

Product Design & Analysis of Modified Angled Bracket

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ABSTRACT

Item plan and improvement together are fundamental to drive commercialization and development in the assembling area. To exploit current and future market valuable open doors makers should continue to concentrate their item plan and improvement techniques by advancing clients' necessities. This paper characterizes item plan and improvement processes together, alongside the course of change of market opportunity into item ready to move. Paper features periods of item plan and improvement interaction, and gives the deliberate methodology of item advancement. In view of the stages characterized paper attempts to give between relationship and contrasts between item plan and improvement. Contingent upon the kind of firms and their items, their item plan and improvement systems might contrast. It is important to join all strategies with the comprehension of normal issues and needs. The paper attempts to outline item plan furthermore advancement process in all kind of firms and gives a normal summed up approach of item plan and advancement that can be utilized independent of kind of firm. Paper ought to be taken as more extensive conversation which expands the perspective on item plan and advancement

Keywords - Auto Cad 2019, solid modelling on Solidworks 2018 and analysis of parts in ANSYS Workbench 2018 software, Product Design; Product Development

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I. INTRODUCTION

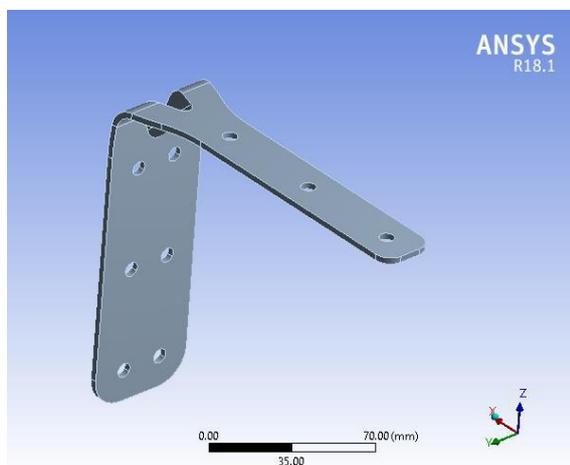
The premise of creation starts with a need of item, which is distinguished by client and market requests. The final result goes through two significant cycles from the idea age to the completed item. These cycles are the plan interaction and the item advancement process. These two capacities are vital regions in any creation and, accordingly, the interrelationship between them forever is of head significance. Organizations now a days are confronting enormous strain to improve and foster new items at a sped up pace with declining cost. To meet these business objectives organizations should deal with a few vital difficulties to oversee item conceptualization, plan and improvement programs. New items or administrations, which are created consistently, are one of the principle factors for maintainable achievement of organizations. Item plan and improvement together are fundamental for drive commercialization and development in the assembling area. To exploit current and future market open doors makers should continue to concentrate their item plan and advancement systems by developing clients' necessities. The term item plan and advancement together has to a greater extent a business approach, as it additionally consolidates issues like market studies, market

presentation, item audit exercises, information the executives, coordinated effort and others as well. This paper brings item configuration interaction and item improvement process together. Study addresses various periods of item plan and advancement process exhaustively and proposes a precise methodology of item plan and improvement process. In view of the stages characterized paper attempts to give between relationship and contrasts between item plan and improvement. Item plan and advancement process is a pattern of proceeds with progress after some time with iterative criticism and repeating inputs from improvement colleagues, chiefs, deals and showcasing divisions and creation groups. Late patterns in item plan and improvements are more limited advancement processes, arising client mix into item advancement, as well as expanding levels of multidisciplinary in the plan of new items. In any case, various organizations can follow various systems to change the market need into the item available to be purchased. These methodologies rely upon the sort of organization, kind of item, area of organization, and so on This paper attempts to bring all methodologies under one rooftop by giving a typical summed up approach of item plan and advancement that can be utilized regardless of kind of firm.

