

## Thesis

### Project 1: Biopolymers for calendering

**Company: Riflex Film AB**

[www.riflexfilm.com](http://www.riflexfilm.com)

#### Extent

Masterlevel (20 weeks), suitable for one or two students working together.

#### Field of study

Engineering with specialization materials, chemistry, engineering, physics or equivalent qualification.

#### Planned start and duration

At once or at the latest march 2013.

#### Task

##### Background

The plastics industry worldwide is currently heading for a quantum leap for environmental improvements. Polymers based on biomaterials, "biopolymers", are increasingly used instead of polymers based on fossil oil. Firstly polymers for biodegradable applications were developed, but now we see more "normal" engineering polymers (such as PE and PP) to become bio based. Market growth up to +30% per annum has been projected and so far mainly grades for injection moulding, blow moulding and extrusion has been developed. Riflex Film AB recently started to study biopolymers suitable for their manufacturing process; calendaring. A few promising materials were identified and now we need to intensify the development of biopolymers for calendaring.

##### Objective for project

Riflex Film AB needs to develop grades of biopolymers suitable for their calendaring process. The objective of the project is to evaluate the effects of different additives (release agents etc.) on important processing properties (tackiness to rollers etc.) and application properties (weldability etc.) for a number of chosen biopolymer families.

The work will include practical experiments and tests in laboratory equipment as well as production line. In addition, significant communication with material sub-suppliers is expected.

# Cefur

## About Riflex Film AB

Riflex Film AB manufactures flexible PVC films and foils at the highly automated plant in Ronneby. Our main strength is our ability to offer a broad spectrum of thickness and widths, all at top quality and with compliance to each customer's specific standards and requests.

Our main market is Europe and our product range is flexible plastic sheetings up to 2 300 mm wide and thickness from 0,04 mm to 1,5 mm. Key applications for our sheeting include products for:

- projection screens manufacturing
- swimming pools
- decoration, textile manufacturing and interior design
- flexible packagings

Riflex is concerned about the environment and we comply with ISO 14001. We recycle all waste material internally. We are also certified according to ISO 9001. Our raw materials comply with REACH requirements. In recent time we have started to develop processes and materials for biopolymer applications.

## Location

Ronneby

## Language

Swedish or English.

## Expenses

Travel expenses might be reimbursed after agreement.

## Please contact

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## Application

Register your interest by sending your CV, cover letter, course list and references to the contact person at Cefur: [martina.lindgren@ronneby.se](mailto:martina.lindgren@ronneby.se)  
Application and selection is ongoing.