

INTRODUCTION

Designers strive to tolerance components optimally to reduce the cost of manufacturing and Inspection. However, the individual part tolerances add up in an assembly and the accumulated tolerance could hamper the function of the assembly resulting in scrapping / reworking of parts and assemblies. Tolerance Stack-up Analysis will help determine the maximum possible variation in an assembly quantitatively, enables the designer to optimise the tolerances, thereby ensuring a robust design.

Keeping this in view, IMTMA is organizing an Online programme on **"Fundamentals of Tolerance Stack-up Analysis"**.

FOCUS AREAS

- Introduction to Tolerance stacks
- Tolerance stack methodology
- Part Stack and Assembly stack without Geometric tolerances -Examples and exercises
- Part Stack and Assembly Stack with Runout and Concentricity -Examples and exercises
- Part Stack and Assembly Stack with Profile tolerances -Examples and exercises
- Part Stacks - Position (RFS) -Example and exercise
- Part Stacks - Position (Bonus) -Example and exercise
- Part Stacks - Position (Bonus + Shift) -Example and exercises
- Form controls -Examples and exercises
- Orientation -Examples and exercises
- Case study and Stacks using multiple geometric controls
- Tolerance Analysis and Tolerance Allocation
- Statistical Tolerance -Theory, Example and exercise

KEY TAKE AWAYS

- Compute Tolerance Stack-ups in parts and Assemblies
- Determine if the assemblies/parts can work at their worst-case condition or maximum statistical variation
- Modify/redistribute tolerances to satisfy function and manufacturability
- Troubleshoot parts and assemblies which had field failure due to tolerance accumulation issues

FEE PER PARTICIPANT (PER LOGIN)

Rs. 9000/-

+18% GST

**IMTMA Members/ Micro Companies/ Individuals/
Educational Institutions / Students/ IMTMA Non
Members/ Others**

USD 360/-

Overseas Participants

Group Concession : 10% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

This programme will benefit designers / product design engineers responsible for specifying, interpreting and analyzing tolerances.

Pre-requisite: This programme will directly start with tolerance stacks. Hence, Knowledge of Engineering Drawing and GD&T principles will be a pre-requisite for participants to learn the techniques of tolerance stack-up analysis.

There will be a pre-course questionnaire after registration.

FACULTY

This programme will be conducted by **Mr. Ravi Shankar Nadig**, holds a Bachelor's Degree in Mechanical Engineering, is a Manufacturing and Dimensional Management Professional with 27 years of experience in Machine tool, Automotive and Aerospace industries, He has worked as a Scientist in Central Manufacturing Technology Institute (CMTI), Bangalore (9 years) and as a Consultant in Tata Consultancy Services (TCS) for 15 years His core competency is in Design and Manufacture of precision machine elements for Defence and Space applications, Manufacturing Engineering support for Fabrication of sheet metal parts of Aero Engine assemblies, Dimensional Management -Tolerance Stack Analysis of Automotive and Aero engines, GD&T practice and training, and Rapid Prototyping. He is a Senior GD&T professional certified by ASME (Y14.5-2009).

For Registration Contact

Rathan
Programme Coordinator
9743180085
rathan@imtma.in
B.L Patil
8088251077
blpatil@imtma.in

Contact Address

INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION
Plot 249F, Phase IV, Udyog vihar, Sector - 18,
Gurgaon - 122015
Tata no- +91-124-6463101
Tel : 0124 4014101 - 04
Fax : +91-124-4014108



imtmatraining.67038796@hdfcbank