



QUALITY CRAWLSPACE  
VAPOR BARRIERS

# QUALITY VAPOR BARRIERS



- RECYCLED VS VIRGIN RESIN

- SINGLE VS MULTI-LAYER

EXTRUSION

- REINFORCED FILMS

- PERFORMANCE STANDARDS



# QUALITY VAPOR BARRIERS



## RECYCLED RESIN:

YELLOWISH TINT  
BRITTLE  
SHORTER LIFESPAN  
FRACTION OF PERFORMANCE



## VIRGIN RESIN:

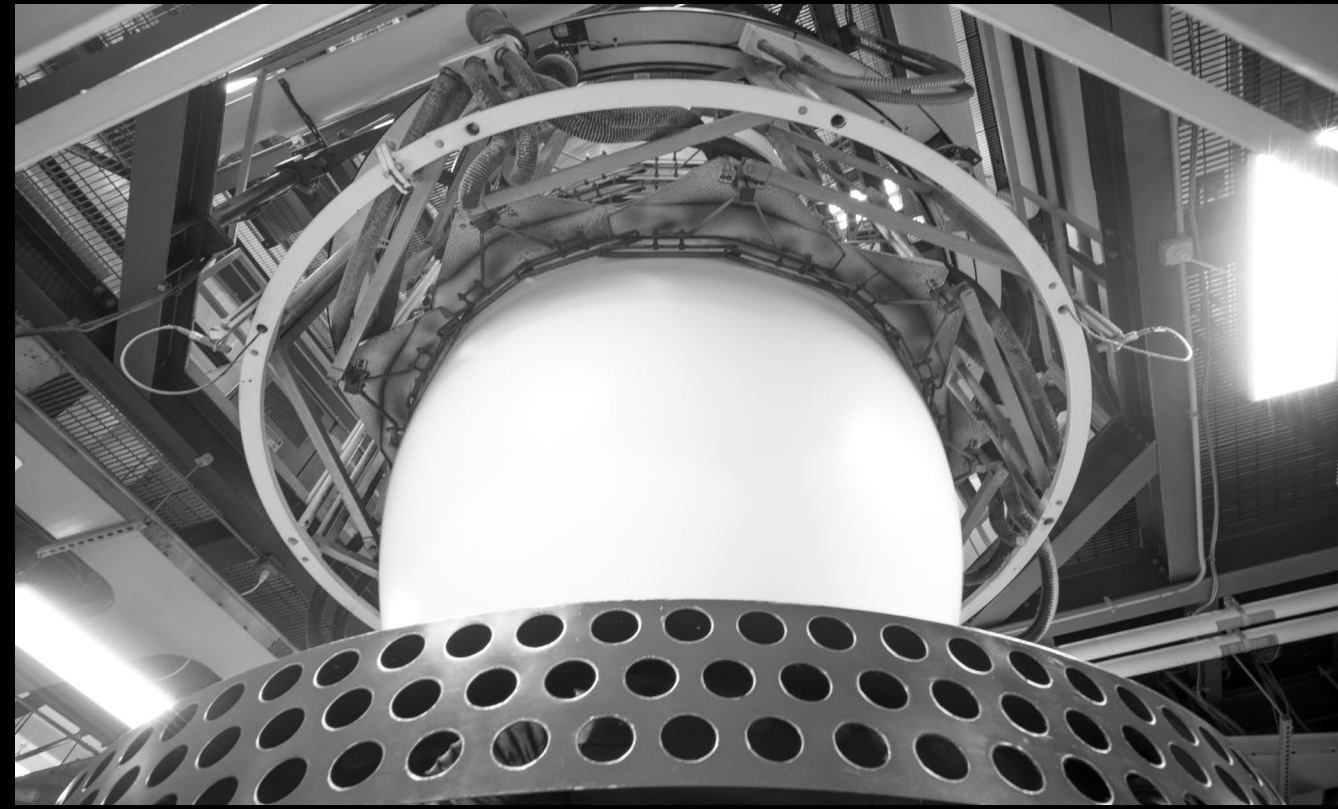
VERY CLEAR  
PLIABLE  
LONGEVITY  
100% PERFORMANCE

- RECYCLED VS VIRGIN RESIN
- SINGLE VS MULTI-LAYER  
EXTRUSION
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OLD  
POLY



