

The untabbed sample is 3 "long, 1" wide, and the thickness can vary depending on the material and layup in the testing phase. Northrop Specification recommended thicknesses from 0.125 "to 0.250". The standard sample contains a central "diameter hole 0.25, even if the unit has proved effective, even for compression of specimens without holes, if end crushing does not occur.

The specimen Northrop compression Open-Hole is directly end-loaded in compression to failure in the device the sample that extends from one end of the device toward each other and be flush with it. The device supports the specimen substantially continuous along both faces, with cuts being built to accommodate the strain gauges and their cables. The sample is bound between the four main support blocks, which are bolted together in pairs, with a small space (0.1 ") between the upper and lower pairs. This assembly is then lightly clamped between the external containment plates held in position with wing nuts as shown, to maintain the axial alignment of the assembly. the device with the sample is placed between the flat plates in a machine for compression testing and loaded to failure.

- Northrop Specification NAI-1504C, "Open Hole Compression Test Method," Northrop Corporation, Hawthorne, California, May 1988.
- ASTM Standard D6484-09 (2009), "Open-Hole Compressive Strength of Polymer Matrix Composite Laminates," American Society for Testing and Materials, West Conshohocken, Pennsylvania (first issued in 1999).
- S.L. Coguill and D.F. Adams, "A Comparison of Open-Hole Compression Fixtures by Experimental Evaluation," Proceedings of the 45<sup>th</sup> International SAMPE Symposium and Exhibition, Long Beach, California, May 2000, pp. 1095-1105.
- D.F. Adams, "Open Hole Compression Testing," *High Performance Composites*, March 2005, pp. 12-13.

