The Dirty Martini

Cooperative Engineering Center

ME 444-W

Submitted By:

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I. Introduction

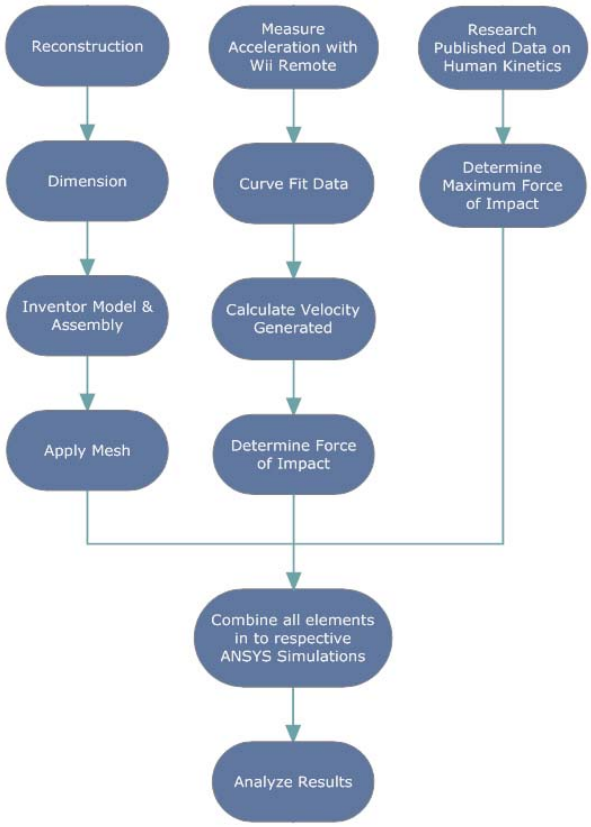
This project concerns a law suit between an unnamed individual and Target. Basically, a man is suing Target because a glass martini shaker, which he purchased at a Target store, shattered and he was severely injured. The objective is to determine whether or not the glass shaker was manufactured to withstand appropriate use. One major, limiting constraint is that destructive testing cannot be performed. There are only two shakers left in existence, and both have been submitted as evidence in the pending law suit. Therefore, the strategy is to model a worst case scenario of the man mixing a martini in the shaker, using ANSYS to perform a finite element analysis. In order to determine whether or not the glass shaker failed under the given constraints, the output of resultant stresses from ANSYS will be compared to know glass behavior data, regarding maximum allowable stresses.

II. Objective

The objective is to determine whether or not the glass shaker was manufactured to withstand appropriate use. More specifically, a computer aided finite element

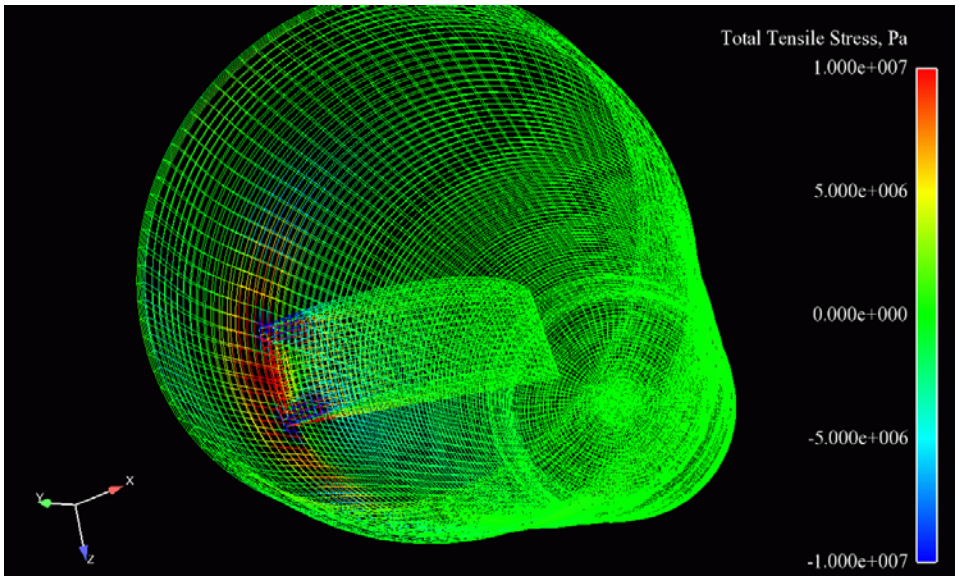
analysis, using ANSYS Software, will be conducted in order to determine how the glass will behave under a reasonable usage scenario.

III. Process



IV. Results

After analyzing the results, it was determined that the Martini Shaker was not manufactured to withstand reasonable human handling for which the product was intended. The resuls indicated that with the defined senerio, the glass shaker did indeed experience strees that far exceeded its allowble stress.


Total Tensile Stress, Pa
1.000e+007
5.000e+006
0.000e+000
-5.000e+006
-1.000e+007
X
Y
Z