MECANICA
by solidxperience

Training Course

MECANICA SOLUTIONS CATIA V5

COMPOSITE PART ENGINEERING

MECANICA
by solidxperience

OBJECTIVE: The students will be introduced to how to design simple Composites Parts using a Manual approach. Then learn how to use a Zone-based approach to complete the preliminary design and then the detail ed design. Users will learn the advance Grid based approach of composite modeling. They will also learn how to generate plies automatically, use the analysis tools and simulate fiber behaviour. Finally, the students will learn how to generate exact solids, create composites drawings, Import / Export Ply data and create Ply Book.

DURATION 5 DAYS

STUDENT PROFILE:
CATIA V5 COMPOSITE DESIGNERS

PRE-REQUISITES:
V5 ADVANCED DESIGN

TOPIC & DETAILS	TOPIC DURATION
Introduction to Composites Design	1 Day
[Common for Design & Manufacturing Users] • Getting Started with CATIA V5 CPE • Familiarizing with Composites Design approaches and terminologies • Design using manual approach • Create, modify and analyze the piles with manual approach	
Creating Zone Based Design	0.75 Day
[Only for Composite Design Users] • Design using Classic zone approach • Design using Solid zone approach • Create & Modify Piles with zone approach • Create & Modify Piles using solid approach	
Composite modeling using Grid Approach	1.5 Days
[Only for Composite Design Users] • Understand the concept of Grid approach in Composites Design • Defining composite parameter, Grid Panel and Virtual Stacking • Generate plies using the Grid approach • Modify the Ply geometry • Create a solid or a top surface using the ply geometry • Create and modify a composite part using the Composites Grid Design approach	

TOPIC & DETAILS	TOPIC DURATION

Reviewing Composite Entities

0.5 Day

[Common for Design & Manufacturing Users]

- Getting Started with CATIA V5 CPE
- Familiarizing with Composites Design approaches and terminologies
- Design using manual approach
- Create, modify and analyze the piles with manual approach

Generating Production Data

0.75 Day

[Only for Manufacturing Users]

- Apply the manufacturing constraints like Producibility
- Generate a Manufacturing Stacking from an Engineering Stacking
- Synchronize the link between the Manufacturing and Engineering parts
- Creating Dart
- Create Multi-Splice and No-Splice on the Plies
- Compute Flattening

Creating Production Documents

0.5 Day

[Common for Design & Manufacturing Users]

- Exporting the Composite data & core samples results

Create a drawing from design

- Create Ply book, review Ply table and perform inspections on design