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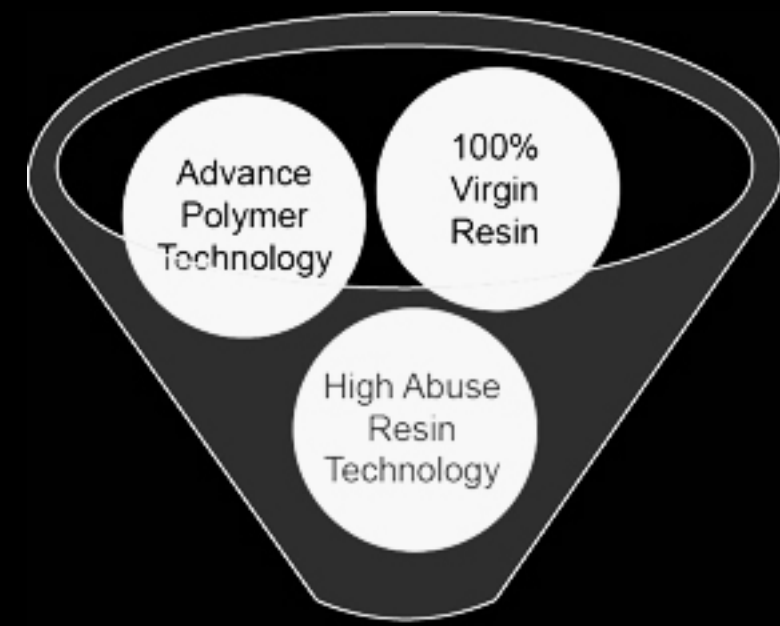
# QUALITY VAPOR BARRIERS



Mono-Layer Film

## MONO-LAYER POLY SHEETING:

THE HIGH VARIATION IN RAW MATERIAL CREATES HIGH VARIATION IN FINISHED GOODS.



