

Firm Granted \$1M to Develop Graphene-Enhanced Concrete

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Graphene technology company ZEN Graphene Solutions Ltd. (Thunder Bay, Ontario) recently announced receiving a \$1 million grant to further develop its graphene-enhanced concrete research project.

According to the company, ZEN is aiming, with the help of the grant, to get cement-based composite products to the Ontario market by early 2020.

Graphene-Enhanced Concrete

ZEN, in collaboration with University of Toronto and the University of British Columbia-Okanogan campus, is working to develop a graphene-enhanced concrete additive that could increase the strength of concrete by 40%. The company says that including the graphene could also cut down on the amount of concrete needed in different applications, which can in turn lead to a reduction in greenhouse gas emissions.



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The graphene additive also shows promise in making concrete more durable, which will allow future infrastructure to better withstand cracking and corrosion caused by salt usage. The graphene the company is using, a microcrystalline graphite deposit located near Thunder Bay, comes from its Albany project.

"The grantor will reimburse 50% up to a maximum of \$1,000,000 spent by ZEN on relevant expenses directly related to graphite purification, graphene production research, concrete additive research and large-scale graphene-enhanced concrete testing," ZEN's press release notes.

Though tailings study results were not included with the grant submission, as they were not yet available at the time, the initial test results indicate that the Albany tailings had additional commercial potential. When used as a 10% partial cement replacement, the concrete was strengthened by 4.23% at the 56-day mark.

"This \$1,000,000 reimbursement grant will accelerate ZEN's innovation for graphene applications through game-changing research and a vibrant collaboration between industry and academia helping to launch the next generation of products and jobs," said Francis Dubé, ZEN's Chief Executive Officer.

"I thank the entire ZEN team for securing this grant which validates the business plan to accelerate our graphene-enhanced concrete application towards potentially successful commercialization."

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