwill cost a small fraction of the price of standard replacement windows.[citation needed]Interior storm windows can, however, produce condensation and be visually obstructive; exterior storm windows can also have a negative visual effect. These aesthetic issues can be minimized by single line storm sashes, the incorporation of vent holes, and a properly sealed fit.[5]Storm windows are used as an additional layer of insulation and protection for existing windows and are available in various materials and configurations.Aluminum Frames: Known for their affordability and durability with minimal maintenance required. These frames typically feature standard or low-e glass panels and often have corrosion-resistant coatings. "All About Storm Windows". This Old House. Retrieved 2024-03-27.Wood Frames: Offer an attractive appearance and can be painted or stained to match a home's exterior but require more maintenance and are generally more expensive. "All About Storm Windows". This Old House. Retrieved 2024-03-27.Vinyl Frames: Notable for their energy efficiency and affordability. They require low maintenance but are less durable than aluminum or wood frames. "The Best Storm Window Options for Added Insulation". Bob Vila. 28 March 2021. Retrieved 2024-03-27.Storm windows come with either glass or acrylic panes. Glass panes provide better visibility and last longer, whereas acrylic panes are less breakable but can scratch more easily. Modern storm windows often feature low-e glass, which improves energy efficiency by reflecting heat. "Storm Windows". U.S. Department of Energy. Retrieved 2024-03-27.Two-Track: Featuring an outer track with a screen on the lower half and a pane of glass on the upper half, and an inside track with a half-pane of glass for ventilation.Triple-Track: Consisting of two window panes and a half-screen on three separate tracks, allowing for adjustable ventilation.Two-Track Sliders: Designed for horizontal opening, suitable for slider windows.Basement Storm Windows: Typically a single fixed pane of glass covering the window. "The Best Storm Window Options for Added Insulation". Bob Vila. 28 March 2021. Retrieved 2024-03-27.Installing storm windows can be a DIY project, requiring tools like a screwdriver, caulk gun, and putty knife. Proper installation ensures their effectiveness and energy efficiency.[6]There are several laminated glass manufacturing processes:The first method utilizes two or more pieces of glass bonded between one or more pieces of plasticized polyvinyl butyric resin using heat and pressure.The second method uses two or more pieces of glass and poly-carbonate, bonded together with aliphatic urethane inter-layer under heat and pressure.The third type of laminated glass is interlaid with a cured resin.Each manufacturing process may include glass layers of equal or unequal thickness.Storm cellarStorm doorStorm drainStorm roomStorm shutter^ Home Energy Projects: An Energy Conservation Guide for Do-it-yourselfers. DIANE Publishing. 1996. p.62. ISBN0-7881-3373-X.^ Arcoma, Peter. "Storm Sash". Retrieved 30 December 2020.^ Oliver R. Williamson, Sarah Cory Rippey (1906). The Complete Home. Original from the University of California: D. Appleton and company. p.51.^ "Storm Windows"; Energy.gov^ "Testing the energy performance of wood windows in cold climates"; PDF, A Report to The State of Vermont Division for Historic Preservation^ "Storm Windows". Energy.gov.Retrieved from " Homeowners who live in regions that are hurricane-prone often secure their homes with sturdier windows. Making this investment, along with other precautions and preparedness steps, goes a long way towards protecting themselves, their families, and their homes.While homeowners know they want to install stronger windows to help provide better protection, they are often confused when it comes down to making a choice of which type of windows to purchase.One of the most common questions we see relates to the differences between impact windows and storm windows. In our post today, well aim to demystify these questions to help you make an educated decision when buying your new windows.Are Impact Windows and Storm Windows the Same?Impact and storm windows are not the same. Many people, even sometimes those working in the industry, tend to use the terms impact and storm interchangeably when it comes to windows. The thing is, while the two types of windows share many similarities, they are also quite different in many ways.These differences are primarily due to the level of protection each style of window offers. Make no mistake, both types offer better protection than standard glass windows. However, impact windows generally provide more protection since they go well beyond the minimum requirements. Storm windows, while a definite upgrade, do not offer the same level of strength.What is an Impact Window?Impact windows, also referred to as hurricane windows, are designed with reinforced frames and impact-resistant glass. This means the glass wont shatter or be compromised by heavy winds. You can rest easy knowing your family will not be injured by flying debris or flying glass shards if struck by an object during a storm.What is a Storm Window?Storm windows is a window that is installed on an existing window. These windows will provide notable protection features for your family and home. In addition to their functional abilities, you will find many styles and colors to choose from to beautify your home.How Do I Choose Between Impact and Storm Windows?Choosing between impact and storm windows