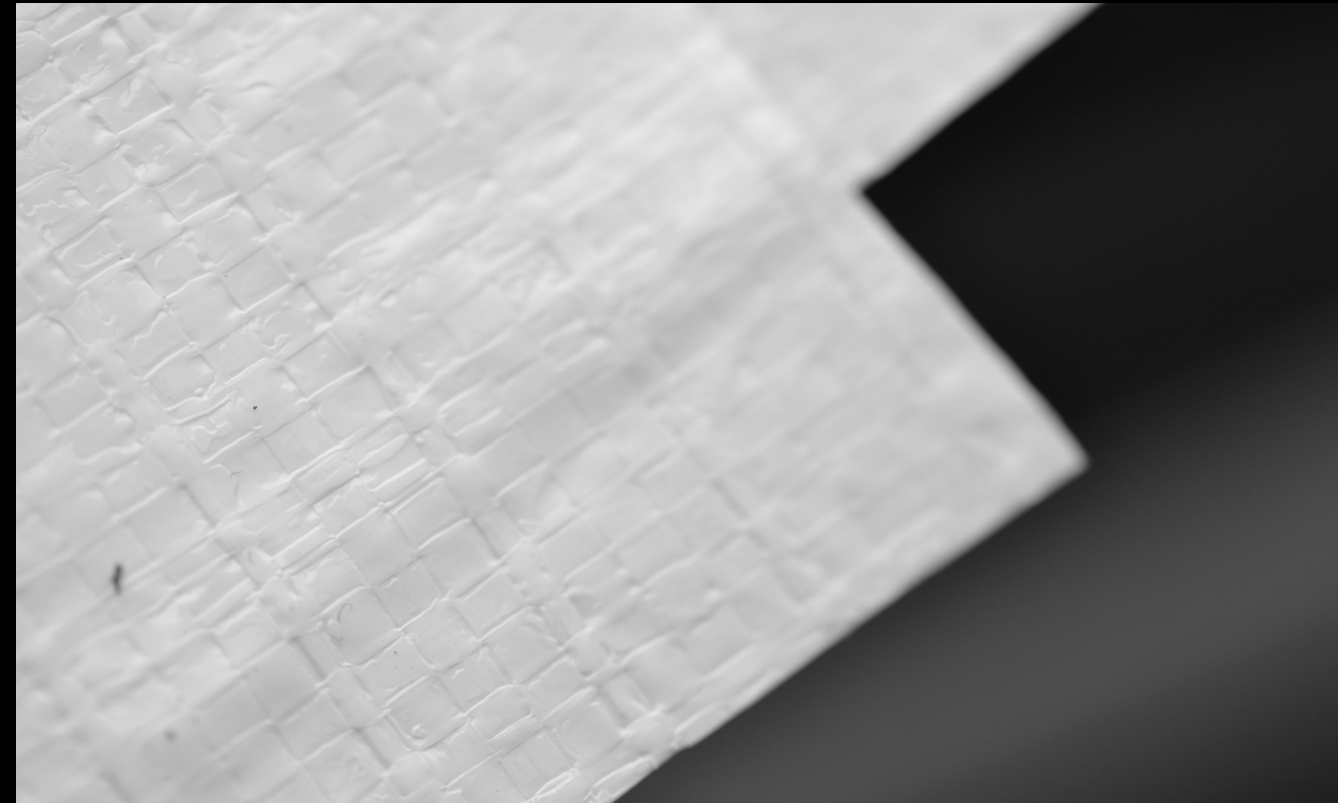
Multi-Layer Film

## MULTI-LAYER NU-AGE FILMS:

EACH LAYER IS DESIGNED WITH CUSTOM POLYMERS TO ENHANCE STRENGTH & PERFORMANCE.

- RECYCLED VS VIRGIN RESIN
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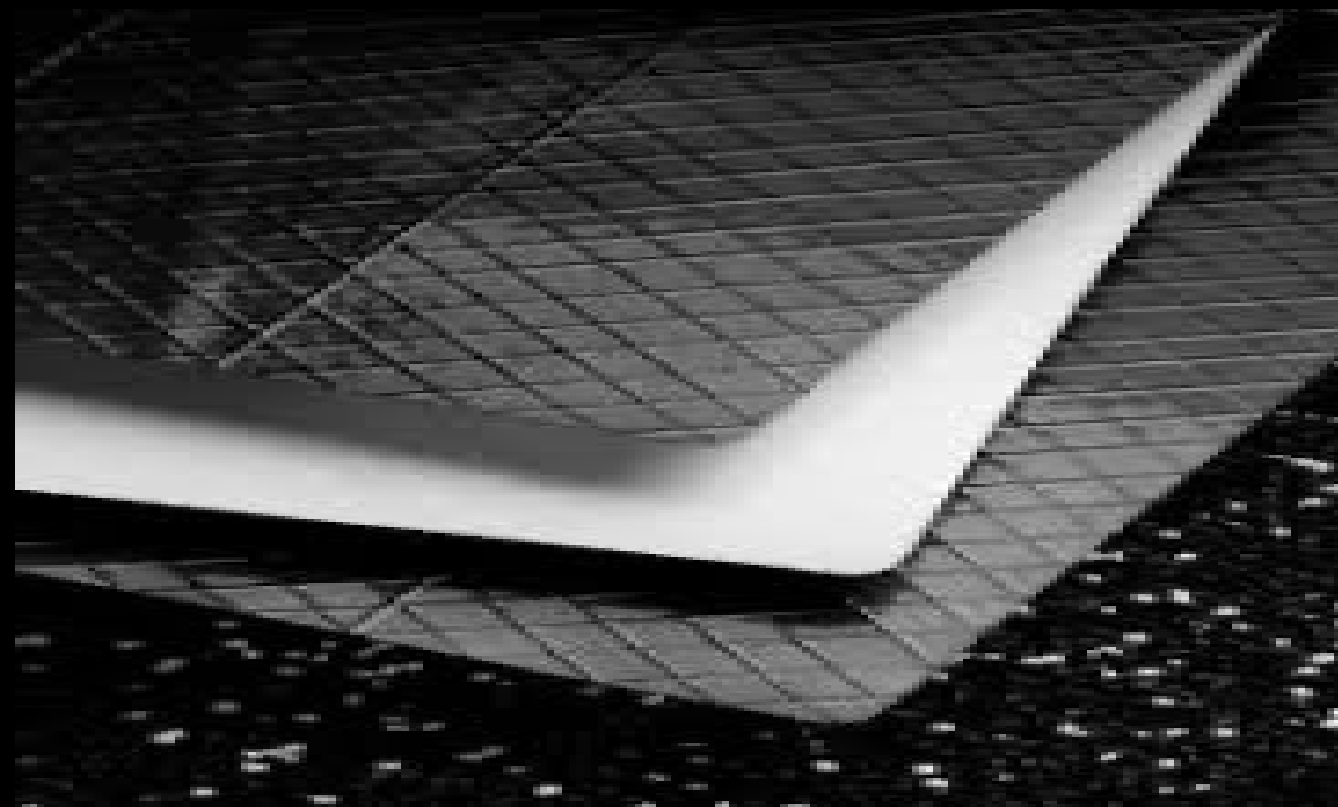
# QUALITY VAPOR BARRIERS



