



## LL7420D1

## Linear Low Density Polyethylene Resin

**Special Characteristics**: InnoPlus LL7420D1 resin is a linear low density polyethylene with butene comonomers. There are slip and antiblock added. This grade offer an outstanding excellent draw down in blown film processing. Film extruded from InnoPlus LL7420D1 have high tensile strength, gloss and good toughness properties. It can be used for blending with other polyethylene types, such as HDPE and LDPE.

**Typical Applications** : InnoPlus LL7420D1 is recommended for producing the liner, industrial bag, refuse sack and garbage bag.

## Typical Properties :

PropertiesInnoPlus LL7420D1UnitTest MethodPhysical Properties2.0g/10 minASTM D1238Melt Index (190 °C, 2.16 kg)2.0g/10 minASTM D1238Density0.918g/cm³ASTM D1238Melting Point121°CASTM D2117Vicat Softening Point96°CASTM D1525Film Properties*96°CASTM D882Elongation at Break (MD/TD)31 / 23MPaASTM D882Longation at Break (MD/TD)450 / 600%ASTM D882Dart Impact Strength85gASTM D882Dart Impact Strength80 / 318gASTM D1922Haze15%ASTM D1922Haze15%ASTM D1033Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)100kg/cm²Tensile Strength at Yield100kg/cm²ASTM D638Iensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Elongation at Break900%ASTM D638Elongation at Break2000kg/cm²ASTM D638Elongation at Break50Shore DASTM D638Elongation at Break50Shore DASTM D638Elongation at Break50Shore DASTM D638Elongation at Break50Shore D<			<u></u>	
Melt Index (190 °C, 2.16 kg)2.0g/10 minASTM D1238Density0.918g/cm³ASTM D792Melting Point121°CASTM D2117Vicat Softening Point96°CASTM D1525 <i>Eilm Properties*</i> 96°CASTM D882Elongation at Break (MD/TD)31 / 23MPaASTM D882Elongation at Break (MD/TD)450 / 600%ASTM D882Dart Impact Strength85gASTM D1709Teas Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1922Haze15%ASTM D1922Haze15%ASTM D1922Haze100kg/cm²ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)100kg/cm²Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Elongation at Break2900kg/cm²ASTM D638Elongation at Break260kg/cm²ASTM D638Flexural Modulus2900kg/cm²ASTM D638Flexural Modulus50Shore DASTM D2401	Properties	InnoPlus LL7420D1	Unit	Test Method
Density0.918g/cm³ASTM D792Melting Point121°CASTM D2117Vicat Softening Point96°CASTM D1525 <i>Elim Properties*</i> 96°CASTM D1525Tensile Strength at Break (MD/TD)31 / 23MPaASTM D882Elongation at Break (MD/TD)450 / 600%ASTM D882Tensile Modulus, 1% Secant (MD/TD)195 / 220MPaASTM D882Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)100kg/cm²ASTM D638Tensile Strength at Yield100kg/cm²ASTM D638Elongation at Break260kg/cm²ASTM D638Elongation at Break2000%ASTM D638Flexural Modulus2900kg/cm²ASTM D638Flexural Modulus50Shore DASTM D2240	Physical Properties			
Metting Point121°CASTM D2117Vicat Softening Point96°CASTM D1525Film Properties*96°CASTM D1525Tensile Strength at Break (MD/TD)31 / 23MPaASTM D882Elongation at Break (MD/TD)450 / 600%ASTM D882Tensile Modulus, 1% Secant (MD/TD)195 / 220MPaASTM D882Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1033Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break260kg/cm²ASTM D638Elongation at Break2900%ASTM D638Flexural Modulus2900kg/cm²ASTM D638Flexural Modulus50Shore DASTM D2240	Melt Index (190 °C, 2.16 kg)	2.0	g/10 min	ASTM D1238
Vicat Softening Point96°CASTM D1525Film Properties*	Density	0.918	g/cm <sup>3</sup>	ASTM D792
Film Properties*Tensile Strength at Break (MD/TD)31 / 23MPaASTM D882Elongation at Break (MD/TD)450 / 600%ASTM D882Tensile Modulus, 1% Secant (MD/TD)195 / 220MPaASTM D882Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)100kg/cm²Tensile Strength at Yield100kg/cm²ASTM D638Elongation at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Melting Point	121	°C	ASTM D2117
