

# SHUTTER SELECTION MATRIX

	PLYWOOD	CORRUGATED STEEL PANELS	FABRIC PANEL SYSTEMS	CORRUGATED ALUMINUM PANELS	PERFORATED, CORRUGATED ALUMINUM PANELS
PRICE (PER SQUARE FOOT)	\$1-\$2 for DIY \$3-\$5 for installation by a carpenter or contractor	\$3-\$5 for DIY \$6-\$12 for professional installation	\$4.50- \$6 for DIY \$8-\$12 for professional installation	\$6-\$8 for DIY \$9-\$16 for professional installation	\$8-\$10 for DIY \$10-\$18 for professional installation
DESCRIPTION	1/2" to 3/4" CDX plywood available in 4'x8' sheets; OSB not recommended; Use two layers of 3/8" material to obtain the same effect as one layer of 3/4" material.	Panels are available in widths from 13" to 16" and various lengths. They are typically overlapped to cover small to large openings. Available in 24 to 18 gauge thickness.	Panels are a strong polyester weave with a PVC coating on both sides. One panel can cover the entire opening. Complete DIY kits are available.	Panels are available in widths from 13" to 14" and are overlapped to cover small to large openings. Thicknesses of .040 to .072 inches available.	Panels are available in widths from 13" to 14" and are overlapped to cover small to large openings. Available thickness is .050 inches.
PRO'S	Lowest cost protection you can purchase. Available from many sources in all markets. Does not have to be custom ordered.	Inexpensive system with good protection. Easy to deploy when used with track systems.	Won't rot, warp, corrode, or rust. Panels can be stored in place with a decorative cover. Lighter weight than most other systems; 70% lighter than metal products. Panels can be used for emergency roof repairs, stronger and more weather resistant than tarps or plastic. Panels are translucent and allow light inside. Offer two, three or four-sided attachment options.	Lighter weight metal panel option than steel with good protection. Corrosion-resistant when stored dry and separated from concrete floor.	Perforated with small holes on the upper ribs to allow light inside. Lighter weight metal panel option than steel with good protection. Corrosion-resistant when stored dry and separated from concrete floor.
CON'S	Heavy and hard to handle. Will warp when wet and during storage and may need to be replaced after a few storms. Should not be used for an opening larger than a 4'x8' unless extra framing is added - see APA guidelines. Panels are difficult to install on upper stories unless openings face onto a porch or balcony. 1/2" and 5/8" panels can be penetrated by 9 lb. test missile allowing glass to break.	The lighter weight panels are easily bent by impacts and will allow the glass to break unless there is significant distance (3-4 inches) between the panel and glass. The heavier weight panels offer better protection, but can be hard to handle in longer lengths or if trying to carry several panels at one time. Panels may corrode if improperly stored.	Significant deflection will occur if impacted by heavy objects. This will likely result in broken glass unless there is a separation of 1 foot or greater between fabric and glass.	The lighter weight panels are easily bent by impacts and will allow the glass to break unless there is a separation of 3 to 4 inches between the panel and glass. The heavier weight panels offer better protection, but can be more difficult to handle in longer lengths or when carrying several panels at once. Panels will stick together and corrode if improperly stored.	Cannot be direct mounted without tracks. Panels will stick together and experience surface corrosion if improperly stored.
ADVANCE DEPLOYMENT TIME NEEDED	Initial Installation: 1 hour per opening to cut plywood and install anchors into the framing. After permanent anchors are installed may take as little as 5 minutes per window to install.	Initial installation: 1 1/2 hour per opening to cut metal panels and install anchors into the framing. After permanent anchors or tracks are installed may take as little as 5 minutes per window to install.	Initial installation: 30 minutes per opening to install tracks or anchors into the framing. After permanent anchors are installed may take as little as 5 minutes per window to install.	1 hour per opening to cut the tracks and install anchors into the framing.	1 hour per opening to cut the plywood and install anchors into the framing.
WATER PENETRATION RESISTANCE	May reduce water intrusion depending on installation - attaching weather stripping to top and sides of panels, where they come into contact with a wall may provide extra protection.	May reduce water penetration by reducing the amount of water being blown against window or door.	If generously overlapped, can significantly reduce water penetration at all pressures.	May reduce water penetration by reducing the amount of water being blown against windows or doors.	Unlikely to significantly reduce water penetration, perforation will allow water through very easily.
