

# CHARTER FILMS

Specialists in  
Blown Film  
Extrusion

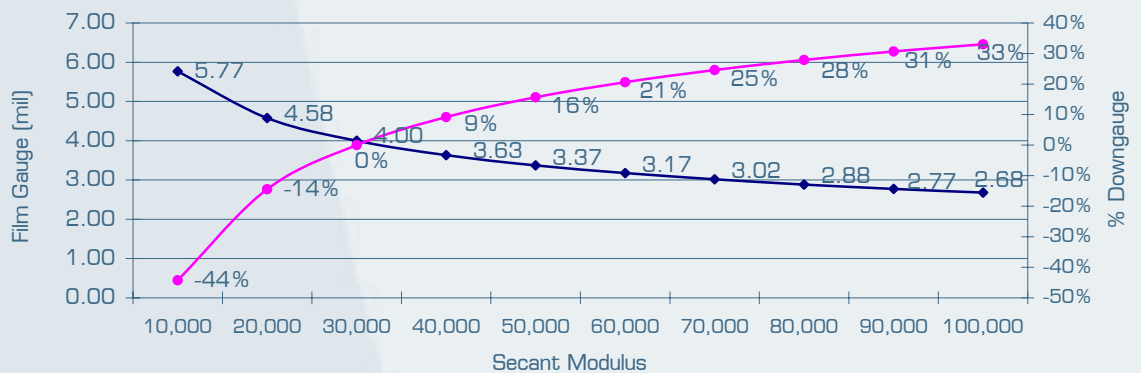
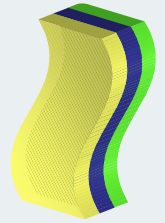
Sustainable  
Source Reduction

## • Coextrusion Technology



In monolayer films, all resins are blended into a single layer. Many of these blends were created simply for easier processing by the film producer and often compromise the improved properties that today's customer's demand.

With Coextruded films, the resins used are not subject to blending. Coextruded materials offer improved properties over blended materials—such as added toughness and enhanced sealing performance. Because of this, it is possible to engineer coextruded products to replace mono film structures with properties that allow for downgauging without losing key film attributes.



Films depicted in the above chart should exhibit the same stiffness at the given gauge and secant values. Ex: A 2.68 mil film with a secant of 100,000 should exhibit the same stiffness as a 3.37 mil film with a 50,000 secant value.

Although they may exhibit the same stiffness, if downgauging with mono films, many film attributes may be sacrificed. For example, a 4 mil Linear Low Density / Low Density Blend, such as Charter's CI-450, [secant 30,000] cannot be easily replaced with a higher secant mono film without severely altering the physical and heat sealing properties. This mono film can; however, be replaced by a 3 mil film, such as Charter Films' XCC-478 mPE coex, [secant 75,000] without any sacrifice of sealing properties. This is because, in multilayer films, stiffness, strength and other attributes can be engineered within the core layer. The outer layers can be engineered with unblended resins that offer low hot tack and heat seal initiation temperatures and bonding properties that many customers desire.

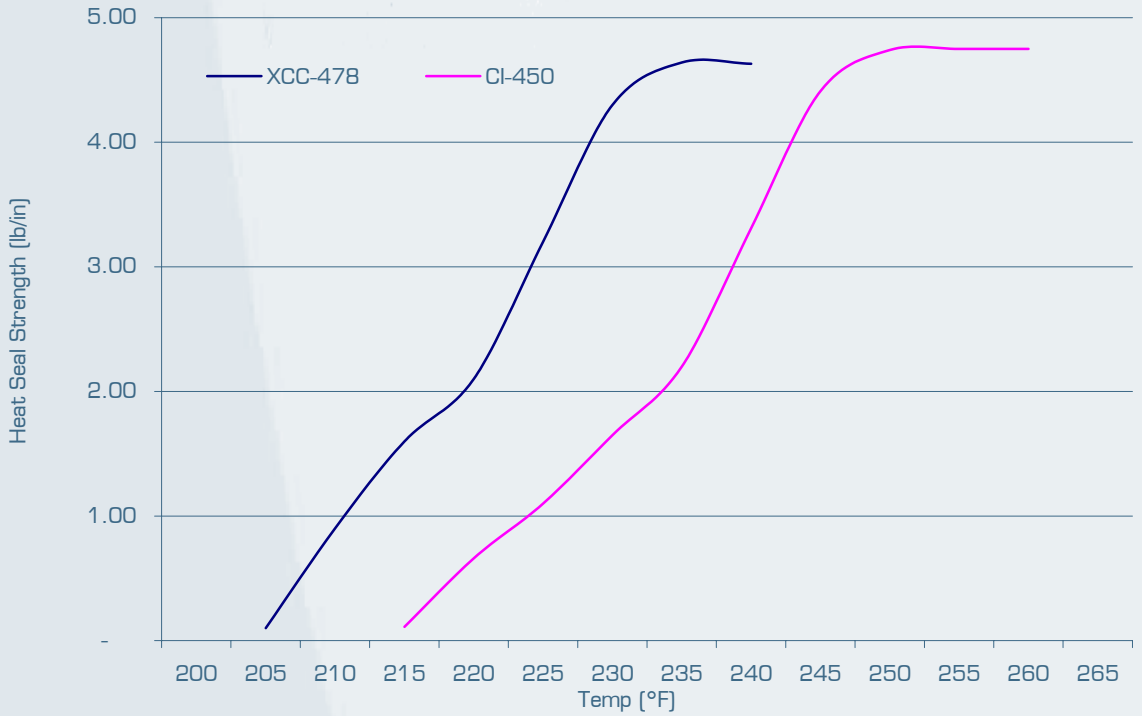
	<i>Gauge</i>	<i>Yield</i>	<i>Tensile</i>	<i>Secant</i>	<i>Haze</i>	<i>Gloss</i>
<i>Unit</i>	<i>mil</i>	<i>in<sup>2</sup>/lb</i>	<i>psi</i>	<i>psi</i>		<i>45°</i>
<b>CI-450</b>	4.00	7,490	4,200	30,000	18	60
<b>XCC-478</b>	3.00	9,830	6,000	75,000	19	75

