

OJSC Rosneft Oil Company CJSC VNHK Product Range



РОСНЕФТЬ



Nakhodka

Methods of Polypropylene processing and application



Description	KTA	Method of processing	Number of grades, off.(*)	Application
Homopolymer:	460	Injection molding	29	Carpet backing, strapping, woven bags, geotextile, thermoforming, flexible packaging, rigid packaging, heavy wall parts, appliances, dishwashers, food processors, coffee makers, iron parts, consumer products, household wares, toothpaste tubes, caps, pipe shell, aerosol cans, sprayers, straws, washing machine baskets, shrouds, flutes, automotive under hood parts, components, average wall thickness items, auto parts, thin-wall containers, garden furniture, needle boxes, lids furniture, balls, jars, power tools, bathroom racks, media packaging, technical molding, medical syringes, vials, lab sample vials, high speed molding, very thin parts, medicine vials hospital items, food trays, disposable items
		Blow molding and sheet grades	2	Hollow objects requiring high stiffness and heat resistance, sheeting, thermoforming, bottles, sheets, disposable tableware
		Film blowing	1	Bags, sheeting
		Film casting from solution	9	Structural elements, flexible packaging for flowers, for pastry items, jackets, cheese wrap, bread bags, cereal box liners
		Biaxially oriented films	10	Flexible packaging for food products and clothes, flexible packaging, transparent and metallized packaging, adhesive tape, overwrap
		Fibers&tapes	21	Heavy duty strapping, cordage, strapping, woven bags, geotextiles, thermoforming, tape, fabric, monofilaments, ropes, high speed raffia/tape, continuous filaments, textiles, geotextile, staple fibers, carpet yarn, staple fibers for carpet face yarns, continuous filament for straps and belts, low gas fade, BCF yarns, continuous filament, caps and closures, spunbonded, non-wovens; fine denier staple fiber, high speed spinning
Extrusion molding	3	Thermoforming, swimming pool liners, thick sheet extrusion, sheeting, transparent trays and containers for food products, high stiffness		

*Licensed grade Polypropylene product range in Annex 1

Methods of Polypropylene processing and application



Description	KTA	Method of processing	Number of grades, off.	Application
Random copolymers	160	Injection molding	19	Flexible packaging, expanded beads, Rigid packaging, thin wall containers, transparent packaging requiring excellent impact, transparent packaging, caps & closures, housewares, transparent thin wall packaging, high speed molding, housewares, medical components
		Biaxially oriented films	4	Flexible packaging, flexible food packaging
		Blow molding and sheet grades	2	Small to medium sized bottles demanding high transparency, housewares, rigid packaging
		Film casting from solution	3	Stationary, flexible packaging for flowers, pastries, cheese wraps, shirts
		Fibers&tapes	2	Tape (raffia), bags, twine, cordage, non-woven
		Extrusion molding	7	Pipe, sheets, thermoforming, thermoformed packaging; Extrusion blow molding; Injection blow molding, hot & cold pipe, blow molded bottles
Block copolymers of PP and ethylene	180	Injection molding	33	General purpose, corrugated twin walled sheets, heavy duty parts, automotive, injection molding, automotive battery, crates; large pails; transit packaging, toys, buckets, high impact injection molding, returnable transport packaging, office furniture, Automotive bumper fascia, pet carriers, cassettes, rigid packaging for dairy products, stadium cups
		Extrusion molding	7	Non-pressure pipes, sheet, corrugated sheet, corrugated sheet (twin walled sheet), corrugated pipe and fittings, thermoforming, food service trays, containers, rigid packaging, fiber optics cable

