

# Calendering

## Introduction

Calendering is a continuous process where melted plastic, paper, rubber or fabrics are squeezed between pairs of rollers. Calendering is one method of making plastic sheets and plastic film. (Another method is Blown Film)

## Plastics Used

The plastics used to create film and sheets by calendering are:

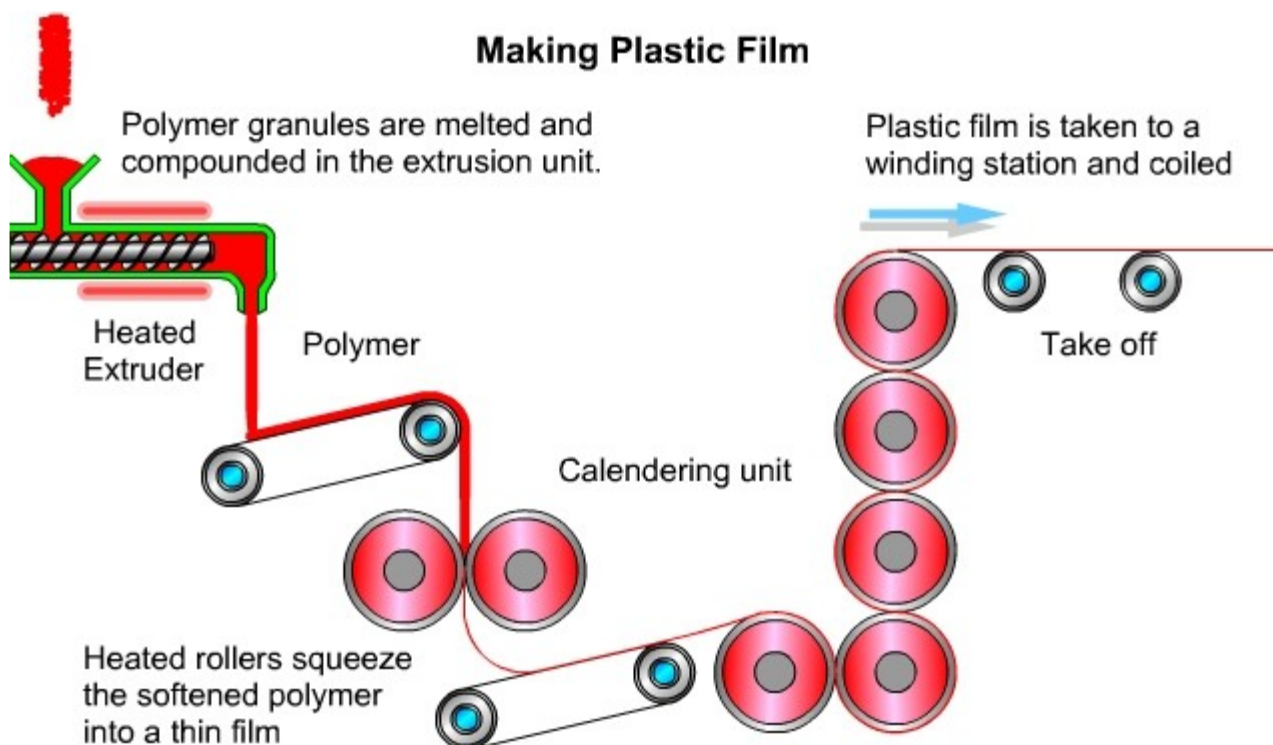
- polyvinyl chloride (PVC)
- modified polyethylene (PE),
- polypropylene (PP)
- acrylonitrile-butadiene-styrene (ABS)
- thermosetting compounds

## Making Plastic Film and Plastic Sheets

Plastic film and thicker sheets of plastic may be made by calendering molten plastic.

In the calendering process, molten plastic is extruded and then passed between pairs of heated rollers that squeeze the molten plastic into a sheet. The thickness of the plastic sheet depends upon the gap between the pairs of rollers. Very thin plastic sheet is called plastic film.

The calendering process usually involves using four or more pairs of rollers that gradually reduce the plastic thickness, polish the surface, add a texture or emboss a pattern into the plastic sheet. After the sheet passes between the final pair of rollers, it is cooled and fed to a winding station where it is coiled and edge trimmed.



Plastic laminates and plastic/fabric laminates are also produced by calendering.

- Plastic films may be laminated, i.e. bonded, by squeezing the plastic films between pairs of heated rollers under great pressure.
- Fabrics may be bonded to plastic film by squeezing the two materials together between pairs of heated rollers under great pressure.
- Two fabrics may be bonded by passing one of the fabrics through a tank of adhesive and then passing the two fabrics between pairs of rollers that squeeze the fabrics together under great pressure.

### Using the calendering process to laminate fabrics

