Energy Efficient Windows and Doors .2 CEU

2422#C Nantucket Drive.
Houston, Texas 77057
Cell 713 269-6909
Email: BeverlyVosko@gmail.com
Website: www.InteriorDesign-ED.com

Beverly Vosko
Energy Efficient Windows and Doors a.2 CEU Handouts
Welcome to our seminar!

I. Due to the Covid-19 pandemic, many people have realized:
   A. The sky is a deeper blue, the air is less polluted and the world is a more pleasant place to be in when it is more sustainable
   B. Since they are spending more time at home than ever before, they want to improve their home and make it a better place to live in
   C. They are far more concerned with both being healthy themselves and having a healthier world than they were before Covid-19 and are spending more on things that make their home a healthier more sustainable place

II. Sustainability means meeting the needs of the present, without compromising the ability of future generations to meet their own needs
   A. We have a responsibility to sustain if not enhance our earth’s natural environment and our nation’s economy for ourselves and for future generations and we need to speed up that process
   B. The USGCB addresses 5 categories: Energy and Atmosphere, Water Efficiency, Sustainable Sites, Materials Resources and Indoor Air Quality which need to be balanced in order to create a healthy habitat and an environmentally responsible world
   C. A Healthy Habitat is comfortable, durable, low maintenance, environmentally responsible, sustainable and energy efficient and due to Covid-19, we realize that we need to make our homes into healthy habitats

III. Energy Star windows and doors
   A. Making a home a healthy habitat is making it energy efficient by installing double paned Lo-E energy star rated, energy efficient windows and doors
   B. Installing Lo-E Energy Star Rated Windows and Doors:
      1. Are better from a design perspective because they bring the outside in and provide Architectural definition and interest to any room
      2. Save energy because you to use natural light rather than electric light
      3. Save energy by preventing heat loss in winter and heat gain in summer enabling your home to use much less energy to be heated and cooled therefore saving you money on your heating and air conditioning bills
      4. Keep your home’s temperature constant throughout the year regardless of the outdoor temperature, making you more comfortable and therefore improving your quality of life
      5. Extend the longevity of your furniture, fabrics, curtains, flooring and art by preventing them from fading and rotting
      6. Have hardly any gaps thus preventing air leakage
      7. Will keep you home quieter… and
      8. Will help the environment
9. Windows alone account for 48% the heat gain in our homes, walls and doors account for another 19% and cheap or badly installed windows and doors can perform even worse!

IV. Window and Door material options – aluminum, wood, treated wood, treated wood clad, vinyl and fiberglass

A. Years ago windows were made of either wood or aluminum but there are much better window choices available today

B. Aluminum windows
   1. Aluminum Windows were used in the past because of their low cost but Aluminum is a good conductor so aluminum windows transfer the outside cold air inside a home when its cold outside and transfer the outside hot air inside a home when its hot outside so they are inherently energy inefficient and a poor window choice. You rarely see anyone installing aluminum windows today

C. Wood windows and doors
   1. Wood windows and doors are pretty and are the most energy efficient windows and doors because they are solid and heavy unlike fiberglass and vinyl which are hollow
   2. Wood windows can be painted
   3. But untreated wood windows and doors rotted over time and had to be fixed and/or replaced regularly so they were very high maintenance
   4. Today all wood windows and doors are primed and treated with an environmentally friendly chemical so they should not rot. Some have a 15-20 year warranty and others now even have a lifetime warranty
   5. But they are still very expensive so many people don’t want to pay for those expensive wood windows and doors and choose the other options

D. Treated wood clad windows and doors have either aluminum or vinyl cladding
   1. Both aluminum clad and vinyl clad windows and doors are wood windows and doors with the respective aluminum or vinyl cap on the outside of that window or door which keeps the outside wood from rotting
   2. They have all the inherent benefits of wood windows so are energy efficient and solid
   3. They can be painted on the inside but not on the outside
   4. They are even more expensive than regular wood windows

