

# Opti<sup>®</sup> 200 Properties

## ASTM

## Typical Values

### Test Method

### MAX

### STD

### DUR

<b>Haze (%)</b>	D 1003-95	2.8	3.1	3.3	
<b>Gloss (%)</b>	D 2457-90	89	87	87	
<b>Clarity (%)</b>	D 1746-92	87	86	86	
<b>Instrumented Impact Strength (Lb.)</b>	D 3763-95a	12.8	18.8	23.9	
<b>Coefficient of Friction (film-to-film, kinetic)</b>	D 1894-95	0.33	0.22	0.22	
<b>Water Vapor Transmission Rate (gms/100sq. In./24hrs.)</b>	F 1249-90	1.4	1.4	1.2	
<b>Oxygen Transmission Rate (cc/m<sup>2</sup>/ 24 hrs. @ 73 °F., 1atm)</b>	D 3985-95	10200	9500	8000	
<b>Tear Propagation (gms) LD* / TD**</b>	D 1938	2.9 / 3.9	3.8 / 4.9	5.3 / 6.0	
<b>Elongation at Break (%) LD* / TD**</b>	D 882-95	100 / 120	95 / 30	110 / 135	
<b>Minimum Use Temperature</b>		-60 °F			
<b>Maximum Storage Temperature</b>		90 °F			
		LD*	TD**	LD*	TD**
<b>Tensile Strength (psi)</b>	D 882-95	20000	20000	17500	19000
<b>Modulus of Elasticity (psi @ 73 °F)</b>	D 882-95	85000	90000	60000	65000
<b>Free Shrink (%)</b>	D 2732-83				
@200 °F		10	16	14	20
@220 °F		17	26	22	33
@240 °F		49	55	57	60
@260 °F		82	78	77	77
<b>Shrink Tension (psi)</b>	D 2838-95				
@200 °F		230	550	350	500
@220 °F		400	650	400	570
@240 °F		410	650	440	600
@260 °F		470	550	440	535
@280 °F				420	450

\* Longitudinal Direction \*\* Transverse Direction

This information represents our best judgement based on the work done, but the Company assumes no liability whatsoever in connection with the use of information or findings contained herein. Opti<sup>®</sup> Max shrink film complies with the requirements of the Federal Food, Drug and Cosmetic Act, as amended, for the packaging of all foods, with the exception of high alcoholic, at temperatures of 65 °C and below.