

# LDPE

Materials Selection



KAZANORGSINTEZ



## LDPE

LOW DENSITY POLYETHYLENE	GRADE	11503 - 070
LOW DENSITY POLYETHYLENE	GRADE	LA2175
LOW DENSITY POLYETHYLENE	GRADE	10803 - 20
LOW DENSITY POLYETHYLENE	GRADE	15313-003
LOW DENSITY POLYETHYLENE	GRADE	15813 - 020
LOW DENSITY POLYETHYLENE	GRADE	FA2007
LOW DENSITY POLYETHYLENE	GRADE	10204 - 003
LOW DENSITY POLYETHYLENE	GRADE	153 – 02K
LOW DENSITY POLYETHYLENE	GRADE	153 – 10K
LOW DENSITY POLYETHYLENE	GRADE	CA0004



**LOW DENSITY POLYETHYLENE  
GRADE 11503-70**
*Film extrusion*
**APPLICATION**

**Grade 11503-070** is intended for food contact, for manufacture of toys and articles approved for packing and sealing of medicines. To be used for covering the articles allowed for food contact, for lamination by extrusion of such materials as paper, aluminum foil, cardboard etc. To be used as well for casting of small-sized articles (covers, caps, toys).

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9180 ± 0.001
2.	Melt flow index ((nominal value) with a tolerance),%, g/10 min	7.0 ± 15
3.	Melt flow index spread within a batch, %, maximum	± 5
4.	Number of inclusions, pieces, maximum	2
5.	Tensile yield strength, MPa minimum	9.3
6.	Rupture strength, % minimum	9.8
7.	Elongation at break, % minimum	450

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE LA2175**
*Film extrusion (cast)*
**APPLICATION**

**Grade LA2175** is intended for national economy needs, for manufacture of general purpose films, bags and packages, thin films and film products, shrinkable films, films for food contact (including air -tight packing), for high-speed lamination by extrusion of such materials as paper, aluminum foil, cardboard etc. To be used as well for casting of small-sized articles (covers, caps, toys) and articles approved for packing and sealing of medicines.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9180 - 0.923
2.	Melt flow index ((nominal value) with a tolerance),%, g/10 min	6.50 ± 8.50
3.	Melt flow index spread within a batch, %, maximum	± 5
4.	Number of inclusions, pieces, maximum	2
5.	Tensile yield strength, MPa minimum	8.0
6.	Rupture strength, % minimum	9.0
7.	Elongation at break, % minimum	400
8.	Dynamic modulus of elasticity, Pa	95-110
9.	Zero-shear rate viscosity, Pa.s	3500-4500
10.	Mass fraction of extractable substances, %, maximum	0.30

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 10803-020**
***Film extrusion  
Injection molding***

## APPLICATION

**Grade 10803-020** is intended for manufacture of films and film products for general purpose (industrial films for green house covering and other agricultural needs), films for food contact (including air-tight packing), bags, packages; allowed for food contact, for manufacture of toys and articles approved for packing and sealing of medicines.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9185 ± 0.0015
2.	Melt flow index ((nominal value) with a tolerance), %, g/10 min	2.0 ± 10
3.	Melt flow index spread within a batch, %, maximum	± 5
4.	Number of inclusions, pieces, maximum	2
5.	Stress cracking resistance, hours, minimum	2
6.	Tensile yield strength, MPa minimum	9.3
7.	Rupture strength, % minimum	12.2
8.	Elongation at break, % minimum	550

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ± 0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 15313-003**
*Film extrusion*
**APPLICATION**

**Grade 15313-003** is intended for manufacture of thin films and film products, shrinkable films, films for food contact (including air - tight packing), general purpose films, bags and packages. To be used for covering the articles allowed for food contact, for manufacture of pipes and fittings allowed for cold domestic water supply.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9205 ± 0.0015
2.	Melt flow index ((nominal value) with a tolerance),%, g/10 min	0.3 ± 30
3.	Melt flow index spread within a batch, %, maximum	± 6
4.	Number of inclusions, pieces, maximum	2
5.	Stress cracking resistance, hours, minimum	500
6.	Tensile yield strength, MPa minimum	9.8
7.	Rupture strength, % minimum	13.7
8.	Elongation at break, % minimum	600

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 15813-020**
***Film extrusion  
Injection molding***

## APPLICATION

**Grade 15813-020** is intended for manufacture of products, allowed for food contact, for manufacture of toys. To be used for manufacture of medical accessories, assemblies and parts of medical equipment, devices and tools, allowed for body tissue contact including for internal prosthetics.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9190 ± 0.002
2.	Melt flow index ((nominal value) with a tolerance),%, g/10 min	2.0 ± 25
3.	Melt flow index spread within a batch, %, maximum	± 6
4.	Number of inclusions, pieces, maximum	2
5.	Tensile yield strength, MPa minimum	9.3
6.	Rupture strength, % minimum	11.3
7.	Elongation at break, % minimum	600
8.	Mass fraction of extractable substances, %, maximum	0.4

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE FA2004**
***Film extrusion  
Cable extrusion***

