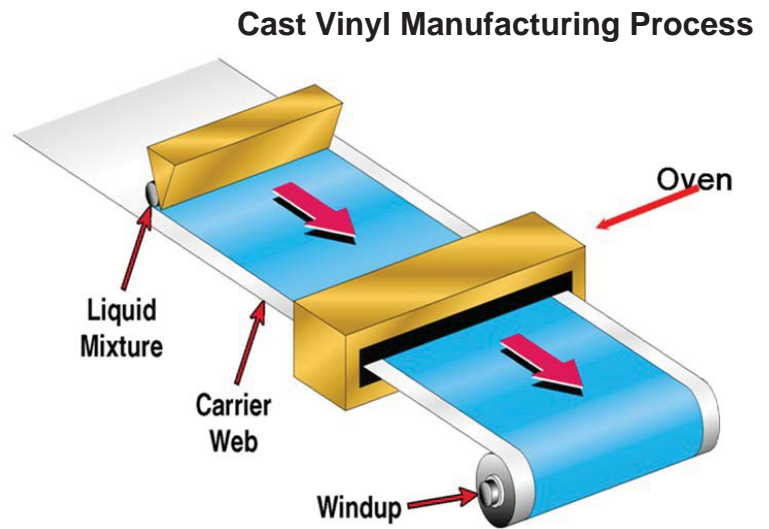


Cast vs. Calendered Vinyl

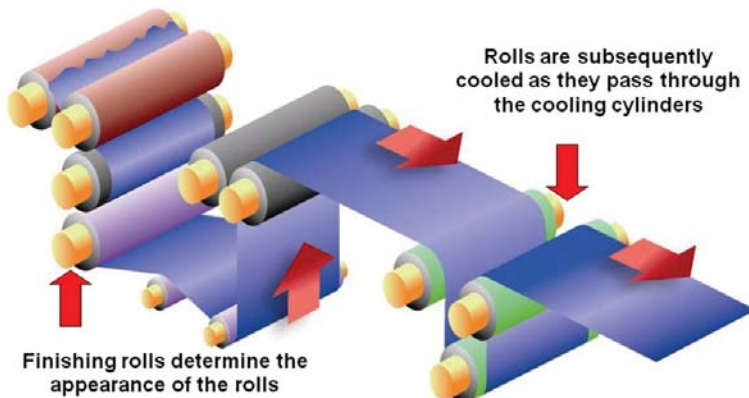
Vinyl film, the workhorse of many print shops, can be produced as either a cast or calendered film. The basic ingredients are the same, but the manufacturing process and type of plasticizers used result in significant differences.

Cast films are considered the industry premium. These films start in a liquid state with the ingredients blended together and then poured onto a casting sheet. The casting process produces a thin gauge film—usually 1- to 2-mil thick. By casting film on a sheet, the film stays in a more relaxed state, resulting in a durable, flexible, conformable and dimensionally stable film that retains color well. These films are ideal for complex surfaces such as vehicles and where a smooth finished look is expected.



Calendered films are often called intermediate or short-term films. It starts with a molten mixture that is extruded through a die and fed through a series of calendering rolls.

Calendered Vinyl Manufacturing Process



The rolling and stretching process produces thicker films (3- to 4-mil is common) that have some inherent memory, making the film less dimensionally stable and less conformable with a tendency to shrink when exposed to heat. However, they are less expensive, somewhat more scratch resistant, and their heavier weight makes them easier to handle than cast films. These films are well suited for flat and simple curved applications on a variety of substrates.

3M CAST VINYL FILM OFFERING

3M offers a full range of cast vinyl films for the inkjet marketplace. Things to consider when selecting a cast film from the 3M portfolio include: durability, application surface, film opacity, adhesive characteristic—including desired level of removability and ease of application—and



Cast vs. Calendered Vinyl - Continued

cutting methods. Popular 3M brand cast films include IJ3552C* (air release channels, changeable, 8-year durable) and IJ170Cv3* (air release channels, removable, 10-year durable).

3M CALENDERED VINYL OPTIONS

If you're looking for shorter term, lower cost vinyl options, consider some of 3M Brand calendered vinyl products for wide-web digital printing such as 3M™ Controltac™ Graphic Film IJ160C*(air release channels, removable, 7 year durable) and 3M™ Controltac™ Graphic Film IJ-35 (permanent, 5-year durable). For vinyl material options for Screen Printing, Flexo printing or even wide-web inkjet printing, consider 3M™ Label Material 7045 (Matte White Vinyl with UL Approved adhesive), 7051SA (3.8 mil extended life 5 year vinyl with 3M micro-channeled adhesive), 7052 (4 mil Soft Clear Vinyl with Perm Acrylic Adhesive) or FV1405 (4 mil Soft Clear Vinyl with Removable Adhesive)

* 3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive IJ3552C
3M™ Scotchcal™ Graphic Film with Comply™ v3 Adhesive IJ170Cv3
3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ160C-10
3M™ Scotchcal™ Graphic Film IJ35

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