POROUS OR NON-POROUS	Generally non-porous if the sheet covers the entire opening. Only required to be attached on two opposite edges.	Does not keep wind pressure from building up on windows or doors. Non-porous if installed with track systems and using side and end closures.	May reduce wind pressure buildup on windows or doors depending on attachment. Non-porous, fits against the openings on all sides; optional three-sided/four-sided attachment can be used to keep the system against the wall when wrapping over uneven architectural details around the openings.	Does not keep wind pressure from building up on window or door. Non-porous if installed with track systems and using side and end closures.	Does not keep wind pressure from building up on window or door. Non-porous if installed with track systems and using side and end closures.
WINDSTORM INSURANCE DISCOUNTS	Does not qualify for discounts.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system..	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system..	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system..	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system..
OPERATION	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	May be stored in place on the openings reducing installation time. If stored off-site, deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.
DO-IT-YOURSELF (DIY)	YES Home improvement centers	YES Home improvement centers	YES Home improvement centers	YES Home improvement centers	NO

# SHUTTER SELECTION MATRIX

	CORRUGATED POLYPROPYLENE PANELS	CORRUGATED CLEAR POLYCARBONATE PANELS	CELLULAR POLYPROPYLENE SHEET (4' x 8')	CELLULAR POLYCARBONATE SHEET (4' X 8')	MONOLITHIC POLYCARBONATE SHEET (4' X 8')
PRICE (PER SQUARE FOOT)	\$6-\$8 for DIY \$10-\$18 for professional installation	\$6-\$8 for DIY \$15-\$20 for professional installation	\$3-\$5 for DIY \$6-\$12 for professional installation	\$10-\$15 for DIY \$20-\$30 for professional installation	\$10-\$20.00 for DIY \$30-\$50 for professional installation
DESCRIPTION	A flexible translucent plastic corrugated panel system that is relatively new in the marketplace.	Panels are available from most manufacturers, but some require metal panels to be installed on each side to support edges.	Usually sold in 4' x 8' sheets; honeycomb construction that is 1/2" to 5/8" thick.	Usually sold in 4' x 8' sheets; honeycomb construction that is 1/2" to 5/8" thick.	Usually sold in 4' x 8' sheets, but also available in sizes up to 5' x 10'. Thickness for hurricane protection is generally 1/4" with 3/8" recommended for larger openings.
PRO'S	Corrosion-resistant; allows light inside; lighter than steel or aluminum.	Corrosion-resistant; allows light inside; lighter than steel or aluminum.	Corrosion-resistant; allows light inside; lighter than plywood, steel or aluminum panels.	Corrosion-resistant; allows light inside; lighter than plywood, steel or aluminum panels.	Corrosion and UV resistant (XL-10 and MR-10); optically clear; allows light inside. Can be left in place year round, except on bedroom windows unless there are two ways to get out in the event of an emergency. GE Lexan XI-10 and MR-10 are designed for prolonged exposure and carry a 10-year warranty against discoloration.
CON'S	This flexible system will allow glass to break if hit by heavy objects. The strength of the product may be significantly reduced by storing or subjecting the product to prolonged exposed to UV rays and chemicals.	This flexible system can allow glass to break, if hit by a heavy object, unless there is 3 to 4 inches of separation between the panel and the glass. Distorts view if left in place year round. The strength of the product may be significantly reduced by storing or subjecting the product to prolonged exposed to UV rays and chemicals, unless the product is rated UV resistant.	This flexible system can allow glass to break, if hit by a heavy object, unless there is 3 to 4 inches of separation between the panel and the glass. Fasten on all four sides. The strength of the product may be significantly reduced by storing or subjecting the product to prolonged exposed to UV rays and chemicals.	This flexible system can allow glass to break, if hit by a heavy object, unless there is 3 to 4 inches of separation between the panel and the glass. Fasten on all four sides. The strength of the product may be significantly reduced by storing or subjecting the product to prolonged exposed to UV rays and chemicals.	This product has limited availability and can be quite expensive; orders may only be placed through wholesale account and may be available exclusively to commercial contractors.