Methods of Polyethylene processing and application



Description	KTA	Method of processing	Number of grades off.	Application
Gas phase process type*				
Low density polyethylene	390	Blow molding	2	Films, bags, inserts, agricultural films, cast stretch film with high service performance
		Molding	3	Blow molding film, cast film, cast demonstration film, heavy duty film, deep freezer film
High density polyethylene	110	Molding	4	Watertanks, agricultural tanks, playgrounds, inspection ports, general injection molding goods, lids, housewares, containers, boxes
Slurry process type**				
Low density polyethylene	10	Extrusion film	1	Ultrastrong bags, agricultural films, stretch films, protecting cover, nets, bags
High density polyethylene	340	Molding	2	general purpose goods, toys, lids, plugs, housewares, boxes, litter baskets, helmets, hardhats, wide use injection molding
		Extrusion film	2	General purpose thin film, undershirt type packaging, food packaging, protective coating
		Blow molding	2	Blown vessels with volume to 20 l. (packaging for chemicals, general service goods, oil, food products, sheeting, extrusion net, non pressure pipes, high quality blown vessels with volume 1-60 l. Packaging for severe-service products, hard industrial and technical molding
		Pipe extrusion	3	Pipes PE80, PE100 for water and gas transportation

* Licensed grade Polyethylene product range in Annex 2

** Licensed grade Polyethylene product range in Annex 3

Methods of MEG, Pyrolysis, linear alfa-olefins processing and application



Description	KTA	Application
Monoethyleneglycol production		
Monoethyleneglycol	700	<p>Monoethyleneglycol is used as feedstock for production of polyester and polyethyleneterephthalate (PET), of up-to-date high quality packaging, heat insulating and construction materials, as a component element of technical liquids in automobile industry, as anti-ice liquid in aviation, в авиации, polyurethane production.</p> <p>Polyesters are high molecular compounds received by polycondisation of polyatomic acids or their aldehyde with multi-atomic spirits. They are used in production of different fabrics, artificial fur, ropes, wire reinforcement, as heat insulating materials.</p> <p>Polyethyleneterephthalate (PET) is thermoplastic, most widely-used exponent of poliester class, known under different trade names. It is used for production of fabrics, films and plastic for food products, in machine building, chemical industry, food equipment, transport and conveyer technologies medical industry, instrument making industries and household appliances.</p>
Pyrolysis production		
Butadiene	192,37	It is used as feedstock for production of synthetic rubber
Benzene	226,79	It is used as feedstock for production of synthetic fibres and rubber, plastic materials, coloring materials and other products of organic synthesis
Polymer fuel oil (resin) PFO (fr. 288+ °C)	123,17	It is used as feedstock for production of technical carbons and as fuel for boiler plants of different types as well as for production of diesel fuel (diesel), lubricating oils (motor and tractor, aviation, industrial etc.), vaseline (technical vaseline is used for lubrication of metalware with purpose of protection from corrosion, refined vaseline is used as basis in cosmetics and medicine.
Linea alfa-olefins production		
Butene -1	25	They are used as comonomer for production of different grades of linear polyethylene
Hexene -1	25	