II. PRODUCT DESIGN AND ANALYSIS OF MODIFIED ANGLE PLATE BRACKET

I. Product Design

Configuration is the actual center of advancement. Item configuration isn't tied in with making items to look tastefully satisfying or snappy. Item configuration is a multi-disciplinary cycle. Item configuration incorporates configuration related exercises that happen during actual creation. Item can be called also planned provided that it is well fitting to its market. Essential components of configuration are definition of the plan procedure, the configuration task, the approach to planning, the utilization of an association as well as the genuine setting and the creator's response upon it. In item plan thoughts and necessities are given at first as arrangement ideas. At the point when another item is to be shaped a few unique arrangements that can be exemplified in ideas are regularly conceivable. Item configuration might include embracing absolutely new items or may involve the refinement or overhauling of existing plans, to further develop usefulness, execution or allure. Be that as it may, item plan not really will in general embrace utilization of new advancements to make novel items. Configuration basically manages acquaintance of changes with capacities and ideas



II. Product Analysis

Regular we use great many various items, from phones to bicycles and beverages jars to clothes washers. Be that as it may, have you at any point contemplated how they work or the manner in which they are made?

Each item is planned with a certain goal in mind - item investigation empowers us to comprehend the significant materials, handling, monetary and tasteful choices which are expected before any item can be made. A comprehension of

these choices can help us in planning and making for ourselves.

At the principal hypothetical investigation of section is finished. Key areas of section with their work are recognized. The primary errand in this study is to do static examination of section and to lessen avoidance. static examination is done in Ansys Workbench Structural.

III. Figures and Tables

Modified Angle Bracket is item which is utilized in the everyday life in displaying stage gadget. From snares To metal casing, it is utilized in practically all areas. These section is fundamentally used to hold the stage for item which is utilized in exhibit in houses.

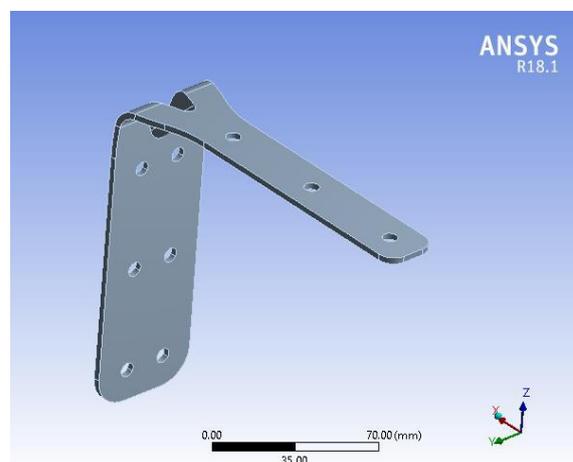


Fig. Product

Meshing is the act of making a cross section, a development of a persistent mathematical space into discrete mathematical and topological cells. Frequently these cells structure a simplicial complex. Normally the cells segment the mathematical info space. Network cells are utilized as discrete nearby approximations of the bigger area. Networks are made by PC calculations, regularly with human direction through a GUI , relying upon the intricacy of the space and the sort of cross section wanted. The objective is to make a lattice that precisely catches the info area math, with top caliber (all around molded) cells, and without such countless cells as to make resulting estimations immovable. The lattice should likewise be fine (have little components) in regions that are significant for the ensuing estimations

