# LOFEX® A321A

### Polyethylene Terephthalate Lotte Chemical Corporation

#### Message:

LOFEX ® A321A is Polyester film is optically clear and inside corona / outside acryl treated with enhanced adhesion to inks and coatings. So, it can use by tape, label, print film and semiconductor parts. Also, it has excellent properties by tensile strength, proper elongation and the thermal contraction rate.

Features         Good Strength High Clarity           Uses         Film Industrial Applications Labels Tape           RoHS Compliance         RoHS Compliant           Forms         Film           Mechanical         Nominal Value         Unit         Test Method           Coefficient of Friction         ASTM D1894           vs. Itself - Dynamic         0.30         Section Strength           vs. Itself - Static         0.35         Section Strength         ASTM D882           MD : Yield, 100 μm         196         MPa         Section Strength           TD : Yield, 100 μm         196         MPa         Section Strength         ASTM D882           MD : Yield, 100 μm         196         MPa         Section Strength         ASTM D882           MD : Yield, 100 μm         196         MPa         Section Strength         ASTM D882           MD : Break, 100 μm         170         %         Section Strength         ASTM D882           MD : Break, 100 μm         170         %         ASTM D882           MD : Break, 100 μm         113         MPa         Internal Method           TD : 100.0 μm         113         MPa         Internal Method           MD : 100.0 μm         1.0         %         Internal	General Information				
Film   Industrial Applications   Labels   Tape	Features	Good Strength			
Industrial Applications   Labels   Tape		High Clarity			
Labels   Tape	Uses	Film			
ROHS Compliance ROHS Compliant Forms Film  Mechanical Nominal Value Unit Test Method  Coefficient of Friction 0.30  vs. Itself - Dynamic 0.35  Films Nominal Value Unit Test Method  Test Method  vs. Itself - Static 0.35  Films Nominal Value Unit Test Method  To : Yield, 100 μm 196 MPa  TD : Yield, 100 μm 170 MPa  TD : Break, 100 μm 170 %  TD : Break, 100 μm 120 %  TD : Break, 100 μm 113 MPa  TD : Break, 100 μm 113 MPa  TD : 100.0 μm 113 MPa  TD : 100.0 μm 113 MPa  Heat Shrinkage Ind MPa  Heat Shrinkage Ind MPa  TD : 100.0 μm 10		Industrial Applications			
ROHS Compliance         ROHS Compliant           Forms         Film         Test Method           Mechanical         Nominal Value         Unit         Test Method           Coefficient of Friction         0.30         ASTM D1894           vs. Itself - Dynamic         0.35         Test Method           vs. Itself - Static         0.35         ASTM D882           Flims         Nominal Value         Unit         Test Method           Testile Strength         ASTM D882         ASTM D882           MD: Yield,100 µm         196         MPa         ASTM D882           MD: Streak, 100 µm         170         %         ASTM D882           MD: Break, 100 µm         170         %         ASTM D882           MD: 100.0 µm         113         MPa         ASTM D882           MD: 100.0 µm         113         MPa         Test Method           MD, 30 min: 150°C, 100.0 µm         1.0         %         Test Method           MD, 30 min: 150°C, 100.0 µm         1.0         %         Test Method           MD, 30 min: 150°C, 100.0 µm         1.0         %         Test Method           Optical         Nominal Value         Unit         Test Method <td< td=""><td colspan="3">Labels</td></td<>		Labels			
Forms         Film           Mechanical         Nominal Value         Unit         Test Method           Coefficient of Friction         Jast M D1894         ASTM D1894           vs. Itself - Dynamic         0.30         STM           vs. Itself - Static         0.35         Test Method           Films         Nominal Value         Unit         Test Method           Tensile Strength         ASTM D882         ASTM D882           MD : Yield, 100 μm         196         MPa         ASTM D882           Tensile Elongation         170         %         ASTM D882           MD : Break, 100 μm         170         %         ASTM D882           MD : 100.0 μm         113         MPa         ASTM D882           MD : 100.0 μm         113         MPa         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %         Total Control (Coronal)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         ASTM D523         ASTM D523           Tensmittance (100 μm)         89.0         ASTM D523         ASTM D10		Таре			