Annex

Annex 1

Innovene™ License PP product range



Homopolymers

Grade	Processing method	MFR Melt Flow Rate g/10 min	Density, g/cm ³	Comonomer	Application
K1002	Injection moulding	2	0,905	N/A	Carpet backing, strapping, woven bags, geotextiles, thermoforming, flexible packaging
K1003	Injection moulding	3	0,905	N/A	Thermoforming containers, rigid packaging, flexible packaging, carpet backing
K1105	Injection moulding	5	0,905	N/A	Heavy wall parts, appliances, dishwashers, food processors, coffee makers, iron parts, consumer products, housewares, rigid packaging
K1205	Injection moulding	5	0,905	N/A	Heavy wall parts, consumer products, toothpaste tubes, closures, tubes, shrouds, aerosol spray tubes, housewares, rigid packaging
K1505	Injection moulding	5	0,905	N/A	Housewares, consumer products, closures, dispensers
K1206	Injection moulding	6	0,905	N/A	Straws
K1406	Injection moulding	5,7	0,905	N/A	Appliances, washing machine spinning basket, rims, flutes, automotive underhood parts, compounding
K1110	Injection moulding	10	0,905	N/A	Thinner wall parts, consumer products, housewares, rigid packaging, automotive
K1012	Injection moulding	12	0,905	N/A	Rigid packaging, thin wall containers, garden furniture, housewares, staple for needle punched geotextiles
K1012B	Injection moulding	12	0,905	N/A	Consumer products, housewares, rigid packaging
K1512	Injection moulding	12	0,905	N/A	Closures, lids, overcaps; furniture; housewares; rigid packaging
K1014	Injection moulding	13,5	0,905	N/A	Thin parts/fast molding, housewares, consumer products, packaging
K1114	Injection moulding	13,5	0,905	N/A	Thin parts/fast molding, housewares, consumer products, balls, rigid packaging, containers, jars, closures appliances
K1514	Injection moulding	13,5	0,905	N/A	Thin parts/fast molding, furniture, consumer products, closures, jars, lids
K1814	Injection moulding	13,5	0,905	N/A	Rigid packaging, thin parts/fast molding, furniture, consumer products, closures, jars, lids
K1215	Injection moulding	15	0,905	N/A	Thin parts, consumer products, rigid packaging, closures, outdoor furniture, housewares
K2020	Injection moulding	20	0,905	N/A	Consumer products, housewares, rigid packaging
K2420	Injection moulding	20	0,905	N/A	Appliances, coffee makers, Iron parts, power tools, automotive underhood parts, compounding
K2520	Injection moulding	20	0,905	N/A	Consumer products, light shelves, shower room racks, rigid packaging
K2024	Injection moulding	23	0,905	N/A	General purpose, very thin parts, housewares, consumer products, rigid packaging
K2525	Injection moulding	25	0,900	N/A	Media packaging, technical molding, fast cycling
K2526	Injection moulding	25	0,905	N/A	High speed molding, closures, rigid packaging, housewares, containers, jars
K2925	Injection moulding	25	0,905	N/A	Consumer products, medical syringes, transparent containers, jars
K2328	Injection moulding	28	0,905	N/A	Syringes, containers, lab sample vials hospital items

Annex 1

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Homopolymers

Grade	Processing method	MFR Melt Flow Rate g/10 min	Density, g/cm ³	Comonomer	Application
K2035	Injection moulding	35	0,905	N/A	High speed molding, very thin parts, medicine vials, rigid packaging, consumer products
K2535	Injection moulding	35	0,905	N/A	Nucleated, antistat, high flow
K2535B	Injection moulding	35	0,905	N/A	Consumer products; housewares; thin-walled packaging
K2550	Injection moulding	50	0,905	N/A	Thin wall containers, media packaging, food trays, housewares articles, disposables
K2753	Injection moulding	53	0,905	N/A	Consumer products, housewares, medical components, thin-wall rigid packaging, DVD cases
K2753B	Injection moulding	53	0,905	N/A	High speed moulding of media packaging, thin parts and housewares
K2865	Injection moulding	65	0,905	N/A	High speed molding of transparent media packaging
B1401	Blow moulding and sheet extrusion	0,9	0,900	N/A	Hollow objects requiring high stiffness and heat resistance: Sheeting
T1702	Blow moulding and sheet extrusion	2,2	0,905	N/A	Thermoforming, bottles, sheet extrusion, picnic plates
F1608	Extruded film	8,0	0,905	N/A	Merchandizing bags, sheeting
C1006	Cast film	6,0	0,905	N/A	Stationary, flexible packaging for flowers, pastries, candies, shirt (suitable for corona treatment)
C1507	Cast film	7,3	0,905	N/A	Flexible packaging
C1607A	Cast film	7,3	0,905	N/A	Flexible packaging, cheese wrap, bread bags (suitable for corona treatment)
C1607B	Cast film	7,3	0,905	N/A	Cheese wrap, bread bags, stationary, flexible packaging for flowers, pastries, candies, shirts
C1608	Cast film	8	0,905	N/A	Flexible packaging, cheese wrap, bread bags, cereal box liners
C1009	Cast film	9	0,905	N/A	Stationary, flexible packaging for flowers, pastries, candies, shirts
C1609	Cast film	9	0,905	N/A	Flexible packaging, cheese wrap, bread bags, cereal box liners
C1611	Cast film	10	0,905	N/A	Stationary, flexible packaging for pastries, candies, shirts
C1012	Cast film	12,5	0,905	N/A	Stationary, flexible packaging for flowers, pastries, candies, shirts
F1001	Biaxially oriented polypropylene film (BOPP film)	1,7	0,905	N/A	Flexible food and clothes packaging
F1002A	BOPP film	2,0	0,905	N/A	Flexible food ad clothes packaging

