

Ultraclean Polythene

Contamination FREE made entirely
within a Class 1000 cleanroom



No particulates

No surface leaching

No harmful outgassing

Made to your specification as Bags, Sheet or Tube

Ultraclean and high barrier
packaging that protects

Medical | Pharmaceutical | Electronics | Veterinary | Foodstuffs | Aerospace | Laboratory

www.zealcleansupplies.co.uk



C L E A N S U P P L I E S
PART OF THE ZEAL GROUP

Date prepared: 01.01.08

LDPE Bag ZCS 1

Transparent Low Density Polythene produced entirely inside a Class 1000 Clean Room

Property Measured	Method Used	Units of Measurement	Typical Value					
Granule Properties								
Melt Index	ASTM D 1238	g / 10 min	0.75					
Density	ASTM D2839 / D1505	g / cm ³	0.923					
Crystallization Point	ASTM D3418	°C	96					
Peak Melting Temperature	ASTM D3418	°C	109					
Slip / Antiblock Additive			None					
Antistatic Additive			None					
Film Properties								
Film Thickness		µm	60 – 300 (+/- 10% Avg)					
Tensile strength at Break*	ASTM D882	MPa	MD: 24 TD: 23					
Elongation at Break*	ASTM D882	%	MD: 370% TD: 570%					
Elmendorf Tear Strength*	ASTM D1922	g/µm	MD:4 TD: 4					
Puncture Resistance**	FTMS 101C 2065 - 1	N	43.4					
1% Secant Modulus*	ASTM D882	MPa	MD: 220 TD: 260					
Haze	ASTM D1003	%	7					
Gloss,60° angle	ASTM D2457	%	9					
MVTR	DIN 54122-2-D	g/m ² /24 hrs / bar at 90% RH and 38° C	2.77					
OTR	DIN 53380-3	cm ³ / m ² /day/bar	1059					
Cleanliness Properties								
Particulates	Liquid Particle Count		Particle size > 0,30 µm	<20.0 per cm ²				
			> 0,50 µm	<10.0 per cm ²				
			> 1.00 µm	<3.0 per cm ²				
Ion Chromatography	Anions	F	Cl⁻	Br⁻	NO₃⁻	NO₂⁻	SO₄²⁻	PO₄³⁻
	Found	<0.020	<0.017	<0.057	<0.014	<0.020	<0.084	<0.096
	LLD	0.020	0.017	0.057	0.014	0.020	0.084	0.096
	Cations	Li⁺	Na⁺	NH₄⁺	K⁺	Mg²⁺	Ca²⁺	
	Found	<0.014	<0.015	<0.121	<0.021	<0.057	<0.034	
LLD	0.014	0.015	0.121	0.021	0.057	0.034		
VOC (Outgassing)	Measures given in ng/cm ²						LLD = Low Limit Detection	
Surface Cleanliness	Global contamination as toluene equivalent						µg/cm ²	<0.02
	(Mil – STD 1246C) Level 25						µg/g	<2
* Film properties measured on 50-micron film with a blow up ratio of 2.5 ** Film properties measured on 150 - micron film with a blow up ratio of 2.5 All cleanliness properties measured on 150 – micron film with a blow up ratio of 2.5								

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