Mechanical         Nominal Value         Unit         Test Method           Coefficient of Friction         0.30         ASTM D1894           vs. Itself - Dynamic         0.30	RoHS Compliance	RoHS Compliant			
Coefficient of Friction         ASTM D1894           vs. Itself - Dynamic         0.30         Testef - Static         0.35           Films         Nominal Value         Unit         Test Method           Tensile Strength         ASTM D882         ASTM D882           MD : Yield, 100 μm         196         MPa           Tensile Elongation         ASTM D882         ASTM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           MD : 100.0 μm         113         MPa           MD : 30 min : 150°C, 100.0 μm         1.0         %           MD, 30 min : 150°C, 100.0 μm         1.0         %           Surface Treatment         Inside (Corona)/Outside (Acryl)         Yes Method           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         X STM D523           Tansmittance (100 μm)         89.0         ASTM D503	Forms	Film			
vs. Itself - Dynamic         0.30           vs. Itself - Static         0.35           Films         Nominal Value         Unit         Test Method           Tensile Strength         ASTM D882           MD : Yield, 100 μm         196         MPa           TD : Yield, 100 μm         216         MPa           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         %         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	Mechanical	Nominal Value	Unit	Test Method	
Films         Nominal Value         Unit         Test Method           Tensile Strength         ASTM D882           MD : Yield,100 μm         196         MPa           TD : Yield,100 μm         216         MPa           Tensile Elongation         4STM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         Unit         ASTM D523           Tansmittance (100 μm)         89.0         %         ASTM D1003	Coefficient of Friction			ASTM D1894	
Films         Nominal Value         Unit         Test Method           Tensile Strength         ASTM D882           MD : Yield,100 μm         196         MPa           TD : Yield,100 μm         216         MPa           Tensile Elongation         ASTM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)         Test Method           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         %         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	vs. Itself - Dynamic	0.30			
Tensile Strength         ASTM D882           MD : Yield,100 μm         196         MPa           TD : Yield,100 μm         216         MPa           Tensile Elongation         ASTM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	vs. Itself - Static	0.35			
MD : Yield,100 μm         196         MPa           TD : Yield,100 μm         216         MPa           Tensile Elongation         ASTM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         ASTM D882           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	Films	Nominal Value	Unit	Test Method	
TD : Yield,100 μm         216         MPa           Tensile Elongation         ASTM D882           MD : Break, 100 μm         170         %           TD : Break, 100 μm         120         %           F5         ASTM D882           MD : 100.0 μm         113         MPa           TD : 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min : 150°C, 100.0 μm         1.0         %           TD, 30 min : 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	Tensile Strength			ASTM D882	