ADVANCE DEPLOYMENT TIME NEEDED	Initial Installation: 1 hour per opening to cut the panel and install anchors into the framing. After permanent anchors are installed, it could take as little as 5 minutes per opening to install.	Initial Installation: 1 hour per opening to cut the panel and install anchors into the framing. After permanent anchors are installed, it could take as little as 5 minutes per opening to install.	Initial Installation: 1 hour per opening to cut the panel and install anchors into the framing. After permanent anchors are installed, it could take as little as 5 minutes per opening to install.	Initial Installation: 1 hour per opening to cut the panel and install anchors into the framing. After permanent anchors are installed, it could take as little as 5 minutes per opening to install.	Initial Installation: 1 hour per opening to cut the panel and install anchors into the framing. After permanent anchors are installed, it could take as little as 5 minutes per opening to install.
WATER PENETRATION RESISTANCE	May reduce water penetration by reducing the amount of water being blown against windows or doors.	May reduce water intrusion depending on installation; attach weather stripping to tops and sides of panels where they meet the walls will provide extra protection.	May reduce water intrusion depending on installation; attach weather stripping to tops and sides of panels where they meet the walls will provide extra protection.	May reduce water intrusion depending on installation; attach weather stripping to tops and sides of panels where they meet the walls will provide extra protection.	May reduce water intrusion depending on installation; attach weather stripping to tops and sides of panels where they meet the walls will provide extra protection.
POROUS OR NON-POROUS	Does not keep wind pressure from building up on windows or doors. Non-porous if installed with track systems and using side and end closures.	Does not keep wind pressure from building up on window or door. Non-porous if installed with track systems and using side and end closures.	Generally non-porous if the sheet covers the entire opening. Attach on all four sides	Generally non-porous if the sheet covers the entire opening. Attach on all four sides	Generally non-porous if the sheet covers the entire opening. Only the two opposite edges must be attached.
WINDSTORM INSURANCE DISCOUNTS	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Must be a manufactured system with a frame system that has an FBC or Miami-Dade approval to qualify. Sheets attached to the opening without a frame will not qualify.
OPERATION	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	May be permanently installed over windows that do not provide emergency escape from bedrooms. Removable panels must be stored and carried to each opening for deployment.
DO-IT-YOURSELF (DIY)	NO Professional installation only	YES Home improvement centers	YES Home improvement centers	YES Home improvement centers	YES Specialty suppliers and home improvement centers



# SHUTTER SELECTION MATRIX

	FLEXIBLE WIND ABATEMENT SCREEN SYSTEMS	ALUMINUM ACCORDION SHUTTERS	FABRIC PULL-DOWN SHUTTERS	ROLL-UP SHUTTERS EXTRUDED ALUMINUM SLATS	ROLL-UP SHUTTERS HIGH DENSITY FOAM FILLED ALUMINUM SLATS
PRICE (PER SQUARE FOOT)	Not Available for DIY \$10-\$20 for professional installation	Not Available for DIY \$18-\$28 for professional installation	Not Available for DIY \$28-\$35 for professional installation	Not Available for DIY \$28-\$50 for professional installation	Not Available for DIY \$28-\$50 for professional installation
DESCRIPTION	Lightweight flexible screen. Attached with straps and buckles to the wall, eave, or beams using large eye-bolts or ground anchor screws. Some systems also use clips, carabiners or grommets.	Aluminum slat folding shutter system that moves horizontally and folds out of the way on either side of the opening.	Fabric shutter system that uses a counter balance spring and hood to store the shutter when not in use. Similar to a Roll-Up Shutter system, but 4-inch hood rather than a 8-12-inch hood for storage.	Blades are double-wall hollow slats with a wall thickness ranging from .040 to 060 inches. Extruded aluminum slats are the strongest and most impact-resistant available.	High-density, foam-filled slats are made with thin roll-formed aluminum, which is wrapped around a foam core that provides stiffness.
