

TUT / Plastics and Elastomer Technology
MOL-5526 Advanced Course on Composites

2nd Mid-term examination 6.5.2013 / Jyrki Vuorinen, Olli Orell and Reija Suihkonen

Max 30 points in total! Saa vastata myös suomeksi.

Answer to three (3) questions only!

1. Describe the different tests used for determination of delamination behaviour of laminates. What are the main differences between DCB, ENF and MMB? (10p)
2. (a) Explain why sandwich structures offer exceptional specific bending rigidity. (5p)
(b) Three point bending test of UD laminate - how does the span to thickness ratio affect the test? (5p)
3. What factors influence the erosion wear of composites and how? What kind of material(s) and structure(s) would you use in a composite pressure vessel that has to tolerate long-term erosion wear combined with high temperatures (up to 100°C) and acidic conditions? Justify your answer. (10p)
4. You arrive in the scene in the airport (see the picture below) and your very angry boss asks what now. You, as a highly experienced aircraft mechanic, reply to him: "No problem, first we..." Continue the story. (10p)

