

CWSF 2014 - Windsor, Ontario



William Preston

Torsion Core "Plywood"

Challenge: Innovation

Category: Senior

Region: Niagara

City: Vineland, ON

School: Beamsville District S.S.

Abstract: Torsion Core "Plywood" is an innovation in the realm of alternative materials. The project focuses on the development of a more environmentally sustainable material as an alternative to pressboard composites and veneer core plywoods currently used in production furniture manufacturing. Physical samples of Torsion Core Material (TCM) were constructed and evaluated against industry standards. Evaluation demonstrated that TCM is not only feasible, but highly marketable.

Biography

William found inspiration for creating Torsion Core "Plywood" in his previous project, "Nomadic Furniture," which demanded incorporation of a more light weight material. William took notice to designs such as hollow core doors and aircraft wings, which maintain chambered cores, while still retaining rigidity. As these designs utilized considerably less material than solid equivalents, William quickly recognized the potential for a more environmentally sustainable material. He decided to pursue the creation of his Torsion Core Material with environmental sustainability as a main focus. His Torsion Core Material (TCM) samples demonstrated great efficiency and met (in some cases, exceeded) all industry standards for furniture construction materials. William hopes to pursue a patent for his material within the near future, and integrate into his future design work. When possible, he makes an effort to encourage younger students to each complete a science fair project, as he believes it leaves them with skills their academic and professional careers can benefit from. William attends Beamsville District Secondary School as a grade 11 student. He maintains a background in design, manufacturing, science, music, photography and animation.

Awards

Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$8 800

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