PRO'S	Lightest weight protection product on the market. Capable of easily covering large areas at a relatively low cost. Easily folds up for storage; some manufacturers provide storage bags with orders. Some systems have a Miami-Dade approval. The systems will prevent wind and water intrusion, even in the event of glass breakage from flying debris.	Moderate priced, easily covers large openings; offers excellent protection from flying debris. Can be closed in seconds, deploys faster than most other systems. Offers increased security by providing locks. Can be used for upper windows and operated from the inside, if the building has single/double hung or sliding windows or in-swing or sliding glass doors. Commonly used to enclose entire balconies. Build-out tracks reduce the need for unsightly frames and additional tubes.	Moderate price very low profile hood system, which can be hidden in soffits or by decorative trims. Can be closed in seconds and deploys faster than any other operable system. Provides excellent protection from water intrusion. Can be used for upper windows and operated from the inside, if the building has single/double hung or sliding windows or in-swing or sliding glass doors.	Motorized systems can be automated by using anemometers, timers, remote controls, or even telephone or computer operated systems. Offer good security for absentee owners or properties that are in evacuation zones. One of the better systems for resisting water intrusion, when using unvented slats. Can be manually operated from inside, so is suitable for all styles of operable or fixed windows and in-swing or out-swing doors.	Lightweight slats allow larger shutters without the need for motorization. Motorized systems can be automated. Offer good security for absentee owners or properties that are in evacuation zones. One of the better systems for resisting water intrusion, when using unvented slats. Can be manually operated from inside, so is suitable for all styles of operable or fixed windows and in-swing or out-swing doors.
CON'S	The reinforcing in the screen is sewn; stitching can break down from long UV exposure weakening the system. Large Screens may require 2 or more persons to deploy. Not easy to install for openings above the first floor. Not recommended for installation on the edges of cantilevered concrete decks or balconies, unless the design is inspected by an engineer, since the screen will apply great uplift and /or downward forces, possibly overloading the anchors or damaging the structure itself.	Adds a lot of material around openings that is sometimes viewed as unattractive. Needs regular maintenance and cleaning to keep the system from seizing or freezing up. Noise complaints may arise when opening and closing. Some condominiums restrict use due to noise.	Flexible material allows contact with the door or glass when impacted by large missiles. Size is limited to 7' x 7' 8". Moderate design pressure limits used in coastal areas.	Heaviest slat on the market and will require motors at around 45 sq. ft., which increases the cost. Requires vertical storm bars to keep the slats from being pulled out of the track system for large spans or high design pressures. Large hoods are not easy to hide and can be unattractive. Must be built-out to prevent contact with doors or glass.	Lightweight slats bend more easily than the extruded aluminum slats. The roll-formed aluminum can bend causing problems with the operation of the shutter over time. Requires more storm bars since the unsupported span is less than that of extruded aluminum slats. This makes the system is roughly the same price or slightly higher than that for the extruded aluminum slat system. Large hoods are not easy to hide and can be unattractive. Must be built-out to prevent contact with doors or glass.
ADVANCE DEPLOYMENT TIME NEEDED	Must be taken out of storage and carried to each opening. Deploy well before tropical storm-force winds arrive.	Since the system is permanently mounted it can be closed very quickly, allowing more time to prepare for evacuation or sheltering in place.	Since the system is permanently mounted it can be closed very quickly, allowing more time to prepare for evacuation or sheltering in place.	Since the system is permanently mounted it can be closed very quickly, allowing more time to prepare for evacuation or sheltering in place.	Since the system is permanently mounted it can be closed very quickly, allowing more time to prepare for evacuation or sheltering in place.
WATER PENETRATION RESISTANCE	May reduce water penetration by reducing the amount of water being blown against windows or doors, particularly if installed some distance away.	May reduce water penetration by reducing the amount of water being blown against windows or doors. However, may not significantly reduce water penetration under high pressures, unless mounted on the edge of a porch or balcony several feet away from the opening being protected.	Excellent resistance against water intrusion, even at high pressures.	May reduce water penetration by reducing the amount of water being blown against windows or doors. However, may not significantly reduce water penetration under high pressures, unless mounted on the edge of a porch or balcony several feet away from the opening being protected.	May reduce water penetration by reducing the amount of water being blown against windows or doors. However, may not significantly reduce water penetration under high pressures, unless mounted on the edge of a porch or balcony several feet away from the opening being protected.
