

Mechanicals & Other High Performance Materials

European Tilt/Turn Windows: made from uPVC (Unplasticized Poly Vinyl Chloride), European tilt-and-turn windows offer unique functionality and energy efficiency compared to standard US windows, featuring dual-opening options (tilting and turning) and often incorporating high-performance materials and features like multi-point locking systems and better soundproofing.

Zehnder ERV (Energy Recovery Ventilator): Top-of-the-line air exchanger. As well as swapping out “dirty” air for clean, ERVs also trap pollutants, contaminants, pollen, allergens and many more. This is extremely important especially now, and it ensures that the air entering the home is healthy and clean. You may not know that the air within *most* homes is at least five times more contaminated than the air outside! It is clear that this is a problem as people can spend more than 90% of their time indoors. This is why it is a smart idea to incorporate an air exchanger like an ERV into your home or office space, to get the fresh, clean, and healthy air that everyone deserves. <https://zehnderamerica.com/>

Mitsubishi Variable Speed Heat Pump Air Conditioners: Energy-efficiency, comfort, control

Sanco2 CO2 Heat Pump Water Heater: Highly energy-efficient alternative to the traditional electric or gas water heater, this unique system saves money, reduces greenhouse gas emissions, and eliminates the production of carbon monoxide. <https://eco2waterheater.com/>

Fantech Makeup Air System: Automatically and infinitely tempers and modulates supply airflow in proportion to the kitchen hood exhaust air, creating a truly balanced indoor climate in your home. Anything else is cheating the Code. <https://www.youtube.com/watch?v=rSlqKGsF2ZA&t=11s>

Santa Fe Whole Home Dehumidifier: Moisture in the home comes from many sources: people, pets, plants, cooking, washing, ground water, and outdoor air infiltration. Dehumidifiers are vital for humidity control, especially in areas where humidity can rise above 50%. Santa Fe Ultra Whole House Ventilating Dehumidifiers will properly maintain humidity levels throughout the house year-round, regardless of outdoor weather conditions or internal moisture loads. <https://www.santa-fe-products.com/product/ultra98-dehumidifier/>

Aero Barrier / Blower Door Test: Aeroseal’s AeroBarrier is a system that delivers an advanced, measurable solution for air sealing building envelopes with unmatched efficiency and precision. The AeroBarrier system works by forcing atomized, nontoxic fog of sealant into gaps, where it bonds to seal them. These gaps are typically found in areas such as electrical switches and around windows and doors. AeroBarrier technology is renowned for its ability to detect and seal even the smallest air leaks, enhancing energy efficiency, indoor comfort, and air quality.

Code for Air Sealing (IECC Section R402.4)

The building envelope is required to be properly sealed and tested, and verified as having an air leakage rate no higher than 3 ACH50 in climate zones 3 & 4, and no higher than 5 ACH50 in climate zone 2 (Wimberley, Texas).

NOTE: building tightness of 3 ACH50 or less represents less than 10% of existing buildings.

Prior to Aero Barrier installation this house achieved 1.48 ACH, after installation 0.71 ACH.

<https://aeroseal.com/aerobarrier-how/>

PanoLock+ Multi-Point Locks: Installed on all three exterior doors, not only does it provide extra security, the roller strike allows the tapered bolts to gently snug the door panel against the weatherstrip offering more energy efficiency for the home and most importantly in the hill country, keeping critters from entering the home. https://www.enduraproducts.com/wp-content/uploads/2023/08/PanoLock-Sales-Sheet-8_3_23.pdf

Spray Foam:

A/V, Network, Wiring, & Cameras: Sonos, Control4, Ubiquiti, prewired, lighting automation, etc.

No Roof Penetrations = No Roof Leaks

Rainwater Catchment: Cleanest water possible, no hard water on appliances and fixtures, no smell or grit from well.

Designed and built based off the consultation and recommendations provided by a Building Performance Professional. This house was designed for resiliency at every level, which produces a sustainable and energy-efficient home as a by-product. Not only can it be seen from the materials and finishes used, but more importantly, by the feeling (indoor air quality) ultimately produced by those not seen.

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- Prepped for Propane tank
- Prepped for electricity for front gate and lighting (transformer)
- Prepped for electrical run and internet around backyard and to front of drive