Full Scale Test SSP 34m blade, edgewise loading LTT. Extreme load and PoC_InvE Data report - DTU Orbit (30/12/2018)

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This report is the second report covering the research and demonstration project “Eksperimental vingeforskning: Strukturelle mekaniser i nutidens og fremtidens store vinger under kombineret last”, supported by the EUDP program. A 34m wind turbine blade from SSP-Technology A/S has been tested in edgewise direction (LTT). The blade has been submitted to thorough examination by means of strain gauges, displacement transducers and a 3D optical measuring system. This data report presents results obtained during full scale testing of the blade up to 80% Risø load, where 80% Risø load corresponds to 100% certification load. These pulls at 80% Risø load were repeated and the results from these pulls were compared. The blade was reinforced according to a Risø DTU invention, where the trailing edge panels are coupled. The coupling is implemented to prevent the out of plane deformations and to reduce peeling stresses in the adhesive joints. Test results from measurements with the reinforcement have been compared to results without the coupling. The report presents only the relevant results for the 80% Risø load and the results applicable for the investigation of the influence of the invention on the profile deformation.

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