POROUS OR NON-POROUS	Does not keep wind pressure from building up on windows or doors. Generally all systems are considered non-porous since the open weave is less than 10% ventilated.	Does not keep wind pressure from building up on windows or doors. Generally all systems are considered non-porous.	Non-porous; will likely reduce pressures on window or door being protected.	Does not keep wind pressures from building up on windows or doors. Generally all systems are considered non-porous.	Does not keep wind pressures from building up on windows or doors. Generally all systems are considered non-porous.
WINDSTORM INSURANCE DISCOUNTS	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.
OPERATION	Loops, buckles, straps, carabiners, clips or grommets secure the system to permanent or removable anchor systems.	Pull the shutter sections together to shut and engage either the locking pins, locks or both depending upon the system's design.	Pull the shutter down and engage the locking pins.	Manually crank the shutter down or activate the motor using a switch or remote option.	Manually crank the shutter down or activate the motor using a switch or remote option.
DO-IT-YOURSELF (DIY)	NO Professional installation only	NO Professional installation only	NO Professional installation only	NO Professional installation only	NO Professional installation only

# SHUTTER SELECTION MATRIX

	ROLL-UP SHUTTERS FLEXIBLE PVC SLATS	COLONIAL HINGED SHUTTERS	BAHAMA AWNING SHUTTERS	STAINLESS STEEL WOVEN SCREEN BARRIERS	PERFORATED STEEL BARRIER SYSTEMS
PRICE (PER SQUARE FOOT)	Not Available for DIY \$28-\$50 for professional installation	Not Available for DIY \$38-\$50 for professional installation	Not Available for DIY \$38-\$50 for professional installation	Not Available for DIY \$28-\$50 for professional installation	Not Available for DIY \$40-\$60 for professional installation
DESCRIPTION	End retention clip system is used to keep the PVC slats from pulling out of the side tracks.	Authentic swinging shutters fold back to the sides of the windows. Available in louvered and raised panels made of aluminum and high-impact, aluminum reinforced PVC or pultruded Fiberglass.	The Bahama awning shutter adds a decorative look to hurricane protection. This style is very popular in the islands, where the shutter is used to shade and keep rain out of screened openings.	Looks like a heavy insect screen in a heavy duty welded or mechanically assembled frame.	Steel sheets are perforated using small round holes to create a screen type effect. Frames are welded with the steel sheets that are mechanically fastened to the frame and/or sub frame.
PRO'S	Lightweight slats allow larger shutters for manual operation before having to go to motorized systems. Motorized systems can be automated. Offer good security for absentee owners or properties that are evacuated. One of the better systems for water penetration resistance when using unvented slats. Can be manually operated from inside so is suitable for all styles of operable or fixed windows and in swing or out swing doors.	Due to the decorative look, these shutters are widely accepted where historical or architectural review committees strictly control aesthetics. Permanently mounted and usually only takes a screwdriver to attach the additional locking hardware. Adds a decorative accent to existing structures.	Due to the decorative look these shutters are widely accepted where historical or architectural review committees strictly control aesthetics. Permanently mounted and usually only takes a screwdriver to attach the additional locking hardware. Adds a decorative accent to existing structures. One other benefit of this system is shading the window which can significantly reduce energy costs.	Always in place so there is no need to deploy the system. Used to reduce or eliminate glass breakage from vandalism for schools and public buildings. Screen reduces solar glare and can aid in reducing energy costs. Stainless steel screen will not rust or corrode even if exposed to salt spray. Screen does not distort or block view like perforated barriers.	Always in place so there is no need to deploy the system. Used to reduce or eliminate glass breakage from vandalism for schools and public buildings. barrier reduces solar glare and can aid in reducing energy costs. Stainless steel perforated sheet will not rust or corrode even if exposed to salt spray.