Tensile Strength at Break (MD/TD)31 / 23MPaASTM D882Elongation at Break (MD/TD)450 / 600%ASTM D882Tensile Modulus, 1% Secant (MD/TD)195 / 220MPaASTM D882Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1-Mechanical Properties (Based on compression specimens)Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Vicat Softening Point	96	°C	ASTM D1525
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Tensile Modulus, 1% Secant (MD/TD)195 / 220MPaASTM D862Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D638Flexural Modulus2900kg/cm²ASTM D2240Durometer Hardness50Shore DASTM D2240	Tensile Strength at Break (MD/TD)	31 / 23	MPa	ASTM D882
Dart Impact Strength85gASTM D1709Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)Kg/cm2ASTM D638Tensile Strength at Yield100kg/cm2ASTM D638Elongation at Break260kg/cm2ASTM D638Flexural Modulus2900%ASTM D638Flexural Modulus2900kg/cm2ASTM D790Durometer Hardness50Shore DASTM D2240	Elongation at Break (MD/TD)	450 / 600	%	ASTM D882
Tear Strength (MD/TD)80 / 318gASTM D1922Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1-ASTM D2457Mechanical Properties (Based on compression specimens)Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Tensile Modulus, 1% Secant (MD/TD)	195 / 220	MPa	ASTM D882
Haze15%ASTM D1003Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1-ASTM D2457Mechanical Properties (Based on compression specimens)Kg/cm2ASTM D638Tensile Strength at Yield100kg/cm2ASTM D638Tensile Strength at Break260kg/cm2ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm2ASTM D790Durometer Hardness50Shore DASTM D2240	Dart Impact Strength	85	g	ASTM D1709
Gloss (45°)50-ASTM D2457* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1-ASTM D2457Mechanical Properties (Based on compression specimens)Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Tear Strength (MD/TD)	80 / 318	g	ASTM D1922
* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1Mechanical Properties (Based on compression specimens)100kg/cm²ASTM D638Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Haze	15	%	ASTM D1003
Mechanical Properties (Based on compression specimens)100kg/cm²ASTM D638Tensile Strength at Yield100kg/cm²ASTM D638Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Gloss (45°)	50	-	ASTM D2457
Tensile Strength at Yield100kg/cm2ASTM D638Tensile Strength at Break260kg/cm2ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm2ASTM D790Durometer Hardness50Shore DASTM D2240	* film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2:1			
Tensile Strength at Break260kg/cm²ASTM D638Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Mechanical Properties (Based on compression speci	i <u>mens)</u>		
Elongation at Break900%ASTM D638Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Tensile Strength at Yield	100	kg/cm <sup>2</sup>	ASTM D638
Flexural Modulus2900kg/cm²ASTM D790Durometer Hardness50Shore DASTM D2240	Tensile Strength at Break	260	kg/cm <sup>2</sup>	ASTM D638
Durometer Hardness 50 Shore D ASTM D2240	Elongation at Break	900	%	ASTM D638
	Flexural Modulus	2900	kg/cm <sup>2</sup>	ASTM D790
Notched Izod Impact Strength 40 kg.cm/cm ASTM D256	Durometer Hardness	50	Shore D	ASTM D2240
	Notched Izod Impact Strength	40	kg.cm/cm	ASTM D256

## Processing Condition :

The recommended temperature setting is in the range of 160 - 180 °C for extruder and 170 - 190 °C for die zone.

Note : Properties reported here are typical values of the product, not to be considered as specifications. PTT Chemical makes no representations as to the accuracy or completeness of the information contained herein.