100,000 lbs x 7,490 in<sup>2</sup>/lb [CI-450] = 749,000,000 in<sup>2</sup>  
 749,000,000 in<sup>2</sup> ÷ 9,830 in<sup>2</sup>/lb [XCC-478] = 76,195 lb  
 100,000 lbs CI-450 = same yield as 76,195 lb XCC-478  
 Switching to XCC-478 could decrease the lbs you buy by 24%.

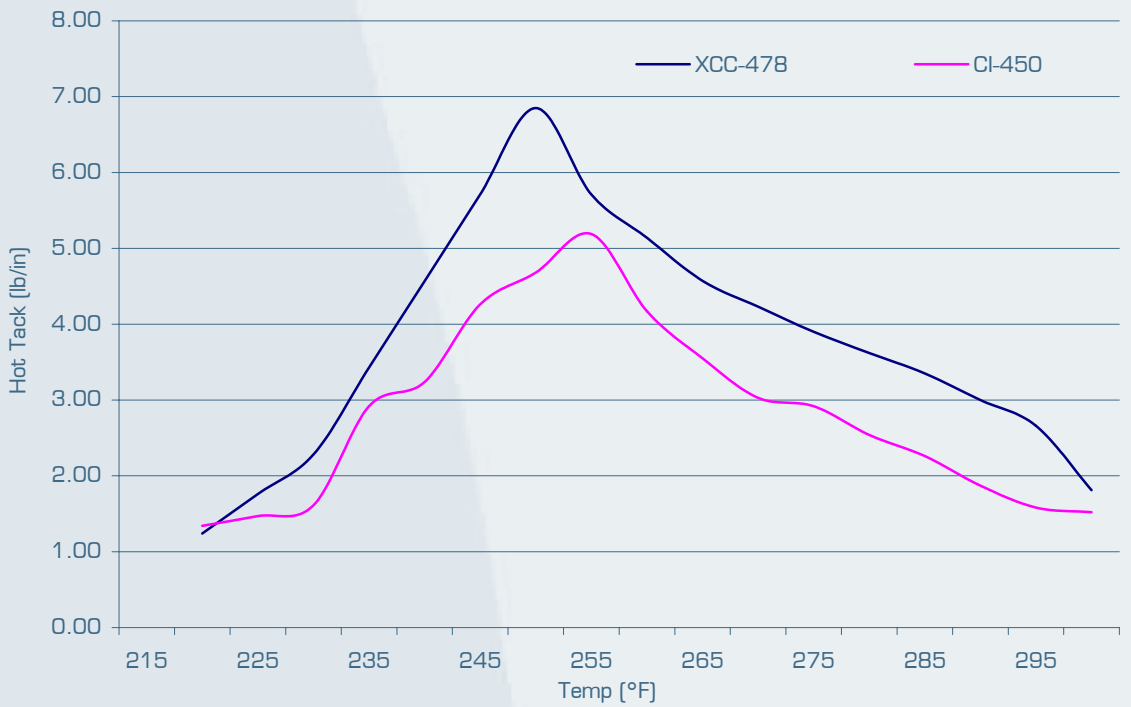
# CHARTER FILMS

Specialists in Blown Film Extrusion

The hot tack and heat seal curves below show how utilizing a coextrusion versus a blended mono film can be advantageous.



Dwell Time: 1.0 seconds Pressure: 50psi



Dwell Time: 0.5 seconds Pressure: 50psi

Contact us at: [www.charterfilms.com](http://www.charterfilms.com) • [cfiinfo@charterfilms.com](mailto:cfiinfo@charterfilms.com)  
715-395-8258 • FAX 715-395-8259 • TOLL FREE 877-411-FILM