

Hands On Light RTM Composite Tooling Training

You will learn the basics of Light RTM Tooling including:

WHY RTM?

-Advantages and other options

PATTERN DESIGN AND PREPARATION

-Flanges, draft angles, and undercut considerations

BUILDING THE FACE TOOL

-Materials, their properties, and temperature controls
-Designing, building, and attaching the back-up frame
-Accurate location clamping and attachment system

DEFINING THE PART TO BE BUILT

-Working with dimensional wax
-Designing product cut-offs, vents, and peripheral seals
-Injection port location, multiple injection ports, and sensors
-Designing for ribs, cores, inserts, etc.
-Handling complicated shapes, undercuts, etc.

HOW TO ENSURE PART ACCURACY

-Controlling the problem of laminate shrinkage

BUILDING THE BACK TOOL

-Designing the frame and locking accuracy

TOOL LIFE AND CARE

-Replacing the tool faces

FINISHING AND PREPARATION OF THE TOOL

-Preparing the tool surface
-Release agents and their application
-Installing the mold seal
-Reinforcement materials replacement

GETTING STARTED

-Materials and resources

COSTING TOOLS AND PARTS

-Materials, wastage rates, and formulas for costing

RESIN SYSTEMS AND REINFORCEMENTS

-Review of available resin systems and properties
-Review of reinforcement applications and sources

FILLERS AND THEIR EFFECTS

-Impact on surface finish, part cost, and fire retardant
-Surface finish requirements

INJECTION MACHINES

-Features and benefits
-Catalyst and cure systems, production rates
-Preform materials, manual to fully automated



Sign up today and you will receive a Closed Mold Alliance Coupon Book valued at more than \$2,000 in material discounts upon completion of the course!

Registration Form

CM302 Light RTM Composite Tooling Training
July 20 - 24, 2009
\$1,850 U.S. funds

Full Payment is required with registration prior to July 10, 2009.

Please fax registration form by: **July 10, 2009**

You can fax your registration form and mail your payment to:

RTM North Ltd.
43 First Avenue
Vanastra, Ontario
Canada, NOM 1L0
P: (519) 482-1464
F: (519) 482-1661

Name:	Title:				
Company:					
Address:					
City:	State:	Zip:			
Phone:	Fax:				
Products currently being manufactured:					
Please circle one:	Fabricator	Supplier	Distributor	Other	

Full payment is required with this registration.
Registration will not be considered final until payment is received. All cancellations made ten working days prior to the commencement of the seminar will receive a full refund. Cancellations made less than ten days prior will be subject to a refund if there is a confirmed alternate. All cancellations must be made in writing.

Sign up today and receive a
Closed Mold Alliance Coupon Book
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CM302 Light RTM Composite Tooling Training

5-DAY HANDS ON TRAINING

July 20 - 24, 2009
Cerritos College
Norwalk, California



(800) 621-8003
compositesone.com

Schedule of Events

Monday, July 20 - 9:30 AM - 4:30 PM

- Economics of LRTM
- Product Design for Process and Flange
- LRTM Injection Demonstration
- A-Side Mold Construction
- Steps in LRTM Mold Building
- LRTM Demonstration

Tuesday, July 21 - 8:00 AM - 4:30 PM

- Waxing Techniques
- Waxing Demonstration
- Design First Layer of Wax
- LRTM Injection Demonstration
- Waxing First Layer

Wednesday, July 22 - 8:00 AM - 4:30 PM

- Second Layer of Wax
- LRTM Injection Demonstration
- Waxing Flange Details
- Start Lay-Up on B-Side

Thursday, July 23 - 8:00 AM - 4:30 PM

- More Laminates on B-Side
- MVP Equipment
- LRTM Injection Demonstration
- Supplier Presentations
- Finish Wax and Laminate on B-Side
- Graduation Dinner

Friday, July 24 - 8:00 AM - 1:00 PM

- Mold Repair and Maintenance
- Gel Coating, Glass Loading, and Troubleshooting
- Questions and Answers
- LRTM Injection Demonstration

CM302 Advanced Light RTM Tooling July 20 - 24

Limited number of spaces available.
Fax your registration form to
(519) 482-1661 to save your spot.
See registration form for payment
details.

Location: Cerritos College
1111 Alondra Blvd.
Norwalk, California

Cost: \$1,850 USD per person
(Lunch and graduation
dinner included)

Hotel Accommodations:

Marriott Hotel
13111 Sycamore Drive
Norwalk, California
(562)863-5555
\$109 per night

**Must state you are with Composites
One School to obtain rate.**

**PARTICIPANTS UNDERSTAND THAT THEY WILL
RECEIVE CONFIDENTIAL INFORMATION AND
USE OF LIGHT RTM MOLDS AND THEY WILL NOT
DISCLOSE OR COPY SUCH INFORMATION IN
WHOLE OR IN PART.**

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