

Part B

by Harrison Boakes

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Paraphrasing

A fundamental aspect of the engineering designing is choosing the most suitable materials for the components. The materials involved could be composite, alloy or homogeneous all these structures should be analysed in order to find out which kind of materials offers the best performance for the certain task. But what if standard composite materials could be swapped for a lighter replacement that has been specifically designed to perform the role to the same standard as conventional materials. The lighter replacement would be “micro structural”. This lighter material would enable designers to reduce the weight and not have to worry about safety suffering. This would be extremely beneficial to the aerospace industry as they are always looking to reduce weight without sacrificing safety. Specific research into these materials is being conducted in order to further understand their endless potential.



Major aircraft companies such as Boeing are **lighting** their new aircraft by using more composites than actually materials. A good example of this would be the Boeing 787 as it used carbon fibre and a variety of plastics infused with carbon.

The research that goes into an aeroplane like the Boeing 787 is astounding. The physics involved is carefully conducted and every other methodology is conducted to the same standard.

Experimental research is being conducted out of Imperial College. They are researching carbon based options. The researchers have stated that they must be careful with their carbon based research. The future of aerospace composites is constantly changing and designers are constantly looking for better performance from a lighter component.

Aerospace composites (2016) cracking the problem

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GRADEMARK REPORT

FINAL GRADE

8/20

GENERAL COMMENTS

Instructor

As you aware the submission for this was late and therefore will be capped at 40%.

There are no in-text citations and the reference at the bottom is not in the correct referencing conventions.

You need to proof read your work. The first sentence of your summary does not make sense and this is repeated throughout the report.

This is generally a sign that your understanding is limited.

Some of your statements are not correct. Such as '**...by using more composites than actually materials.**' Composites are still classed as materials, it would have been better to say '..than traditional materials.'

In terms of the assessment criteria, I believe you fall in the 50-59% bracket, which says the following;

Knowledge of the basic underlying concepts and principles is accurate with a good understanding of the field of study but lacks depth and/or breadth.

Mark Awarded

11/20 = 55%

However you will be capped at 40% so will get a mark of 8.

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Comment 1

The correct terminology would be light weighting.