- RECYCLED VS VIRGIN RESIN
- SINGLE VS MULTI-LAYER

EXTRUSION

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- PERFORMANCE STANDARDS

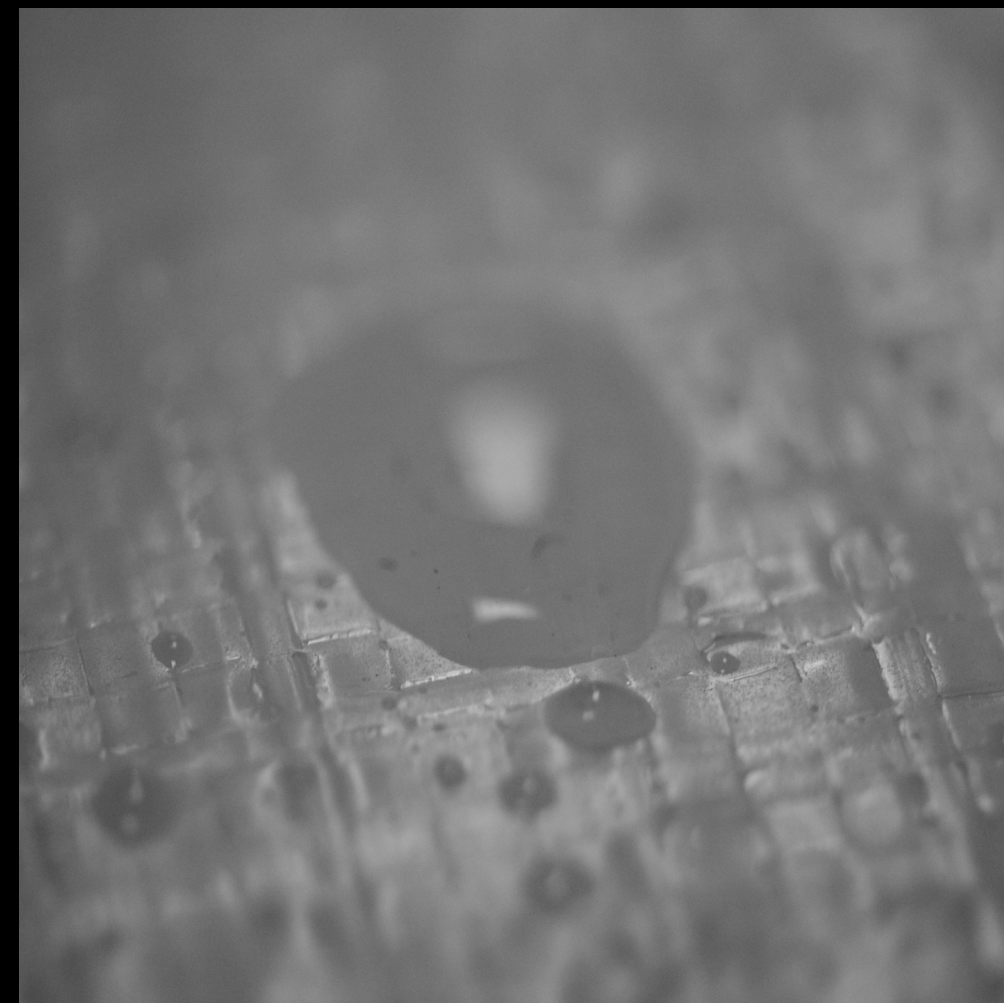


# QUALITY VAPOR BARRIERS



WOVEN REINFORCED FILMS  
OFFER  
SUPERIOR PERFORMANCE  
WHERE IT MATTERS

PUNCTURE RESISTANCE  
TENSILE STRENGTH  
PERMEANCE



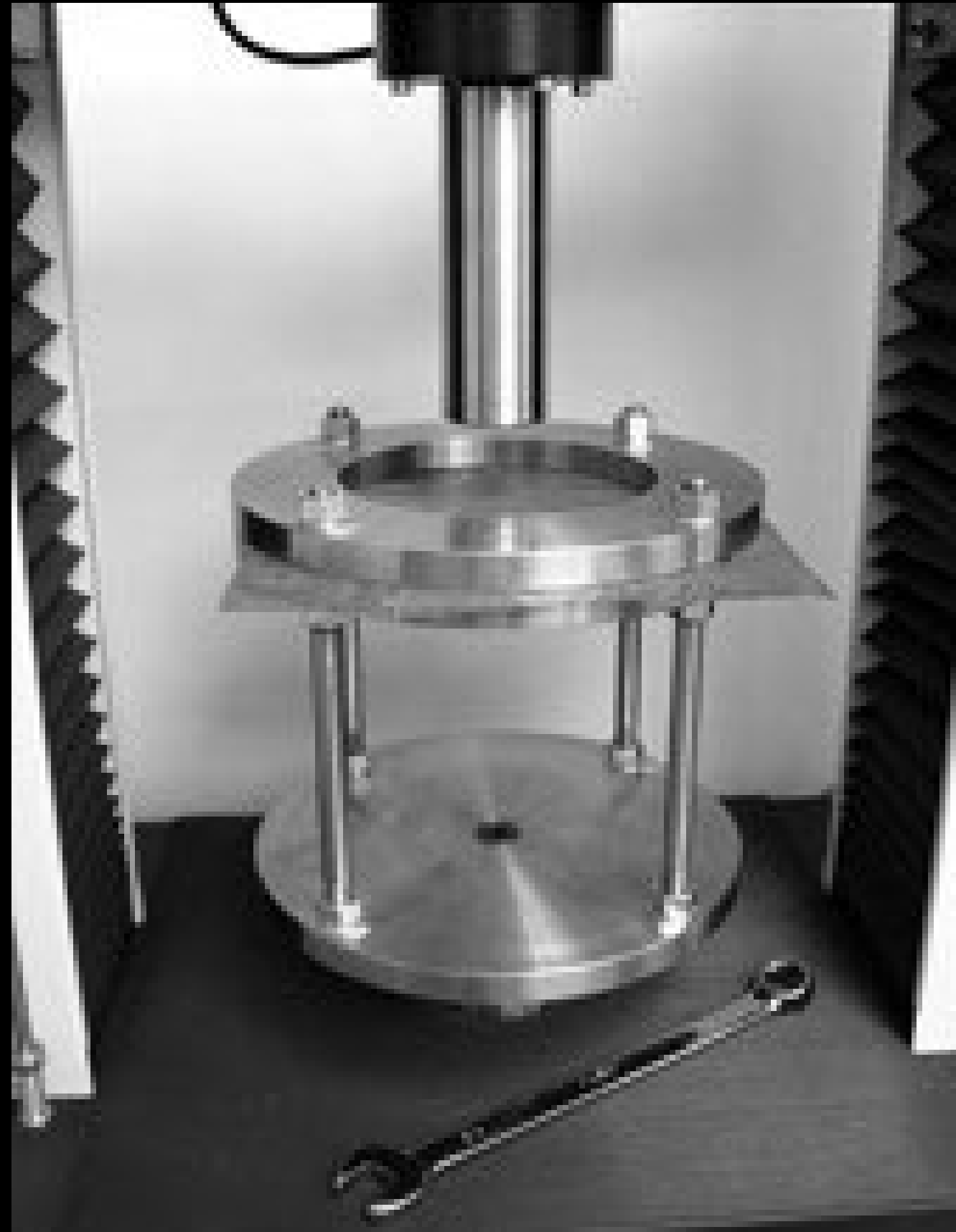
WOVEN PRODUCTS OFFER A  
BUILT IN "RIP STOP"  
THROUGHOUT THE ENTIRE  
PRODUCT.

THEY CAN WITHSTAND THE  
MOST RIGOROUS  
CONSTRUCTION TRAFFIC.

- RECYCLED VS VIRGIN RESIN
  - SINGLE VS MULTI-LAYER
  - REINFORCED FILMS
  - PERFORMANCE STANDARDS
- EXTRUSION



# QUALITY VAPOR BARRIERS



- RECYCLED VS VIRGIN RESIN
- SINGLE VS MULTI-LAYER  
EXTRUSION
- REINFORCED FILMS
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# DESIGNATION: D4397 - 16

## STANDARD SPECIFICATION FOR POLYETHYLENE SHEETING FOR CONSTRUCTION, INDUSTRIAL & AGRICULTURAL APPLICATIONS

**TABLE 1 Dart Drop Impact Resistance<sup>A</sup>**

Nominal Thickness, $\mu\text{m}$ (mils)	Dart Drop Impact Resistance, min, g
25 (1.0)	40
38 (1.5)	65
50 (2.0)	85
75 (3.0)	125
100 (4.0)	165
125 (5.0)	205
150 (6.0)	260
175 (7.0)	315
200 (8.0)	370
225 (9.0)	420
250 (10.0)	475

<sup>A</sup> Values for nominal thickness other than those listed shall be determined by arithmetical interpolation.