E. Vinyl windows and doors
   1. Vinyl windows and doors are energy efficient but since they are hollow, they are not as energy efficient as solid treated wood or treated wood clad windows and doors
   2. They are the least expensive windows and doors so are a good choice if you or your client are on a budget – but they can be perceived as cheap
   3. The doors can feel too light when you open and close them, especially when compared to treated wood doors
   4. They are plastic so can expand and contract ie warp over time in the sun
5. They have issues being painted unless done properly by a very good painter who knows what he is doing
6. They come in 3 colors: white, beige and tan. If those colors work in your home, great but if none of those colors work, you can’t paint them because the paint will flake and peel off relatively quickly so you will have to paint your entire home’s trim to match these vinyl windows if you want it all to match
7. If you must paint them,
   a. Never apply the paint directly- first clean them and then apply a coat of primer before painting them
   b. Paint the exterior portion of the window/door with an exterior paint with a U V inhibitor – available at most paint stores or it may warp because vinyl is a plastic & warp/melts when exposed to heat
   c. Painting vinyl windows and doors may void your warranty and since some primers contain chemicals that soften the vinyl and reduce its structural integrity you may also damage your window/door frames
   d. there are 10 other colors to choose from that have the color “baked in” – but they cost 40% more than the 3 basic extruded colors
   e. If you do paint them, paint them a light color as darker colors will retain more heat than white, beige or tan, which can lead to the vinyl frames warping and the glass breaking
   f. There are 10 other colors to choose from– but they cost 40% more than the 3 basic colors

F. Fiberglass Windows and doors
1. They are 8 times stronger and more durable, more heat resistant and more energy efficient than vinyl windows and doors
3. They are touted to last 50+ years vs vinyl which lasts 30+ years vs treated wood that lasts from 15-20 years to a lifetime warranty
4. Both vinyl and fiberglass frames are hollow and made from a type of plastic. But fiberglass frames are reinforced with glass fibers, which adds strength to those windows and doors
5. They come in 5 colors – white, black, sky gray, brown and tan and they can be painted without a problem
6. They do not weaken or warp in the sun like vinyl does
7. On a basic structural level, they are considered better quality than vinyl windows and doors and should give your home a slightly better resale value
8. Today they are even made with wood graining to simulate wood and people can’t usually tell the difference between fiberglass windows and wood windows once they are painted - thought the doors can feel too light vs wood ones
9. They are more expensive than vinyl windows but less expensive than wood clad windows
10. I think they are an excellent window and door choice

G. Proper Window Installation is Also Critical – you must:
1. Seal the window frame around the window opening with expanding foam/caulk insulation to prevent air infiltration into the home
2. Add a flashing on top of windows to prevent moisture/water from seeping into the surrounding exterior walls

H. Glass Doors
   1. They are typically less energy efficient than even the worst windows

I. Weather-Strip
   1. Put a weather strip on your doors thereby eliminating air leakage

J. Window Film and Solar Shades
   1. Window film and solar shades also keep radiant heat out of your homes
   2. They also reducing the ultraviolet rays which will prevent your fabrics and furniture from fading
   3. Collectively they will reduce your electricity usage for air conditioning and reduce your gas or electricity usage for heating
Biography

Beverly Vosko, Allied Member ASID, RID, UDCP (Universal Design Certified Professional), CAPS, L.E.E.D Green Associate, CGP (is a full service, Registered Interior Designer in Texas #6333. She is President and founder of both Beverly Vosko Interiors and InteriorDesign-ED; both DBA’s for C. V. Design Inc. For over 30 years, she has been designing homes across the United States and Europe, specializing in creating custom residential and commercial environments, be they traditional, transitional, contemporary or eclectic, that match her design clients’ every need, through her design firm, Beverly Vosko Interiors. For nearly 30 years, she has taught Interior Design: first at Rice University, then at the University of Houston, and for the last 20 years nationally, with her Continuing Education company, InteriorDesign-ED. Specifically, she has taught Interior Design, Aging in Place, Green/Sustainable Design, Lighting and Antiques. She graduated Phi Beta Kappa, Magna Cum Laude from the University of Pennsylvania, studied Art History at Harvard University, received her MBA in Marketing from NYU Stern Graduate Business School, and completed Design and Antiques training from Sotheby’s, the world-renowned Inchbald School of Design and Houston Community College. Please view her websites, www.vosko.com and www.InteriorDesign-ED.com