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Homopolymers

Grade	Processing method	MFR Melt Flow Rate g/10 min	Density, g/cm ³	Comonomer	Application
F1602	BOPP film	2,0	0,905	N/A	Flexible packaging
F1902	BOPP film	2,0	0,905	N/A	Flexible food and clothes packaging
F1103A	BOPP film	2,8	0,905	N/A	Flexible food and clothes packaging
F1903	BOPP film	2,8	0,905	N/A	Flexible food and clothes packaging
F1002B	BOPP film	3,1	0,905	N/A	Clear and metalized food packaging
F1003A	BOPP film	3,0	0,905	N/A	Flexible packaging
F1003B	BOPP film	3,0	0,905	N/A	Flexible packaging and adhesive tape
F1003C	BOPP film	3,4	0,905	N/A	Flexible packaging; overwrap; metalized films
S1001	Fiber and tape	1,2	0,905	N/A	Heavy duty strapping, cordage
S1002	Fiber and tape	2,0	0,905	N/A	Strapping, woven bags, geotextiles, thermoforming
S1002B	Fiber and tape	2,0	0,905	N/A	Thermoformed sheet; tape; woven bags; twine; BOPP
S1003	Fiber and tape	3,0	0,905	N/A	Tape (raffia), strapping
S1303	Fiber and tape	3,5	0,905	N/A	Fabric, strapping, tapes
S1004	Fiber and tape	3,5	0,905	N/A	Monofilaments, tape (raffia), rope
S1104	Fiber and tape	3,5	0,905	N/A	High speed raffia/tape
S1005	Fiber and tape	5,0	0,905	N/A	Multifilaments, continuous filaments, textiles
S2309	Fiber and tape	9,2	0,905	N/A	Geotextiles, staple fibers, automobile carpets
S2409	Fiber and tape	8	0,905	N/A	Carpet yarn; UV stable
S1011	Fiber and tape	11	0,905	N/A	Fabric, yarns
S1012	Fiber and tape	12	0,905	N/A	Staple fibers for carpet face yarns, continuous filament for straps and belts
S1016	Fiber and tape	16	0,905	N/A	Staple fibers for carpet face yarns, continuous filament for straps and belts
S1018	Fiber and tape	18	0,905	N/A	BCF yarns, low gas fade
S2318	Fiber and tape	18	0,905	N/A	BCF yarns, staple fibers, low gas fade

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Homopolymers

Grade	Processing method	MFR Melt Flow Rate g/10 min	Density, g/cm ³	Comonomer	Application
S1919	Fiber and tape	19,3	0,905	N/A	Continuous filament; BCF; staple fiber
S1323	Fiber and tape	23	0,905	N/A	Continuous filament, caps and closures, consumer products
S2024	Fiber and tape	24	0,905	N/A	Spunbonded; non-wovens; fine denier staple fiber
S1025	Fiber and tape	25	0,900	N/A	BCF for carpet face yarn; fine denier staple fiber, low odor & catalyst residues
S2025	Fiber and tape	25	0,905	N/A	BCF yarns, staple fiber, anti-gasfading
S2040	Fiber and tape	38	0,905	N/A	Non-woven, high speed spinning, fine denier staple fiber
T1101	Extrusion	0,47	0,905	N/A	Thermoforming, swimming pool liners, thick sheet extrusion, bench top, partitions, cabinetry
T1102	Extrusion	1,6	0,905	N/A	Sheet; thermoforming
T1803	Extrusion	3,0	0,900	N/A	TF transparent trays and containers for food products. High stiffness, very good optics and easy de-nesting

