Fuselage skins of most aircraft are subjected to the combined loading of cabin pressure and fuselage bending. It is therefore highly desirable that curve fuselage panel test articles are tested under those biaxial loading conditions.

The fuselage panel test facility at NLR offers the possibility to subject fuselage skin sections to those biaxial loading conditions during static residual strength tests and fatigue tests.

By testing curved panel sections instead of a full scale fuselage or barrel section, lead time and cost can be reduced.
Specification NLR curved fuselage panel facility

The generic fuselage panel test facility at the NLR is flexible in panel diameter, width and length. An unique features of the facility is the unidirectional glass fiber sheets, which introduce the membrane loads very evenly and does not add local stiffens in axial direction. Another advantage is the possibility to visualize remotely real time test data generated during a test.

A recognised customer advantage is the wide variety of specialists and equipment available at the NLR, from control and measurement systems to loading actuators and sensors, to measure all kinds of parameters. NLR can take care of every step in aerospace full scale and component testing, including the transition from the requirements to the test definition, the test setup design and manufacturing, the definition of the load spectrum using the in-house developed computer programme CLASS, relevant testing techniques for static, fatigue, damage tolerance and environmental testing and interpretation of the results.