Crawl Space Application

Utilizing Rmax ECOMAXci™ FR

Protecting Your Investment Starts at the Bottom

An increasing number of homes are affected by moisture related damage every year. Moisture can find many ways to invade a home's space, such as the crawl space vents in the foundation.

Crawl space vents were designed to help keep the area dry by allowing moisture to escape, however they do just the opposite. Vents allow moisture to enter the crawl space creating mold and mildew, which could damage the homes structural integrity and compromise the indoor air quality throughout the house.

An alternative option to vented is an unvented crawl space. This is also called non-vented, conditioned or a closed crawl space in which the foundation wall interior is insulated. Rmax ECOMAXci™ FR polyisocyanurate (polyiso) insulation is a superior choice for this vent-free option as it will support moisture control, help maintain homes temperature and humidity level - while making the home more energy-efficient.

Rmax ECOMAXci™ FR can be left exposed on the crawl space walls in thicknesses up to 4.5 inches.

An increasing number of homes are affected by moisture related damage every year - avoid being a statistic by insulating with Rmax ECOMAXci™ FR.

Why Rmax Polyiso is the Right Choice

- CFC, HCFC and HFC-free blowing agent
  - Negligible global warming potential
  - Zero ozone depletion potential
- Cost effective, optimized energy performance
- Long service life
- Recyclable through reuse
- Recycled content (amount varies by product)
- Regional materials (nationwide production network)
- Meets new continuous insulation (ci) standards
- High R-value per inch of thickness
- Thinner walls and roofs with shorter fasteners
- Excellent fire test performance
- Extensive building code approvals
- Preferred insurance ratings
- Compatible with most roof and wall systems
- Moisture resistance
- Dimensional stability

KEYS TO A CLOSED, CONDITIONED CRAWL SPACE

Optimizing moisture control and energy efficiency requires proper design including five keys elements.

- Vent-Free Exterior – establish a closed crawl space to keep outside humid air from coming in.
- Air Sealing – prevent moisture laden air from coming in at access doors, framing and transitions, and create separation from areas under porches and decks.
- Vapor Barrier – keep vapor, air and water from entering through building materials and the ground.
- Continuous Insulation – reduce energy loss and meet thermal code requirements.
- Interior Ventilation – maintain the temperature and humidity close to that of the livable space.

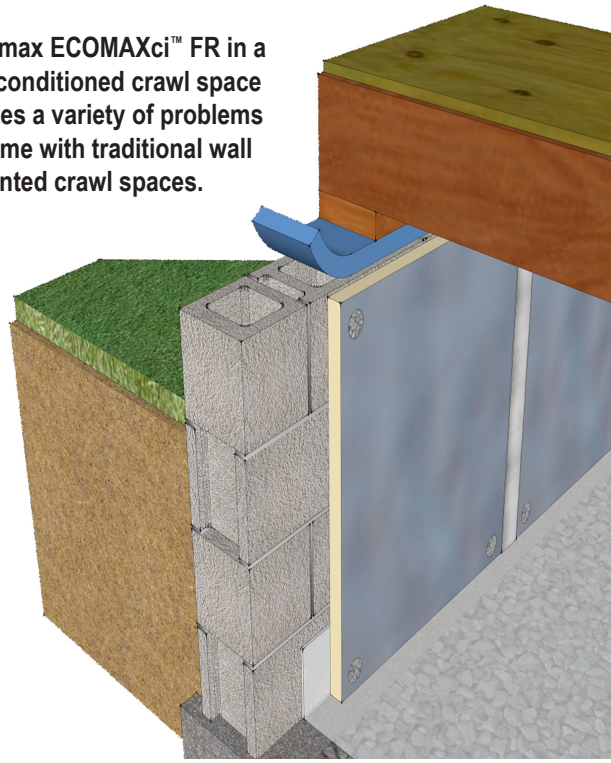
IMPLEMENTATION GUIDELINES

Successful implementation of a closed, conditioned crawl space boils down to six strategic concepts.

1. Define the design and customize material choices and drying mechanisms based on local site conditions, code requirements, home design, construction processes and occupancy needs.
2. Work with code officials to ensure your design is acceptable and meets or exceeds local requirements.
3. Manage labor to ensure installers are trained and use the correct materials, equipment and techniques for both safety and design.
4. Manage job site logistics by coordinating with other trades to ensure scheduling, maintain design intent and reduce the risk of damage.
5. Provide quality assurance for long term performance.

Using Rmax ECOMAXci™ FR reduces energy costs and eliminates moisture problems.

Using Rmax ECOMAXci™ FR in a closed conditioned crawl space eliminates a variety of problems that come with traditional wall vented crawl spaces.



CONVERTING A WALL-VENTED CRAWL SPACE

Traditional wall-vented crawl spaces pull in outside air that can often lead to a variety of problems, including mold or moisture damage, musty odors, condensation, buckled floors, high humidity, infestation and rot. Converting to a closed, conditioned crawl space avoids these issues and their costly consequences – complaints, repairs, litigation. Below are the basic steps for converting a wall-vented crawl space into a closed, conditioned crawl space.

1. Protect the space from water intrusion.
2. Repair structural damage or rot.
3. Monitor for water intrusion.
4. Isolate the crawl space from the home.
5. Convert the wall-vented crawl space to a closed, conditioned design using the implementation guidelines.

"The research indicates that in a hot climate, energy performance is optimized by locating HVAC ductwork in a wall-insulated closed crawl space." - Advanced Energy

Refer to Advanced Energy reference guides for additional details, recommendations and strategies on designing, installing and implementing closed, conditioned crawl spaces at www.crawlspaces.org.