**TABLE 2 Mechanical Properties**

	Lengthwise Direction	Crosswise Direction
Tensile strength, min, MPa (psi)	11.7 (1700)	8.3 (1200)
Elongation, min, % <sup>A</sup>	225	350

<sup>A</sup> For films of nominal thickness of <2 mils (<50  $\mu\text{m}$ ), minimum % to be 200 and 325, respectively (LD/CD).

**TABLE 4 Specification for Permeance<sup>A</sup>**

Permeance <sup>B</sup> (metric perms), max	Nominal Thickness		Permeance <sup>C</sup> (perms), max
	$\mu\text{m}$	(mils)	
0.50	25	(1)	0.76
0.25	50	(2)	0.38
0.17	75	(3)	0.25
0.12	100	(4)	0.19
0.10	125	(5)	0.15
0.084	150	(6)	0.13
0.070	175	(7)	0.11
0.063	200	(8)	0.096
0.054	225	(9)	0.082
0.050	250	(10)	0.076

<sup>A</sup> Values for nominal thickness other than those listed shall be determined by arithmetical interpolation.

<sup>B</sup> Permeance in metric perms is found by dividing WVTR,  $\text{g}/24\cdot\text{h}\cdot\text{m}^2$ , by the pressure difference of water vapor,  $\mu\text{m Hg}$ , at the test temperature.

<sup>C</sup> Permeance in perms is found by dividing WVTR,  $\text{grains}/\text{h}\cdot\text{ft}^2$ , by the pressure difference of water vapor,  $\text{in. Hg}$  at the test temperature. To convert WVTR from  $\text{g}/\text{h}\cdot 100\text{ in.}^2$  to  $\text{grains}/\text{h}\cdot\text{ft}^2$ , multiply by 0.926.



# DESIGNATION: E1745 - 17

## STANDARD SPECIFICATION FOR PLASTIC WATER VAPOR RETARDERS USED IN CONTACT WITH SOIL OR GRANULAR FILL UNDER CONCRETE SLABS

TABLE 1 Properties for Specified Performance Classes<sup>A</sup>

	Class A		Class B		Class C	
	IP Units	SI Units	IP Units	SI Units	IP Units	SI Units
Water vapor permeance (Test Methods E154, Section 7, or Test Method F1249), max	0.1 perms (0.1 gr/[h-ft <sup>2</sup> -in.-Hg])	(6 ng/[s-m <sup>2</sup> -Pa])	0.1 perms (0.1 gr/[h-ft <sup>2</sup> -in.-Hg])	(6 ng/[s-m <sup>2</sup> -Pa])	0.1 perms (0.1 gr/[h-ft <sup>2</sup> -in.-Hg])	(6 ng/[s-m <sup>2</sup> -Pa])
Tensile strength (Test Methods E154, Section 9), <sup>B</sup> min	45.0 lbf/in.	7.9 kN/m	30.0 lbf/in.	5.3 kN/m	13.6 lbf/in.	2.4 kN/m
Puncture resistance (Test Methods D1709, Test Method B), min	no inch-pound equivalent used	2200 g	no inch-pound equivalent used	1700 g	no inch-pound equivalent used	475 g

<sup>A</sup> Refer to Practice E1643 for assessing suitability of use based on reported perm rating of material.

<sup>B</sup> Tensile strength per unit width for the total sample thickness is used instead of tensile strength per unit area because vapor retarder materials are never used in unit thickness.

# 10-MIL WOVEN



626 LBF



138 LBF

39% Lighter



36 lbs/MSF



.0016 Perms

Puncture Resistance  
ASTM D6241

Tear Resistance  
ASTM D7004

Weight  
12' x 100' Roll

Permeance Rating  
ASTM E96

# 12-MIL STRING



290 LBF



100 LBF



59 lbs/MSF



.023 Perms