isnt always the easiest decision. Essentially, your final choice will be determined by many factors. The following bullet points help to highlight the differences youll want to consider when making your purchasing decision.Impact WindowsMade with impact-resistant glass layers.Built with durable laminated glass.Contains multiple PVB layers for protection.Protects against hurricane weather, brute force, high-speed winds, and flying debris.Does not fall apart or shatter.Constructed with strong, specially-designed frames.Offers additional protection from burglaries (e.g. it cannot be broken with hammers, axes, or other tools).Thermal insulation offers energy-efficient benefits.Construction of glass offers noise reduction.Glass construction helps block 99% of harmful UV rays.Looks the same as regular windows and comes in a variety of stylish designs.Storm WindowsProtects you from winds from storms.Does shatter into shards of glass.Will shatter after being struck by airborne debris.Offers some level of thermal insulation protection from harmful UV rays.Provides a level of noise cancellation effect. (But as strong as impact windows do.)Built as an overtop to existing windows.If you are looking strictly at price, you will pay more for impact windows than you would for Storm windows. In return, you will receive stronger protection and, in most cases, a better amount of curb appeal.Read and Understand All FeaturesWhen making your decision, its important to consider the features you want and/or need. Not everyone needs impact windows. But if you live in an area where youre at risk, such as certain designated areas of Florida, you may even be required by law to install impact windows. With similarities, such as safety glass technology, you may find you only need a lower-rated window for your home. Its a good idea to look up your local ordinances regarding what type of windows you should install in your home. Then look at features such as frame styles and other aesthetic considerations.Consumers Have Many ChoicesThe bottom line is homeowners have many choices when it comes to upgrading their home windows. The extra features of impact windows are something to consider if your home is located in a region that is particularly prone to experiencing hurricanes, tropical storms, and other severe weather. If so, youll definitely want to consider these local weather risks you face every year, even if you arent required by law to install specific types of windows.However, storm windows may be sufficient for your needs if you live in an area where you see the occasional heavy storm. As with any other major home upgrade, youll want to weigh out the pros and cons of each window option to help you make an educated decision. Homeowners who live in regions that are hurricane-prone often secure their homes with sturdier windows. Making this investment, along with other precautions and preparedness steps, goes a long way towards protecting themselves, their families, and their homes.While homeowners know they want to install stronger windows to help provide better protection, they are often confused when it comes down to making a choice of which type of windows to purchase.One of the most common questions we see relates to the differences between impact windows and storm windows. In our post today, well aim to demystify these questions to help you make an educated decision when buying your new windows.Are Impact Windows and Storm Windows the Same?Impact and storm windows are not the same. Many people, even sometimes those working in the industry, tend to use the terms impact and storm interchangeably when it comes to windows. 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This makes each window both thicker and heavier than hurricane windows, with a higher plastic to glass ratio. Because of this, it is far less likely that impact glass will crack or shatter when faced with storms, heavy flying debris, or home invasion attempts. The plastic-coated design of safety glass makes both hurricane windows and impact windows resistant to high-speed winds. Both impact windows and hurricane windows will resist shattering when the next storm blows through. However, impact windows offer greater resistance against direct force as well. An impact window is more likely to flex and scuff when faced with high-velocity patio furniture, while hurricane windows will crack like normal glass, but fall like safety glass. Due to the thicker panes and greater polymer content, impact windows are also more energy-efficient. Temperature is less likely to pass through impact glass panes. As an added bonus, impact windows also offer signifiant noise reduction. Outside sounds won't penetrate the home and loud music indoors is far less likely to bother nearby neighbors. Installing impact window panes will mean investing in thicker window frames, as well. Because impact windows are designed to be thicker than normal windows and are much heavier, they will need to be supported by stronger window frames. Thicker boards and greater support is necessary to keep your impact windows securely in place. Impact windows are a noticeable price jump from hurricane windows due to the increased amount of material used in each window. These windows also suggest an expert installation team to safely handle the heavy panes of glass and their sturdier window frames. The most important difference between hurricane windows and impact windows is depth. Both make use of safety glass technology by layering glass panes with clear plastic laminate. Both