

orthoform®

Material Datasheet

LDPE

PURCH-20 Rev. 07 Dated 7-31-12

General: LDPE- Low Density Polyethylene
FDA 21 CFR 177.1520

Physical Property	ASTM Test	Value	Unit
Melt Flow Rate	D-1238	2.0	g/10 min
Density	D-792B	.919	g/cm ³
Tensile Strength@ Yield	D-638	1500	psi
Elongation @ Yield	D-638	-----	%
Elongation @ Break	D-638	650	%
Flexural Modulus (1%sec)	D-790	35,000	psi
Deflection temp. @ 66 psi	D-648	100	F
Dart Impact 1.5 mil Method A	D-1709	100	G



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Material Datasheet HDPE (Co-polymer)

PURCH-19 Rev. 04 Dated 8-1-12

**General: HDPE-High Density Polyethylene (co-polymer)
FDA 21 CFR 177.1520**

<u>Physical Properties</u>	<u>ASTM Test</u>	<u>Value</u>	<u>Unit</u>
Melt Flow Rate	D-1238	.35	g/10 min
Density	D-1505	.954	g/cm ³
Tensile Strength @ Yield	D-638	4100	psi
Elongation @ Break	D-638	600	%
Flexural Modulus (1% sec.)	D-790	178,000	psi
Deflection temp. @66 psi.	D-648	169	F
Tensile Impact	D-1822	161	ft-lbs/in ²
Impact Brittleness Temp	D-746	< -105	F
Vicat softening Point	D-1525	261	F



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Material Datasheet

Modified LDPE

PURCH-35 Rev. 01 Dated 7-31-12

**General: Mod. PE- Modified Low Density Polyethylene
FDA 21 CFR 177.1520**

Physical Property	ASTM Test	Value	Unit
Melt Flow Rate	D-1238	1.0	g/10 min
Density	D-4883	.93	g/cm ³
Tensile Strength@ Yield	D-638	2500	psi
Elongation @ Yield	D-638	-----	%
Elongation @ Break	D-638	600	%
Flexural Modulus (1%sec)	D-790	52,000	psi
Brittleness temp.	D-746	-130	F
Vicat Softening Point	D-1525	222	F



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Material Datasheet PP (Homopolymer)

PURCH-23 Rev. 05 Dated 8-1-12

**General: Polypropylene Homopolymer
FDA 21 CFR 177.1520**

<u>Physical Property</u>	<u>ASTM Test</u>	<u>Value</u>	<u>Unit</u>
Melt Flow Rate	D-1238	.50	g./10min
Density	D-1505	.905	g/cm3
Tensile Strength @ Yield	D-638	4900	psi
Flexural Modulus (1%Sec)	D-790A	200,000	psi
Deflection temp. @ 66 psi	D-648	190	F
Notched Izod	D-256A	1.3	ft-lb/in



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Material Datasheet

PP -Co-Polymer

PURCH-22 Rev. 06 Dated 7-31-12

General: PPC- Polypropylene CoPolymer
FDA 21 CFR 177.1520

<u>Physical Property</u>	<u>ASTM Test</u>	<u>Value</u>	<u>Unit</u>
Melt Flow Rate	D-1238	0.45	g./10min
Density	D-792B	.90	g/cm3
Tensile Strength @ yield	D-638	4,060	psi
Elongation @ Yield	D-638	11	%
Elongation @ break	D-638	-----	%
Flexural Modulus (1%Sec)	D-790	162,000	psi
Deflection Temp. @ 66 psi	D-648	190	F
Notched Izod Impact	D-256	no break	ft-lb/in2



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Material Datasheet

LLDPE

Purch-33 Rev 02 Dated 8-1-12

General

LLDPE -Linear Low Density Polyethylene
FDA 21 CFR177.1520

<u>Physical Properties</u>	<u>ASTM Test</u>	<u>Value</u>	<u>Unit</u>
Melt Flow Rate	D-1238	.8	g/10 min
Density	D-1505	.920	g/cm ³
Tensile Strength @ Yield	D-638	2170	psi
Elongation @ Break	D-638	700	%
Flexural Modulus (1% sec)	D-790	40,000	psi
Impact Brittleness Temp	D-746	< -43.6	F
Deflection temp. @66 psi	D-648	118	F
Vicat softening Point	D-1525	190	F



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Orthoform Materials

Purch-24 Rev 12 dated 8-1-12.

Material	SI Unit	ASTM	LDPE	MOD PE	HDPE	LLDPE	PPH	PPC
Specification # Reference only	--	--	Purch-20	Purch-35	Purch-19	Purch-33	Purch-23	Purch-22
Melt Flow Rate	g/10 min	D 1238	2.0	1.0	0.35	.80	0.50	0.45
Density	g/cm 3	D 792B D1505 D4883	.919	.93	.954	.920	.90	.90
Tensile Strength @ Yield	PSI	D 638	1500	2500	4100	2170	4900	4060
Elongation @ Yield	%	D 638	--	---	16	---	13	11
Elongation @ Break	%	D 638	650	600	600	700	--	--
Flexural Modulus (1% sec)	PSI	D 790A	35,000	52,000	178,000	40,000	200,000	162,000
Deflection Temp. @ 66 psi	F	D 648	100	100	169	118	190	190
Tensile Impact	ft-bs/in ²	D 1822	--	--	161	--	--	--
Notched Impact	ft-lb/in ²	D 256A	--	--	--	--	1.3	No break
Dart Impact 1.5 mil Method A	G	D-1709	100	--	--	--	--	--

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