

FEM ANALYSIS OF A HAND MADE TUBULAR METALLIC SPACE FRAME FOR A PORSCHE 5500 SPYDER REPLICAR CAR

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ABSTRACT –

Inspired by the Porsche 356 the Porsche 550 was designed primarily as a racecar. From 1953 to 1956 Porsche 550 achieved significant success at famous circuits racing across both Europe and the US. The Spyder's excellent performance, beautiful exterior and unfortunate Hollywood connection have made the 550 one of the most frequently reproduced classic automobiles offered from various companies as a kit or as a build to order car.

This presentation will show the model setup of a hand made tubular metallic space frame from of a Porsche 550 replicar car which was built from a greek car manufacturer. The scope of our study was to assess the influence of various parameters such as the dimensions and number of the tubes, the type of welds etc on the mechanical behaviour of the frame. Special attention have been paid to bending and torsion behaviour of the frame which are considered critical factors for the driveability and overall ownership experience. The unique customization abilities of METAPOST were also exploited in order to create ready to use reports of the various analysis versions.