Greenstone Structural Solutions

A Revolution in Green Construction

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A career-long desire to introduce innovative products into the construction market and an investigative road trip stateside to visit an elderly American chemist were two of the main catalysts that led Brandon contractor Ed Dornn to establish Greenstone Structural Solutions – a business he is confident will revolutionize the residential, commercial, industrial/agricultural and institutional construction sectors in the years to come.

With decades of construction experience in hand as the owner of Brandon-based Excel-7 Ltd., it was in 2013 when Dornn found himself wanting to learn more about a unique steel and Expanded Polystyrene (EPS) composite wall assembly product he'd come across which had its roots in Virginia. Discovering the composite panel technology in question had 35 years of proven performance, with more than 70,000 completed projects worldwide, Dornn committed to researching it even further. Upon travelling to Virginia to visit the product's creator, a chemist named Luther Dickens, Dornn saw its potential and knew he could improve upon the product in order to introduce this structural panel into the Canadian market. With blessings from its creator, Dornn spent several months of research and development re-designing the product to improve its strength, performance, and efficiency as a composite building material. He then built a test facility to ensure the re-invented product would still meet the proper compliance. Construction on a brand new 27,000-square foot production plant was completed in the spring of 2016 and the switch officially flipped on Greenstone's facility along Richmond Avenue East in Brandon. A second licenced plant has already been established in Niagara, Ont., and is scheduled to open in the summer of 2017.

So what is it about the Greenstone Structural Panel that makes it so revolutionary? The Greenstone Structural Solutions' technology offers four distinct, yet critical building envelope functions: engineering, framing, insulation and vapour barrier are all built into a cost-effective and high-performance panel. By incorporating the collective strength of a composite technology, these panels offer architects, developers, contractors, and home owners multiple benefits unmatched by traditional framing methods. The product is also on the leading edge of the new global mindset of passive energy. By providing the consumer with up to 75% faster build times and 20% more effective thermal value than the comparable dimensional lumber and

- Greenstone Structural Solutions was established in Brandon by the ownership of local general contracting company, Excel-7 Ltd.
- Greenstone's Brandon-based plant has been in operation since spring 2016
- Exclusive Canadian manufacturer of the Greenstone Structural Panel, which can be used in wall, roof, foundation, or floor applications in the residential, commercial, industrial/agricultural, and institutional sectors
- Greenstone panels were used in first commercial building construction in Brandon to comply with National Energy Code of Canada for Buildings
- Brandon-based plant currently employs 12 people and is working towards 24-7 production and total staff complement of 50

fibreglass assembly, the panels meet and exceed the national energy code of Canada requirements for exterior and foundation walls, ceilings and roof assemblies. While upfront costs are higher than traditional structural assembly materials, the presence of a tighter building envelope and no thermal connection results in temperature consistency reduced utility costs and a longer, more efficient building life. The payback experienced is immediate in terms of lower monthly HVAC bills - $56 per month for a 1,350 square foot conditioned living space, as compared to $176 per month for conventional construction.

Greenstone's Brandon plant is currently running one shift of production five days a week, sourcing its steel from neighbouring Brandon business, Cascadia Metals, and its EPS sand from Montreal-based StyroChem, which it further converts to pellets using steam production. Greenstone's on-site CAD techs then work to convert traditional building drawings into a panel system approved by a third party engineer, after which the company's carpenters and trained production workers create the composite panels. The company currently offers a program to train and certify builders in proper panel installation.

Already, the company has shipped directly to clients in the residential and commercial construction sectors in northern Ontario, Alberta, Saskatchewan, and to American clients in South Carolina and Hawaii. As the exclusive Canadian manufacturer of the Greenstone Structural Panel, the Brandon plant is currently distributing to a number of local general contractors for use in the residential construction sector. In addition, Excel-7 Ltd. used the Greenstone Structural Panel technology in Brandon-based Elite Safety Services' recent office construction - the first commercial building construction in Brandon to comply with National Energy Code of Canada for Buildings. As for where else the Greenstone Structural Panel technology can be used, Dornn says the sky is really the limit. The company is currently developing the product for use as infill on high-rise buildings, as a building material alternative in areas of Canada's north where mould and moisture persist, and even in the agricultural sector.

With the ability to meet the needs of many diverse markets and its low cost of shipping (a full semi load of Greenstone product weighs less than 10 tonnes!), Dornn is optimistic the product will grab its market share in relatively short order. To that end, he says they will keep testing the product for new uses and continue to improve and modernize the plant's operational processes, with an eye on running a full shift of production and moving into a second shift by the end of 2017. At full build-out, the plant is set to run as a 24-hour, self-sufficient operation and employ 50 staff. With Greenstone Structural Solutions' revolutionary framing technology already redefining sustainability and exceeding performance standards, success is surely not far away!