## APPLICATION

**Grade FA2004** is intended for manufacture of single-layer and multi-layer packing films; shrinkable films; films of various application 50 µm and more; protective covering with long service life and high cracking resistance; for usage in compositions in order to increase rigidity and cracking resistance of end products; for manufacture of products of various application in contact with food.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.917 ÷ 0.922
2.	Melt flow index, g/10 min, within the limits	0.25 ÷ 0.49
3.	Melt flow index spread within a batch, %, maximum	± 6
4.	Number of inclusions, pieces, maximum	2
5.	Stress cracking resistance, hours, minimum	500
6.	Tensile yield strength, MPa minimum	9.5
7.	Rupture strength, % minimum	13.0
8.	Elongation at break, % minimum	500

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE FA2007**
***Film extrusion  
Injection molding***
**APPLICATION**

Low-density polyethylene **Grade FA2007** is designated for manufacture of film products, for processing by injection molding and extrusion.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.917 ÷ 0.922
2.	Melt flow index, g/10 min, (at 190°C and load of 2.16 kg)	0.60 ÷ 0.80
3.	Melt Flow Index range within the batch, %, maximum	± 10
4.	Tensile Strength at Yield, MPa, minimum	9.0
5.	Tensile Stress at Break, MPa, minimum	12.0
6.	Elongation at Break, %, minimum	500
7.	Mass fraction of extractable substances, %, maximum	0.8
8.	Number of impurities, pcs, maximum	5

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 10204-003**

*Film extrusion  
Cable extrusion*

## APPLICATION

**Grade 10204-003** is designated for manufacture of film products, for processing by injection molding and extrusion, protective covering with long service life and high cracking resistance; for usage in compositions in order to increase rigidity and cracking resistance of end products; for manufacture of products of various application in contact with food.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.9230 ± 0.001
2.	Melt flow index, ((nominal value) with a tolerance),%, g/10 min	0.3 ± 15
3.	Melt Flow Index spread within a batch, %, maximum	± 5
4.	Number of inclusions, pieces, maximum	2
5.	Stress cracking resistance, hours, minimum	500
6.	Tensile yield strength, MPa, minimum	11.3
7.	Rupture strength, MPa, minimum	14.7
8.	Elongation at break, %, minimum	600

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 153-02K**
***Cable extrusion***
**APPLICATION**

Polyethylene composition **Grade 153-02K** is intended for application of insulation, sheaths and protective covering to wires and cables by means of extrusion.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	0.919 ÷ 0.922
2.	Melt flow index, g/10 min, at load of 2.16 kgf within the limits	0.21 ÷ 0.39
3.	Melt flow index spread within a batch, %, maximum	± 8
4.	Thermo-oxidative stability, hour, minimum	8
5.	Photo-oxidative stability, hour, minimum	500
6.	Stress cracking resistance, hours, minimum	1000
7.	Tensile yield strength, MPa, minimum	9.8
8.	Rupture strength, MPa, minimum	13.7
9.	Elongation at break, %, minimum	600

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE 153-10K**
***Cable extrusion***
**APPLICATION**

Polyethylene composition **Grade 153-10K** is intended for application of insulation, sheaths and protective covering to wires and cables by means of extrusion..

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Density, g/cm <sup>3</sup>	Not specified
2.	Melt flow index, g/10 min, at load of 2.16 kgf within the limits	0.21 ÷ 0.39
3.	Melt flow index spread within a batch, %, maximum	± 8
4.	Thermo-oxidative stability, hour, minimum	8
5.	Photo-oxidative stability, hour, minimum	500
6.	Stress cracking resistance, hours, minimum	1000
7.	Tensile yield strength, MPa, minimum	9.8
8.	Rupture strength, MPa, minimum	13.7
9.	Elongation at break, %, minimum	600

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.

**LOW DENSITY POLYETHYLENE  
GRADE CA0004**
***Cable extrusion***
**APPLICATION**

**Grade CA0004** is intended for manufacture of cable products with improved performance properties due to processing additive and enhanced stabilization system for protection against thermal oxidation and photo-oxidation; for application of sheath, insulation and protective covering to cables by means of extrusion. Featuring increased cracking resistance.

**TECHNICAL CHARACTERISTICS**

	Parameter	Standard
1.	Melt Flow Index, g/10 min, (at 190 °C and at load of 2.16 kg)	0.25 ÷ 0.50
2.	Melt flow index spread within a batch, %, maximum	± 12
3.	Tensile yield strength, MPa, minimum	9.0
4.	Rupture strength, MPa, minimum	12.0
5.	Elongation at break, %, minimum	500
6.	Mass fraction of extractable substances, %, maximum	0.9
7.	Stress cracking resistance, hours, minimum	500
8.	Thermal oxidation resistance, hours, minimum	8
9.	Photo-oxidation resistance, hours, minimum	500

Supply form: Pallets

Packing: Product is packed in polyethylene bags (one bag net weight 25.00 ±0,25kg) and stacked on flat pallets with shrink film. Maximum gross weight of a bundle is 2 tons.

Transport: by all modes of transport.

Storage: polyethylene shall be stored in enclosed dry space preventing from direct sunlight on shelves or pallets at least 5 cm from the floor and at least 1m from heaters, at a temperature max 30°C, relative humidity max 80%

Prior to processing bags with polymer shall be kept in production are for at least 12 hrs.



Distribution by

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