CON'S	Lightweight slats bend more easily than extruded aluminum slats. PVC can become brittle over time causing the slats to disengage. Requires more storm bars than extruded aluminum because the unsupported span length is shorter, which makes the system roughly the same price or slightly more expensive than the extruded aluminum slat system. Large hoods are not easy to hide and can be unattractive. Must be built-out to prevent contact with doors or glass.	Most of these systems have to be closed and secured from the outside, which makes this an impractical system above the first floor. This is one of the most expensive shutter systems on the market. Needs room on each side of the opening for the shutter to fold back. Multiple folding panels have bulky look when trying to cover triple or larger mullied windows units. System works best on single or twin windows.	Most of these systems have to be closed and secured from the outside, which makes this an impractical system above the first floor. This is one of the most expensive shutter systems on the market. The system is bulky when trying to cover triple or larger mullied windows units.	Generally requires heavy build out framing structures to mount multiple units. Porous system may allow some internal pressurization, if a glass opening fails from pressure.	Generally requires heavy build out framing structures to mount multiple units. Porous system may allow some internal pressurization, if a glass opening fails from pressure. Regular perforated steel screen will rust in salt conditions; stainless steel perforated sheet is expensive. Round holes in barrier can cause distortions in outside view; not as optically clear as the screen barrier systems.
ADVANCE DEPLOYMENT TIME NEEDED	Since the system is permanently mounted it can be closed very quickly, allowing more time to prepare for evacuation or sheltering in place.	After initial installation, it takes 15 to 30 minutes per shutter depending upon the type of system selected.	After initial installation, it takes 10 to 30 minutes per shutter depending upon the type of system selected.	No deployment necessary, system stays in place.	No deployment necessary, system stays in place.
WATER PENETRATION RESISTANCE	May reduce water penetration by reducing the amount of water being blown against windows or doors. However, this reduction may not be as significant under high pressures unless mounted on the edge of a porch or balcony several feet away from the opening being protected.	Does not significantly reduce water penetration. Open louver systems or perforated panel backs will allow water inside, which creates opportunity for window and door leaks.	Does not significantly reduce water penetration. Open louver systems or perforated panel backs will allow water inside, which creates opportunity for window and door leaks.	Does not reduce water penetration due to the open weave and approximate 40% porosity of the system.	Does not reduce water penetration due to the open weave and approximate 40% porosity of the system.
POROUS OR NON-POROUS	Does not keep wind pressure from building up on windows or doors. Generally all systems are considered non-porous.	Does not keep wind pressure from building up on windows or doors. Generally all systems are considered non-porous.	Does not keep wind pressure from building up on windows or doors. Generally all systems are considered non-porous.	Porous; does not reduce pressure on windows or doors.	Porous; does not reduce pressure on windows or doors.
WINDSTORM INSURANCE DISCOUNTS	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.
OPERATION	Manually crank the shutter down or activate the motor using a switch or remote option.	Shutters use a spring clip to hold them open. Closures will likely require additional bars, clips, or other types of mechanically fastened hardware that is stored when not in use.	Shutters use a telescoping arm with a locking thumb screw to hold them open. Closures will likely require additional clips, or other types of mechanically fastened hardware that is stored when not in use.	No deployment needed; shutters are always in place.	No deployment needed; shutters are always in place.
DO-IT-YOURSELF (DIY)	NO Professional installation only	NO Professional installation only	NO Professional installation only	NO Professional installation only	NO Professional installation only



# SHUTTER SELECTION MATRIX

	SINGLE GLAZED IMPACT GLASS LAMINATED WINDOWS	DOUBLE GLAZED IMPACT GLASS LAMINATED WINDOWS (Double Glazed means Insulated Glass or IG)	SINGLE GLAZED IMPACT GLASS LAMINATED DOORS	DOUBLE GLAZED IMPACT GLASS LAMINATED DOORS (Double Glazed means Insulated Glass or IG)	IMPACT-RESISTANT GARAGE DOORS
PRICE (PER SQUARE FOOT)	Not Available for DIY \$28-\$50 for professional installation	\$40-\$60 for DIY \$50-\$70 for professional installation	\$40-\$60 for DIY \$50-\$70 for professional installation	\$40-\$60 for DIY \$50-\$80 for professional installation	Single Bay Door: \$750-\$900 Double Bay Door: \$985-\$1,295
DESCRIPTION	Single-glazed windows are referred to as single pane and are usually only available in aluminum uninsulated frames. The single sheet of glazing is comprised of two sheets of glass with a laminate in between.	Double glazed is insulated glass and is more energy efficient. The laminate is bonded between two pieces of glass on the inside and a regular piece of glass on the outside.	Single-glazed doors are referred to as single pane and are usually available in steel, aluminum, fiberglass or wood. The single sheet of glazing is comprised of two sheets of glass with a laminate in between.	Double glazed is insulated glass and is more energy efficient. The laminate is bonded between 2 pieces of glass on the inside and a regular piece of glass on the outside.	This product is available in steel insulated pan or foamcore doors from a variety of manufacturers. These should not be confused with windload rated doors, which generally are not impact resistant.