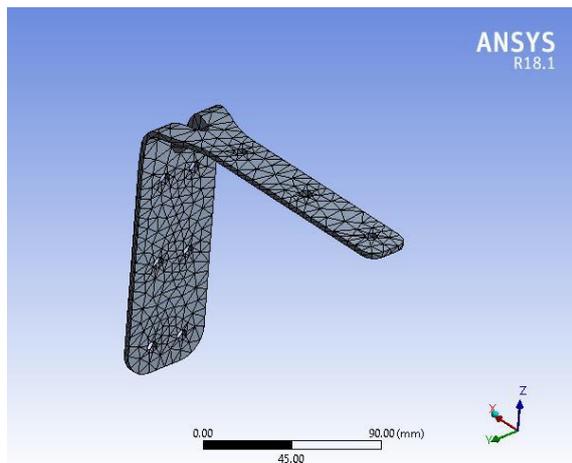


Fig. Meshing

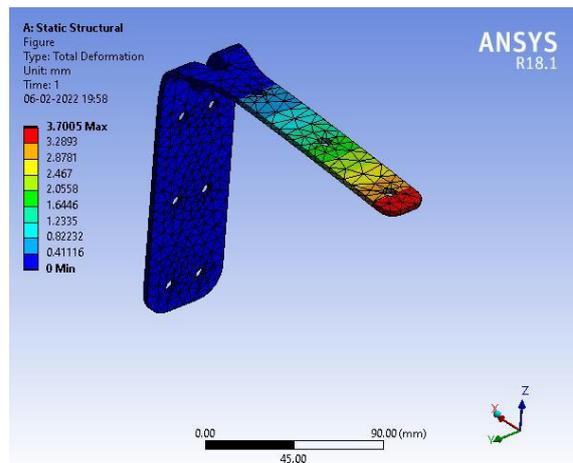


Fig. Total Deformation

It is condition in which we give the actual working condition with the help of the different support and loading condition (Force). As the bracket is wall mounted that why we have given the fixed support to the left flange of the bracket in the below model and also the force is applied on the top face of the model which is 100 N in the downward direction as the plate which is going to be fitted will be above the top face of the flange.

Stress is defined as the resistance to force. In the study, we have find that the maximum stress induced in the model is 172.42 Mpa.

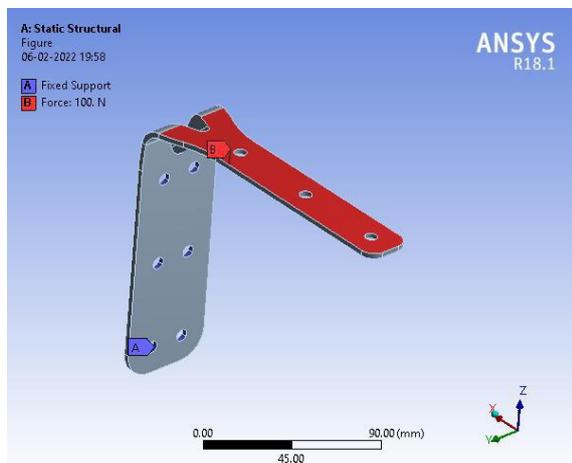


Fig. Boundary Condition

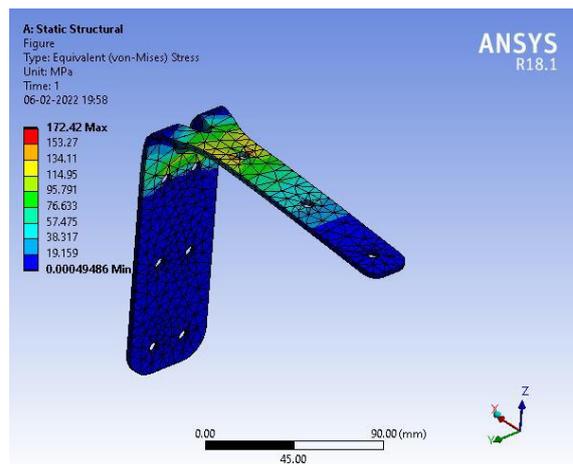


Fig. Von mises Stress

In these studies, we have see the maximum total deformation as 3.7 mm in the red zone shown in the below model.

III. CONCLUSION

In these study, we have done the product design and analysis of modified angle plate bracket. These studies shows us that the design is safe as we have used the stainless material which having the yield value of 207 Mpa and the stress which we have found is less then that of these value which 172 Mpa. So according to study our design is safe for the boundary condition which we have applied.

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