Tensile Elongation         ASTM D882           MD: Break, 100 μm         170         %           TD: Break, 100 μm         120         %           ASTM D882           MD: 100.0 μm         113         MPa           TD: 100.0 μm         113         MPa           Heat Shrinkage         Internal Method           MD, 30 min: 150°C, 100.0 μm         1.0         %           TD, 30 min: 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)           Optical         Nominal Value         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         L         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	MD : Yield,100 μm	196	MPa		
MD : Break, 100 μm 170 %  TD : Break, 100 μm 120 %  F5	TD : Yield,100 μm	216	MPa		
TD : Break, 100 μm 120 %  F5  MD : 100.0 μm 113 MPa  TD : 100.0 μm 113 MPa  Heat Shrinkage Internal Method  MD, 30 min : 150°C, 100.0 μm 1.0 %  TD, 30 min : 150°C, 100.0 μm 0.50 %  Surface Treatment Inside (Corona)/Outside (Acryl)  Optical Nominal Value Unit Test Method  Gardner Gloss (60°, 100 μm) 160	Tensile Elongation			ASTM D882	
ASTM D882         MD: 100.0 μm       113       MPa         TD: 100.0 μm       113       MPa         Heat Shrinkage       Internal Method         MD, 30 min: 150°C, 100.0 μm       1.0       %         TD, 30 min: 150°C, 100.0 μm       0.50       %         Surface Treatment       Inside (Corona)/Outside (Acryl)         Optical       Nominal Value       Unit       Test Method         Gardner Gloss (60°, 100 μm)       160       ASTM D523         Transmittance (100 μm)       89.0       %       ASTM D1003	MD : Break, 100 μm	170	%		
MD: 100.0 μm 113 MPa TD: 100.0 μm 113 MPa Heat Shrinkage Heat Shrinkage 1.0 MD, 30 min: 150°C, 100.0 μm 1.0 ND, 30 min: 150°C, 100.0 μm 1.0 Nominal Value  Dptical Nominal Value  To, 30 min : 150°C, 100.0 μm) 160 Tansmittance (100 μm) Nominal Value Nomin	TD : Break, 100 µm	120	%		
TD: 100.0 μm       113       MPa         Heat Shrinkage       Internal Method         MD, 30 min: 150°C, 100.0 μm       1.0       %         TD, 30 min: 150°C, 100.0 μm       0.50       %         Surface Treatment       Inside (Corona)/Outside (Acryl)       Test Method         Optical       Nominal Value       Unit       Test Method         Gardner Gloss (60°, 100 μm)       160       ASTM D523         Transmittance (100 μm)       89.0       %       ASTM D1003	F5			ASTM D882	
Heat Shrinkage         Internal Method           MD, 30 min: 150°C, 100.0 μm         1.0         %           TD, 30 min: 150°C, 100.0 μm         0.50         %           Surface Treatment         Inside (Corona)/Outside (Acryl)         Unit         Test Method           Gardner Gloss (60°, 100 μm)         160         ASTM D523           Transmittance (100 μm)         89.0         %         ASTM D1003	MD : 100.0 μm	113	MPa		
MD, 30 min : 150°C, 100.0 μm  1.0  7D, 30 min : 150°C, 100.0 μm  0.50  8  Surface Treatment  Inside (Corona)/Outside (Acryl)  Optical  Nominal Value  Unit  Test Method  ASTM D523  Transmittance (100 μm)  89.0  ASTM D1003	TD : 100.0 µm	113	MPa		
TD, 30 min : 150°C, 100.0 μm       0.50       %         Surface Treatment       Inside (Corona)/Outside (Acryl)         Optical       Nominal Value       Unit       Test Method         Gardner Gloss (60°, 100 μm)       160       ASTM D523         Transmittance (100 μm)       89.0       %       ASTM D1003	Heat Shrinkage			Internal Method	
Surface TreatmentInside (Corona)/Outside (Acryl)OpticalNominal ValueUnitTest MethodGardner Gloss (60°, 100 μm)160ASTM D523Transmittance (100 μm)89.0%ASTM D1003	MD, 30 min : 150°C, 100.0 μm	1.0	%		
OpticalNominal ValueUnitTest MethodGardner Gloss (60°, 100 μm)160ASTM D523Transmittance (100 μm)89.0%ASTM D1003	TD, 30 min : 150°C, 100.0 μm	0.50	%		
Gardner Gloss (60°, 100 μm)       160       ASTM D523         Transmittance (100 μm)       89.0       %       ASTM D1003	Surface Treatment	Inside (Corona)/Outside (Ad	Inside (Corona)/Outside (Acryl)		
Transmittance (100 μm) 89.0 % ASTM D1003	Optical	Nominal Value	Unit	Test Method	
	Gardner Gloss (60°, 100 μm)	160		ASTM D523	
Haze (100 um) 13 % ACTM D1002	Transmittance (100 μm)	89.0	%	ASTM D1003	
11.22 (100 pitt) 1.3 /0 ASTINI D1005	Haze (100 µm)	1.3	%	ASTM D1003	

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