Annex 1

Innovene™ License PP product range



Random copolymers

Grade	Processing method	MFR Melt Flow Rate	Density	Comonomer	Application
K4608	Injection moulding	8	0,900	Ethylene	Flexible packaging, expanded beads
K4812	Injection moulding	12	0,905	Ethylene	Rigid packaging, thin wall containers, housewares, stretch blow molding
K4812A	Injection moulding	12	0,900	Ethylene	Transparent packaging requiring excellent impact
K4912	Injection moulding	12	0,905	Ethylene	Rigid packaging, media packaging, housewares, stretch blow molding
K4913	Injection moulding	13	0,905	Ethylene	Transparent packaging, caps & closures, housewares, ISBM
K4220	Injection moulding	20	0,905	Ethylene	Housewares, rigid packaging, consumer products
K4825	Injection moulding	25	0,905	Ethylene	Caps and closures, housewares, clarified food containers, ISBM bottles
K4826	Injection moulding	25	0,900	Ethylene	Transparent thin wall packaging, housewares, clarified food containers; Improved organoleptics
K3235	Injection moulding	35	0,905	Ethylene	High speed molding, housewares, rigid packaging, consumer products
K3535	Injection moulding	35	0,905	Ethylene	High speed molding, housewares, rigid packaging, consumer products
K4835A	Injection moulding	35	0,905	Ethylene	High speed molding, rigid packaging, thin wall molding, deli containers, housewares, ISBM
K4835B	Injection moulding	35	0,905	Ethylene	High speed molding, rigid packaging, thin wall molding, deli containers, housewares, ISBM
K4835C	Injection moulding	35	0,905	Ethylene	High speed molding, rigid packaging, thin wall molding, deli containers, housewares, media packaging, stretch blow molding, ISBM
K4840	Injection moulding	40	0,905	Ethylene	Caps and closures, housewares, clarified food containers
K4845	Injection moulding	45	0,900	Ethylene	Transparent thin wall containers, housewares, ISBM
K4850	Injection moulding	50	0,905	Ethylene	Housewares, appliances, containers, caps and closures, media packaging
K4553	Injection moulding	53	0,905	Ethylene	Thin-walled rigid packaging, consumer products
K4753	Injection moulding	53	0,905	Ethylene	Thin-walled rigid packaging, consumer products, medical components, housewares
K4853	Injection moulding	53	0,905	Ethylene	Thin-walled rigid packaging, consumer products
F3002	BOPP film	2,3	0,905	Ethylene	Flexible packaging
F3002B	BOPP film	2,0	0,905	Ethylene	Flexible packaging
F3003	BOPP film	3,2	0,905	Ethylene	Flexible food & clothes packaging, clear and metalized food packaging
F3903	BOPP film	3,5	0,905	Ethylene	Flexible food & clothes packaging, opaque film
B4801	Blow moulding and sheet extrusion	1,5	0,900	Ethylene	Small to medium sized bottles demanding high transparency

