



CASE STUDY /

Ansys + Etergo

“At Etergo, we use Granta Selector for a systematic materials selection methodology. It helps us to eliminate unqualified material at the early stage, thus reducing unnecessary simulation and testing cost.”

Long Wu

Finite Element Analyst / Etergo

Material selection for a next generation electric scooter with Ansys Granta Selector and Ansys Workbench

/ Introduction

This case study outlines how the strong integration between our flagship Ansys Workbench solvers used with Ansys Granta Selector can help engineers make the right materials decisions for their designs faster with reduced simulation and testing costs.

/ Challenge

When faced with developing a new model of their electric scooter, Etergo turned to Ansys to help solve their development challenges.

New materials had to be compared to minimize cost and weight to meet exacting specifications.

With strong demand for their product, rapidly getting to market with their new generation scooter is a key driver.

/ Technology Used

Ansys Granta Selector + Advanced Materials

Ansys Workbench

/ Engineering Solution

- Leveraged Ansys Granta Selector for materials selection, analysis and data together with Ansys Workbench to simulate new material performance.
- Advanced materials data: Metals.
- Gateway between Ansys Granta Selector and Workbench for automatic material data transfer.

/ Benefits

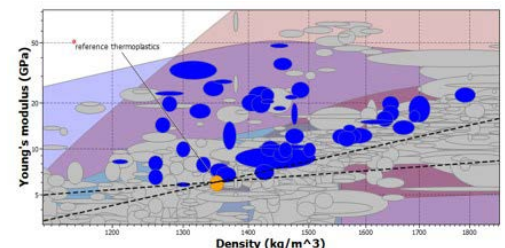
- Reduction in unnecessary simulation and testing costs by eliminating unqualified materials early in the design.
- Material use optimization with cost and weight reduced.
- Workbench simulation results using Selector materials — data corresponds well to experimental testing.
- The powerful interface between Ansys Workbench and Selector saves time with quick, accurate data transfer.

“By using Granta Selector, we can find a material that satisfies all ten material constraints for this application. We can down select from 4,000 options down to 20 best candidates. Then we can rank them by price.”

“Granta Selector is not only a materials selection tool. It can also interface with Ansys Workbench. As a finite element analyst, I’m going to do finite element simulations every day so the interactions between these two packages and the reliability of the data is of great interest to me.” **says Long Wu, Finite Element Analyst at Etergo.**

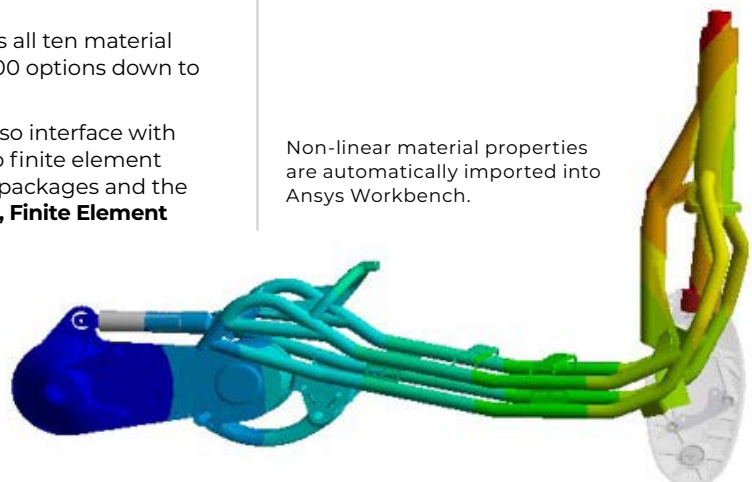
/ Company Description

Etergo is a developer and manufacturer of novel, lightweight, rapid-acceleration electric vehicles.



Ashby plot to outline Young's modulus vs. density as part of the material selection stages. formulated waste-derived HDPE.*

Non-linear material properties are automatically imported into Ansys Workbench.



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