PRO'S	Hurricane protection is always in place; no deployment necessary. Provides additional security protection. Low impact to aesthetics of the structure.	Hurricane protection is always in place ;no deployment necessary. Provides additional security protection. Low impact to aesthetics of the structure.	Hurricane protection is always in place; no deployment necessary. Provides additional security protection. Low impact to aesthetics of the structure. Using an impact-glass door instead of a shutter can give you an additional means of escape, and may be cost effective if combined with shutters on other openings.	Hurricane protection is always in place no deployment necessary. Provides additional security protection. Low impact to aesthetics of the structure. Using an impact-glass door instead of a shutter can give you an additional means of escape, and may be cost effective if combined with shutters on other openings.	Hurricane protection is always in place no deployment necessary. Provides additional security protection. Low impact to aesthetics of the structure. Lowest cost option to protect garage doors; covering with shutters is generally more expensive.
CON'S	Single-glazed windows do not meet energy efficient standards for solar heat gain. When the glass breaks replacement costs are an insured loss, but the cost is expensive. It is more expensive to replace older windows with impact glass than to shutter existing windows.	The entire insulated glass unit must be replaced, even if only the outer piece of glass breaks. This is quite expensive. It is more expensive to replace older windows with impact glass than to shutter existing windows.	Single glazed doors do not meet energy efficient standards for solar heat gain. When the glass breaks replacement costs are an insured loss, but the cost is expensive. Replacing doors with impact-glass doors is more expensive than using shutters to cover existing doors.	The entire insulated glass unit must be replaced, even if only the outer piece of glass breaks. This is quite expensive. Replacing doors with impact-glass doors is more expensive than using shutters to cover existing doors.	A larger motor and an automatic garage door opener may be required; impact-rated garage doors require a minimum 1/2 HP motor. Most impact-rated garage doors will not have decorative glass panels.
ADVANCE DEPLOYMENT TIME NEEDED	Always in place, none needed	Always in place, none needed	Always in place, none needed	Always in place, none needed	Always in place, none needed
WATER PENETRATION RESISTANCE	Does not reduce water penetration in hurricane or tropical storm conditions. Openings will have minors leaks at lower pressures and extensive leaking will occur at higher pressures. Using casement and fixed windows will help to reduce water penetration.	Does not reduce water penetration in hurricane or tropical storm conditions. Openings will have minors leaks at lower pressures and extensive leaking will occur at higher pressures. Using casement and fixed windows will help to reduce water penetration.	Does not reduce water penetration in hurricane or tropical storm conditions. Openings will have minors leaks at lower pressures and extensive leaking will occur at higher pressures. Using casement and fixed windows will help to reduce water penetration.	Does not reduce water penetration in hurricane or tropical storm conditions. Openings will have minors leaks at lower pressures and extensive leaking will occur at higher pressures. Using casement and fixed windows will help to reduce water penetration.	N/A
POROUS OR NON-POROUS	Non-porous	Non-porous	Non-porous	Non-porous	Non-porous
WINDSTORM INSURANCE DISCOUNTS	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.	Qualifies for discounts if all openings are protected with a FBC or Miami-Dade approved system.
OPERATION	Always in place, none needed.	Always in place, none needed.	Always in place, none needed.	Always in place, none needed.	Always in place, none needed.
DO-IT-YOURSELF (DIY)	YES Home improvement centers	YES Home improvement centers	YES Home improvement centers	YES Home improvement centers	NO Professional installation only