

LAME DATES, 05/04/2022, TIME: 2 PM
1707263

ADVANCED STRESS + FEA M6X00420

b) Although the implementation of FEA has streamlined the design process, the use of physical prototypes can still be of benefit. Ideally, all prototypes would be as accurate as possible. However, a physical prototype is more to be used as a final sign off of the design before mass production can begin. Many customers, such as automotive manufacturers, require final sign off due to international standards or accreditation requirements.

c) FEA, although used widely, is still an approximation, (albeit accurate) of the physical design and cost. The FEA analysis is governed by the inputs entered by the user during the pre-processing stage. Failure to accurately constrain a feature, or enter incorrect material properties, would influence the accuracy such as high stress concentrations or levels of displacement expected. Therefore, correlation between test and FEA can give confidence that the physical results achieved, correlate to the virtual results.

Additionally, correlation of the model can be achieved using measuring device such as accelerometers measuring the force experienced at certain critical areas of the model. These can be verified using traditional hand collection.