**LAYUP ANALYSIS TOOL FOR MATLAB®**

**Strength Analysis and Layup Optimisation of Unidirectional Fibre-reinforced Composites**

# Analysis User’s Guide

# Version Information

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Contents

[1. Introduction 5](#_Toc134438202)

[1.1 Overview 5](#_Toc134438203)

[1.1.1 The Quick Fatigue Tool application 5](#_Toc134438204)

[1.1.2 Required user inputs 5](#_Toc134438205)

[1.1.3 Reviewing the results of a Quick Fatigue Tool analysis 5](#_Toc134438206)

[1.1.4 Checking the Quick Fatigue Tool Version 5](#_Toc134438207)

# 1. Introduction

## 1.1 Overview

### 1.1.1 The Layup Analysis Tool programme

Layup Analysis Tool for MATLAB is used to calculate:

* Ply stresses and strains;
* the factors of safety on each ply; and
* the optimised stacking sequence for a given load.

The methodology used by Layup Analysis Tool follows classical lamination theory (CLT) and assumes that the laminate obeys the Kirchhoff Hypothesis.

### 1.1.2 Required user inputs

Layup Analysis Tool requires the following inputs from the user:

1. A layup stacking sequence
2. At least one material

# 2. Section Points