provide flexibility and some amount of impact resistance. Hurricane windows offer more flex, while impact windows are more resistant to solid objects. Hurricane windows are standard width with one or two layers of laminate, while impact windows are especially thick and heaavy, requiring stronger window frames for installation. Finally, hurricane windows are considerably more affordable to both purchase and install, while impact windows offer a higher degree of home protection. When it comes to protecting your home from the elements and enhancing its energy efficiency and security, the choice of windows plays a critical role. Two popular options for homeowners looking to fortify their windows are storm windows and impact windows. While they may sound similar, these two types of windows serve different purposes and offer distinct benefits. So, lets explore the differences between storm windows and impact windows to help you make an informed decision for your home.Purpose and Functionality:Storm windows are secondary windows installed on the exterior or interior of existing windows. They are primarily designed to provide an additional layer of protection against adverse weather conditions, such as storms, high winds, and temperature extremes. Storm windows act as a barrier, reducing the impact of weather-related damage on your primary windows.Weather Protection:Storm windows excel at shielding your home from the elements. They are particularly effective in regions prone to severe weather events like hurricanes, winter storms, and heavy rainfall. By adding a layer of insulation, they help prevent water infiltration, drafts, and damage caused by wind-blown debris.Energy Efficiency:Storm windows can enhance the energy efficiency of your home. They create an insulating air pocket between the storm window and the primary window, reducing heat transfer. This added insulation can result in lower heating and cooling costs, making them a cost-effective choice for homeowners looking to improve energy efficiency.Noise Reduction:While not their primary purpose, storm windows can also provide some level of noise reduction. The extra layer of glass or other materials helps dampen external noises, making them a suitable option for homes in noisy urban areas.UV Protection:Many storm windows come with coatings that block harmful UV rays from the sun. This UV protection helps prevent fading and damage to interior furnishings, such as furniture, curtains, and carpets.Cost-Effective Solution:Storm windows are generally more affordable than impact windows, making them a cost-effective solution for homeowners seeking weather protection and energy efficiency on a budget.Purpose and Functionality:Impact windows, also known as hurricane windows or impact-resistant windows, are designed to provide exceptional strength and security. They are engineered to withstand high-velocity impacts, making them a reliable choice for hurricane-prone regions and areas with security concerns.Hurricane Resistance:Impact windows are built to resist hurricane-force winds and flying debris. They undergo rigorous testing to meet stringent hurricane resistance standards. When a storm hits, impact windows can prevent glass breakage and the subsequent pressure changes that can lead to structural damage.Enhanced Security:One of the primary advantages of impact windows is their formidable security features. They are constructed with multiple layers of impact-resistant glass, making them incredibly difficult to break. Even if an intruder attempts to shatter the glass, it remains intact, providing a strong deterrent against burglars.Noise Reduction:Similar to storm windows, impact windows also offer some noise reduction benefits due to their multi-layered construction. They can help create a quieter and more peaceful living environment.Energy Efficiency:Impact windows often incorporate energy-efficient features, such as low-emissivity (Low-E) coatings, which reduce heat transfer. While their primary purpose is not energy efficiency, they can still contribute to lower energy bills and increased comfort.UV Protection:Many impact windows come with UV-blocking coatings, preserving the integrity and color of your interior furnishings.Insurance Benefits:Homeowners with impact windows may be eligible for insurance discounts. Many insurance companies recognize the superior protection provided by impact windows and offer cost-saving incentives.The choice between storm windows and impact windows depends on your specific needs, priorities, and budget. Here are some considerations to help you decide:Location: If you live in a hurricane-prone area, impact windows may be the better choice due to their superior strength and security.Budget: Storm windows are generally more cost-effective than impact windows, making them an attractive option for homeowners on a tight budget.Security: If enhancing home security is a top concern, impact windows provide an added layer of protection against intruders.Energy Efficiency: While both types can improve energy efficiency, impact windows often come with additional features like Low-E coatings, making them a good choice for energy-conscious homeowners.Noise Reduction: If noise reduction is a priority, both storm windows and impact windows can provide some level of relief.

Storm windows vs replacement windows. Impact windows vs hurricane windows. Impact windows vs shutters. Impact windows vs hurricane shutters. Impact windows vs non impact windows. Are storm windows worth it. Storm windows vs regular windows.