



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

Department of Mechanical Engineering

REPORT OF SKILL BASED MINI PROJECT

Design of Machine Elements (120412)

Title of Project: GRAPHICAL REPRESENTATION OF LIMITS OF SHAFT AND HOLE

Introduction: When choosing a system for a fit, you have 2 options – hole and shaft system. The system tells which part has a controlled measurement and which part is made based on the other. In short, the hole-basis system uses a constant measurement for the hole and the diameter of the shaft is made accordingly to achieve the required fit. And the shaft-based system works vice-versa. Engineers tend to follow the hole system because of simplicity. As the hole size stays constant, the shaft's upper and lower deviation values determine the type of fit. Drilling does not allow for much precision, as the tooling comes in certain measurements. Machining limits is the amount of acceptable variance in the dimension of a part. This is expressed as a maximum and minimum dimension limit for a part. Parts are within tolerance of their dimensions fall between these limits.

Description of Model

GRAPHICAL REPRESENTATION OF LIMITS OF SHAFT AND HOLE



SUBMITTED By -
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Applications of Model

Limits of shafts and hole are used wherever there is a need to fit one component (shaft) inside another component (hole). Limits, clearance, and variance are calculated and manufactured accordingly. This technique can be used in Bearings, Plumbing, Automobiles, and many other machines.

What I Learned Through Project:

I learnt about the calculations needed to be made to find out the upper and lower limit of tolerance made inside of hole and on the shaft.

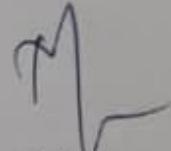
We used multiple fits tables to find clearance, transition and interference fits versus hole system.

Submitted By

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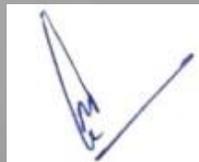
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