



Request for Drawing Question / Interpretation No. 2

of

AC Class Rule Version 1.2: June 10th 2015

Rule References:

- 6.3 The build tolerances specified in Appendices C, D, and E shall not be used to modify or optimize any supplied design.
- 19.2 Each hull and component of cross structure shall be constructed in accordance with the drawings and specifications listed in Appendix C and D. The drawings represent minimum average of the rolls' fiber areal weights and average resin content, core thickness, and core density permitted. Laminates resulting in greater fiber weight, resin content, core density, or core thickness than specified in Appendix C and D are permitted.
- 20.2 Wing spars shall be constructed in accordance with the drawings and specifications listed in Appendix E. The drawings represent minimum average of the rolls' fiber areal weights and average resin content, core thickness, and core density permitted. Laminates resulting in greater fiber weight, resin content, core density, or core thickness than specified in Appendix E are permitted.
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Question:

We hereby ask for an interpretation of Class Rules 19.2 and 20.1 as follows:

Please advise how the Measurement Committee interprets "The drawings represent minimum average of the rolls' fiber areal weights and average resin content, core thickness, and core density permitted" in rules 19.2 & 20.2?

Interpretation:

Rule 6.3 prohibits optimization of the supplied design. Optimization would include batch selection of fiber areal weights, resin content, core thickness, and core density.

Fiber Areal Weights

The second use of the word "average" in Rules 19.2 and 20.2 refer to the fiber areal weights supplied by the manufacturer with each roll of prepreg.

The tolerance on fiber areal weights may vary by + or – 3.5%. In the case of nominal 150 g/m² prepreg the fiber areal weight may vary between 144.75 g/m² and 155.35 g/m².

The first use of the word "average" in Rules 19.2 and 20.2 is the mean of all the rolls of material used in the fabrication of that component. For example, if the rolls used to make the

component were 146, 152, 151, 147 and 155 g/m² the “average fiber areal weights ” would be 150.2g/m² This result would satisfy the requirements of Rules 19.2 and 20.2.

Resin Content

The second use of the word “average” in Rules 19.2 and 20.2 refers to the resin content supplied by the manufacturer with each roll of prepreg.

Industry standards indicate that the tolerance on resin content may vary by + or - 3%. In the case of 33% nominal resin content the resin content may be anywhere between 30% and 36%.

The first use of the word “average” in Rules 19.2 and 20.2 is the mean of all the rolls of material used in the fabrication of that component. This mean would be calculated as shown above for the average fiber areal weights.

Core Thickness

The core thickness is specified as a minimum. Given that the normal method of specification is by a nominal thickness and there must be some allowance for manufacturing tolerance, the minimum thickness shall not be less than the nominal thickness minus 0.3mm.

Core Density

The second use of the word “average” in Rules 19.2 and 20.2 refers to the core density supplied by the manufacturer with each sheet of core material.

Industry standards indicate that the tolerance on core density may vary by + or - 10%.

The first use of the word “average” in Rules 19.2 and 20.2 is the mean of all the sheets of core material used in the fabrication of that component. This mean would be calculated as shown above for the average fiber areal weights.END

Issued by the 35th AC Measurement Committee on October 23, 2015