Annex 1

Innovene™ License PP product range



Random copolymers

Grade	Processing method	MFR Melt Flow Rate	Density	Comonomer	Application
B4002	Blow moulding and sheet extrusion	2,0	0,900	Ethylene	Housewares, rigid packaging, air-quenched blown film, extruded rod stock
C4001	Cast film	1,5	0,905	Ethylene	Cast or blown films with glitter/low matness
C4008	Cast film	8,0	0,905	Ethylene	Stationary, flexible packaging for flowers, pastries, candies, shirts
C4608	Cast film	8,0	0,900	Ethylene	Flexible packaging, cheese wraps stationary, flexible packaging for flowers, pastries, candies, shirts
C4001	Cast film	1,5	0,905	Ethylene	Cast or blown films with glitter/low matness
C4008	Cast film	8,0	0,905	Ethylene	Stationary, flexible packaging for flowers, pastries, candies, shirts
C4608	Cast film	8,0	0,905	Ethylene	Flexible packaging, cheese wraps stationary, flexible packaging for flowers, pastries, candies, shirts
S3003	Fiber and tape	3,2	0,905	Ethylene	Tape (raffia), bags, twine, cordage
S3040	Fiber and tape	38	0,905	Ethylene	Non-woven, high speed spinning, fine denier staple fiber
T3401	Extrusion	0,30	0,905	Ethylene	Pipe, sheets
T3101	Extrusion	0,60	0,905	Ethylene	Thermoforming, sheets
T3802	Extrusion	2,2	0,900	Ethylene	Thermoformed packaging; Extrusion blow molding; Injection blow molding; extruded sheets/ profiles
T4002	Extrusion	2,0	0,905	Ethylene	Sheet extrusion, thermoforming, shrinkage film
T4401	Extrusion	0,3	0,900	Ethylene	Hot & cold pipe
T4502	Extrusion	1,9	0,905	Ethylene	Extruded sheet and profiles, thermoformed packaging, extrusion blow molded containers and bottles, injection blow molded containers and bottles
T4602	Extrusion	2,0	0,905	Ethylene	Blow molded bottles

Annex 1

Innovene™ License PP product range



Block copolymers

Grade	Processing method	MFR Melt Flow Rate	Density	Comonomer	Application
K7002	Injection moulding	1,4	0,900	Ethylene	General purpose, extruded sheets, corrugated twin walled sheets, corrugated pipe, thermoforming, industrial parts
K8003	Injection moulding	2,5	0,900	Ethylene	Heavy duty parts, automotive, extrusion
K8003B	Injection moulding	2,5	0,900	Ethylene	Sheet; inj molding; blow molding
K8005	Injection moulding	5	0,900	Ethylene	Appliances, automotive battery
K9005	Injection moulding	5	0,900	Ethylene	Injection molding; blow molding
K8006	Injection moulding	6	0,900	Ethylene	Crates; large pails; transit packaging; toys
K7506	Injection moulding	6	0,900	Ethylene	Bucket, toys, appliances, industrial parts, pallets
K9907	Injection moulding	7	0,900	Ethylene	High impact injection molding
K8508	Injection moulding	8	0,900	Ethylene	Crates and other returnable transport packaging, large pails and containers, stadium
K7312	Injection moulding	12	0,900	Ethylene	Industrial parts, pallets, automotive, appliances
K7512	Injection moulding	12	0,900	Ethylene	Buckets, crates, toys, luggage
K7712	Injection moulding	12	0,900	Ethylene	Automotive, consumer products, housewares, compounding
K7912	Injection moulding	12	0,900	Ethylene	Industrial parts, crates, appliances, toys, cassettes
K8512	Injection moulding	12	0,900	Ethylene	Consumer products, housewares, office furniture, toys and juvenile products
K9015	Injection moulding	15	0,900	Ethylene	Automotive bumper fascia, air dams, exterior trim
K8516	Injection moulding	16	0,900	Ethylene	Crates and boxes, pails, toys, containers
K8020	Injection moulding	20	0,900	Ethylene	Housewares, toys
K9020	Injection moulding	20	0,900	Ethylene	Pet carriers, crates
K9020B	Injection moulding	20	0,900	Ethylene	Consumer products; housewares; car batteries; toys
K8920	Injection moulding	20	0,900	Ethylene	Injection molding
K9720	Injection moulding	20	0,900	Ethylene	Automotive, consumer products, industrial applications, crates
K8224	Injection moulding	24	0,900	Ethylene	Industrial parts, cassettes, compounding
K7930	Injection moulding	30	0,900	Ethylene	Housewares, appliances, toys
K9035	Injection moulding	35	0,900	Ethylene	Housewares
K9935	Injection moulding	35	0,900	Ethylene	Auto interior trim, under instrument panel, air ducts
K8940	Injection moulding	40	0,900	Ethylene	Ultrafast injection molding of pails; Better impact / rigidity balance
K8544	Injection moulding	44	0,900	Ethylene	Housewares, appliances, rigid packaging, furniture
K8550	Injection moulding	50	0,900	Ethylene	Housewares, appliances, rigid packaging, furniture
K7555	Injection moulding	55	0,900	Ethylene	TWIM articles requiring antistat and low warpage Specific grade for IM of Velcro
K8570	Injection moulding	70	0,900	Ethylene	Thin walled injection molding, rigid packaging for dairy products, housewares
K8100	Injection moulding	100	0,900	Ethylene	Very thin walled injection molding, yellow fat containers, housewares

