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## Mechanical Stress Analysis and Simulation Using Numerical Methods in a Deep Fry Basket

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**Abstract:** This work shows a stress analysis in a Deep Fry Basket (DFB) taking into consideration each mechanical property and the operating conditions using numerical methods to obtain the results. The design of this component has to consider supporting high temperatures and different loads. It is necessary to provide information of the design using Computer Assistance Design (CAD) programs to assure the new products are ready for immediate production upon sample approval.

Also this period is characterized by the discovery of new materials offering technological possibilities only dreamed of. It is possible by the development and testing of these materials for very special properties to increase shelf life. Simulation using Computer Assistance Engineering (CAE) helps to analyze the mechanical behavior and select the material that meets operational specifications that will be exposed. The article presents a detailed comparison of the material used and one proposed by analyzing the mechanical stress to select the best.

*Keywords:* Mechanical Stress, CAE, CAD