Technical Information

DOWLEX™ 2045S
Polyethylene Resin

Overview

DOWLEX™ 2045S Polyethylene Resin is designed for the production of high quality silage stretch film. Films made from this resin show a combination of excellent toughness and tear resistance. The product also delivers very good processability on conventional LLDPE machinery.

Note: DOWLEX 2045S Polyethylene Resin should comply with:
U.S. FDA 177.1520
Consult the regulations for complete details.

Applications:

- Silage stretch film
- Stretch films for pallets
- Thin gauge industrial & consumer films

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.920	g/cm³	0.920	g/cm³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ISO 1133
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	0.98	mil	25	µm	
Film Puncture Energy [1] (0.98 mil (25 µm))	7.97	in·lb	0.900	J	Dow Method
Film Puncture Force [1] (0.98 mil (25 µm))	4.72	lbf	21.0	N	Dow Method
Tensile Modulus [2]					ISO 527-3
2% Secant, MD : 0.98 mil (25 µm), Blown Film	25800	psi	178	MPa	
2% Secant, TD : 0.98 mil (25 µm), Blown Film	32600	psi	225	MPa	
Tensile Stress [2]					ISO 527-3
MD : Yield, 0.98 mil (25 µm), Blown Film	1230	psi	8.50	MPa	
TD : Yield, 0.98 mil (25 µm), Blown Film	1310	psi	9.00	MPa	
MD : Break, 0.98 mil (25 µm), Blown Film	4350	psi	30.0	MPa	
TD : Break, 0.98 mil (25 µm), Blown Film	3340	psi	23.0	MPa	
Tensile Elongation [2]					ISO 527-3
MD : Break, 0.98 mil (25 µm), Blown Film	520	%	520	%	
TD : Break, 0.98 mil (25 µm), Blown Film	620	%	620	%	
Elmendorf Tear Strength [2]					ASTM D1922
MD : 0.98 mil (25 µm), Blown Film	310	g	310	g	
TD : 0.98 mil (25 µm), Blown Film	630	g	630	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	217	°F	103	°C	ISO 306/A

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	374 to 464	°F	190 to 240	°C

Extrusion Notes

Fabrication Conditions For Tubular Film Extrusion:

- Die Gap: 1.6 - 2.5 mm
- Melt Temperature: 190 to 240°C.
- Blow-Up Ratio Range: 1.50 to 3:1.
- Recommended Gauge Range: 10 to 150 µm.