

Delivery mode :

Online

W-M681

# Composite Materials: **GENERALITIES**

**10-12 May 2023**  
**3pm - 6pm**

Composite materials are more and more frequently taking the place of metallic materials, as they offer advantages in weight, corrosion resistance and function integration. Through the use of examples, you will evaluate the suitability of using these materials in your applications. This will also enable you to master the basic knowledge of composite materials and to acquire technical vocabulary.

## **WHO SHOULD ATTEND**

Project managers, research and process staff and anyone that would need to discuss with field experts (technical sales, buyers, technical secretaries, quality control).

## **PRE-REQUISITES**

None

## **SKILL AIMS**

The skills that trainees should develop within their company by implementing the knowledge and expertise acquired during the course:

- Participate in technical discussions on composite materials.
- Have technical discussions on the choice as a specific composite material as well as the associated implementation process.



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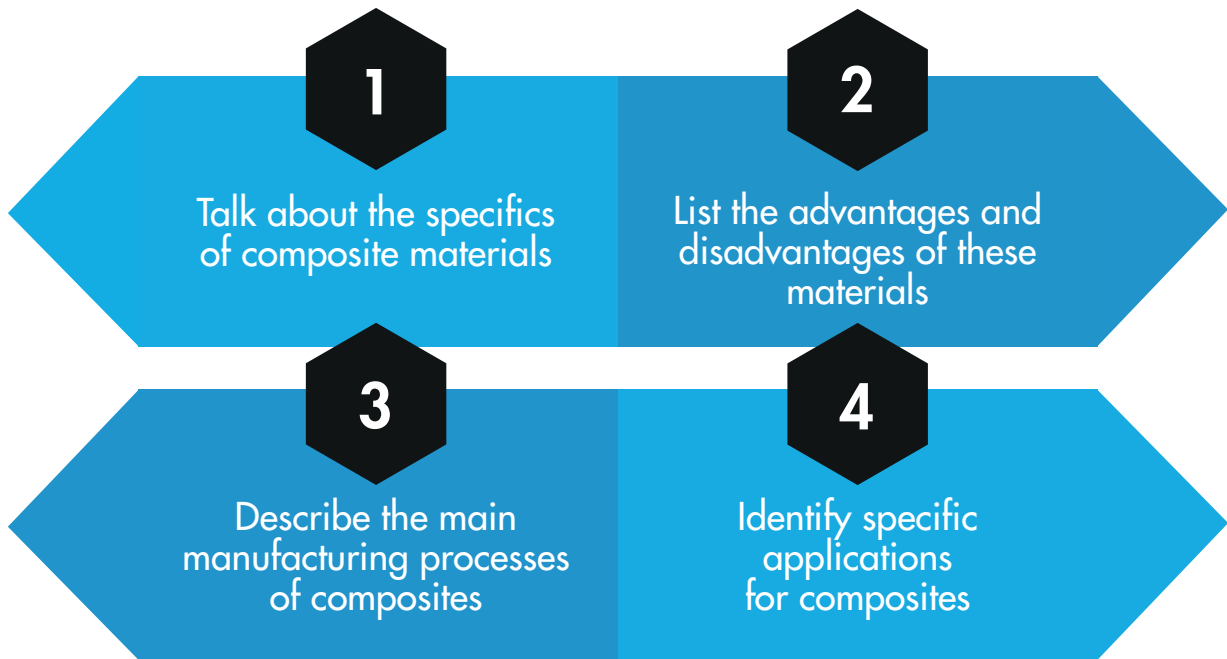


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## COURSE OBJECTIVES



## COURSE OUTLINE

### Materials and General Information

#### MODULE 1

- ◆ Definitions, vocabulary
- ◆ Structure of composite materials: resins, reinforcement, fibres, etc.
- ◆ Different composite families (thermosetting and thermosoftening) :
- ◆ Mechanical, physical and chemical properties
- ◆ Multi-choice style quiz to check knowledge acquired

### Composite Moulding Techniques

#### MODULE 2

- ◆ Contact molding and simultaneous projection
- ◆ Layering pre-preg
- ◆ Resin Transfer Moulding (RTM), infusion
- ◆ Molding by compression (BMC, SMC, thermos-stamping, thermocompression)
- ◆ Filament winding
- ◆ Pultrusion
- ◆ Others
- ◆ Multi-choice style quiz to check knowledge acquired

### Notion of design and application process

#### MODULE 3

- ◆ Notion of pre-sizing
- ◆ Application examples
- ◆ Multi-choice style quiz to check knowledge acquired

# TRAINER



## Thomas Lepine

Thomas LEPINE, our renowned expert on “Materials”, provides expertise on polymer and composite components and structures. The areas of expertise are:

- Classification of materials
- Failure analysis, audit, advising
- Searching for repair or redesign solutions
- Management of projects across multiple skill areas
- Training (teaching manager) and presentations on technology days

## PROFILE

- Head of R&D studies and of supervision of thesis on:
  - Ageing and life expectancy prediction
  - Development of classification techniques (remaining constraints, etc.)
- CETIM (20 years): failure analysis project manager, head of R&D studies then Area Expert
- CRITT Materials - LNE East (5 years): manager of classification services, failure analysis, specific formulations, bonding, training
- Education and Training
- Diploma from l'Institut de l'Expertise (Paris)
- Qualified in Engineering at the Ecole d'Application des Hauts Polymères (EAHP) in Strasbourg (1994)
- Post-graduate diploma in Physics Chemistry Polymer Materials (1993)

## AREAS OF EXPERTISE

- Mechanical and physical-chemical classification, NDTs of polymer and composite materials (high diffusion and high performance)
- Failure analysis of plastic, elastomer and composite parts, methodology, FMEA process
- Damage analysis and identification of failure mechanisms (fractography)
- Understanding of ageing phenomena
- Assistance with redesign or repair of faulty parts or structures
- Surface, adhesion treatments



FEE

**RM1,700** /pax

(inclusive of course materials & certificate)

## PAYMENT

Electronic Fund Transfer / Telegraphic Transfer to:

**Account Number : 8002167906**  
**Account Name : UPM EDUCATION & TRAINING SDN BHD**  
**Bank Name : CIMB BANK BERHAD**  
**Country : MALAYSIA**  
**SWIFT Code : CIMBMYKL**  
**Bank Address : CIMB BANK, SERDANG PERDANA**

Please stated in the payment reference:

a) WM681                      b) Participant name

\*Please send us proof of payment through email.

## FOR INQUIRY PLEASE CALL

+6018 389 1408 (Ms. Nurul/Ms. Mimie) +603 8959 3408

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