

Australian first?

Castlemaine house sets new standards



INNOVATIVE DESIGN: Bronwen in her passivhaus under construction with Carbonlite director Burkhard Hansen, project manager Anthony Chiodo, site foreman Jake Thompson and air tightness expert Robbie Chadwick.

DONNA THOMAS

Bronwen Machin from Castlemaine is very excited that her new home, which is hoped to be the first accredited Passivhaus in Australia, is nearing completion.

Burkhard Hansen, the owner and director of Carbonlite Design and Build, is racing to build the house. A passivhaus accreditation is a German standard that means the house is tightly sealed and insulated. Three are under construction at the moment and Mr Hansen is hoping that the one he is building for Bronwen in Castlemaine will be the first to receive the accreditation.

Mr Hansen explained that the design of a Passivhaus is like the opposite of using passive solar gain, like an esky.

"Passivhaus is based on keeping the inside inside and the outside outside," he said. The house is sealed completely air tight."

Mr Hansen said that a house obviously needs windows and doors, but you can't just cut a whole in an esky, so they use triple glazed windows and specially engineered seals around the windows and doors.

"A passivhaus also uses an air tight membrane called Intello," he said.

"But of course Bronwen is not going to suffocate. The air inside the house is regulated through a return air system."

Bronwen said this special energy recovery system brings air into the house, while heating the air in winter and cooling it in summer, at a very low running cost. It also has technology that keeps moisture out, thus discouraging the growth of moulds, making for a healthy house.

Bronwen said she knew what she wanted in a house, something small and environmentally friendly, and this was exactly what she was after.

"I chose this form of building because I am concerned about climate change and the increasing number and intensity of heatwaves we can expect in the future.

"Without properly built houses people will be chewing up energy to stay comfortable. I have also chosen to build very small (40 square metres, slightly larger than a double garage) because as a single person that is all I need. It is probably bigger than many of the cottages our fore-

bears built in the gold rush days.

"I have made a choice between building a less efficient house from recycled materials and a very efficient house from new materials. Apart from concerns about climate change the reason I chose to go for new materials is that I am no longer young and don't have the skills or energy to try to maintain a building. While some of the material is imported Burkhard has used local tradespeople as much as possible and that pleases me too."

Mr Hansen and the team are hoping that Bronwen will be able to move in in two weeks.

"This will be a comfortable house to live in. It will have a constant climate of about 22 degrees. There will be no mould, pollen or air pollution and due to the insulated slab, even the concrete floor is warm enough to walk on comfortably in bare feet."

"What is important to me is the teamwork of the Carbonlite team. We have a crew of 11 people. My guys are not working for me, they are working with me. If they don't do the corner seals or other jobs correctly then it doesn't work. It really is a team effort."