



Intro to Performance Indices

Student Notes

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Lesson 1: What are Performance Indices

Define material performance:

What is a material's function related to?

Why wouldn't titanium work for a rock climbing rope?

Define performance indices

Lesson 2: Deriving Performance Indices

Following along with the lesson video, derive the performance index for a stiffness-limited tie in tension

Lesson 3: Using Performance Indices in Ansys Granta EduPack

Log scales for our charts is mentioned frequently. Why is this so important when using performance indices?

What benefits can you see for putting performance indices on the chart axis (either by using the advanced function or the Performance Index Finder tool)?

If you have access to Granta EduPack, give these methods a try!

Lesson 4: Materials Selection of a Longboard

Write out the results of the translation step for the longboard deck here:

Following along with the lesson video, derive the performance index for this case:

Why are we using plywood as a reference material in this selection?

Which material of our top candidates do you think would make the best longboard deck? Why?

How could simulation aid us in further designing this longboard deck?