Engineering Center

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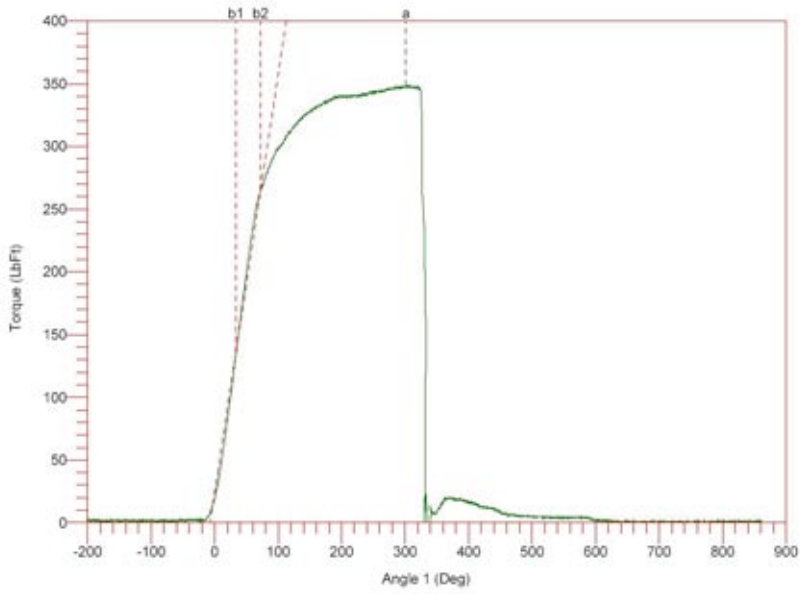
Torque Failure Testing



The graph shown here is from a Torque/Failure rundown of a threaded fastener into a threaded hole. In this example, there is no prevailing torque measured, as the bolt is free spinning to the mating nut. The three main outputs from a Torque/Failure Test are maximum torque, yield torque, and failure mode. The maximum torque is easy to identify for this graph, however defining the yield point may be a little more involved.

The yield determination shown here is the most conservative definition of yield, where a tangent line is drawn along the elastic region of the tightening curve and where the torque/failure graph diverges from this line is called yield. Customers may be more aggressive with their yield determination (such as using an offset method), however more sophisticated torque strategies may be required to guard against over-torquing during assembly.