Annex 1

Innovene™ License PP product range



Block copolymers

<i>Grade</i>	<i>Processing method</i>	<i>MFR Melt Flow Rate</i>	<i>Density</i>	<i>Comonomer</i>	<i>Application</i>
K7110B	Injection moulding	105	0,900	Ethylene	High speed Injection molding; TWIM
K7110	Injection moulding	105	0,900	Ethylene	Thin-wall rigid packaging, refrigerated dairy containers, stadium cups
T7001	Extrusion	0,30	0,900	Ethylene	Non-pressure pipes, sheet
T8101	Extrusion	0,30	0,900	Ethylene	Non-pressure pipes, sheet
B8101	Extrusion	0,45	0,900	Ethylene	Non-pressure pipe, refrigerator parts
T8102	Extrusion	1,2	0,900	Ethylene	Corrugated sheet
T8701	Extrusion	1,5	0,900	Ethylene	Corrugated sheet (twin walled sheet), corrugated pipe and fittings, thermoforming
T6702	Extrusion	1,9	0,900	Ethylene	Food service trays, containers, rigid packaging
T8702	Extrusion	1,9	0,900	Ethylene	Injection molding of heavy walled parts; appliances, composite parts, consumer products packaging for frozen products suitable for microwave oven
T8705	Extrusion	5,0	0,900	Ethylene	Fiber optics cable

Annex 2

Innovene™G License PE product range



Grade	Processing method	MFR Melt Flow Rate, g/10min	Density, kg/m	Comonomer	Application
LL0209AA	LLDPE film, C4	0,9	920	C4	Bags, liner bags, farming film
LL0220AA	LLDPE film, C4	2	920	C4	Blown and cast general purpose film
LL0640AA	LLDPE film, C4	4	930	C4	Cast film for display package
LL6209AA	LLDPE film	0,9	920	C6	Stretch film, coextrusion, bags, deep freeze package, synthetic grass
LL6130AA	LLDPE film	3	920	C6	High quality cast or stretch package
HD3840EA	Centrifugal moulding	3,8	938	C4	High stiffness grade: agricultural goods, tanks, sports grounds, waste containers with waste classification, inspection hatches
HD5211EA	Injection moulding	13	951	C4 or C6	Household items, toys, boxes, buckets, general purpose goods manufactured by injection moulding
HD5218EA	Injection moulding	21	952	C4 or C6	Household items, lunchboxes, caps, general purpose goods manufactured by injection moulding
HD6070EA	High density film (low pressure)	7,4	960	C4 or C6	Boxes, cases, buckets, caps, top caps

Annex 3

Innovene™S License PE product range



Grade	Processing method	MFR Melt Flow Rate, g/10 min	Density, kg/m	Comonomer	Application
B55-20	Injection moulding	0,2	954	C6	General purpose blown goods, containers and large bottles up to 30 liters
HM5411EA	Injection moulding		952	C6	High quality blown containers up to 60 liters for packing the corrosive substances
HM5420XPH	Injection moulding		955	C6	Big barrels (typical volume — 210 liters) and open faced barrels. Extremely high elasticity.
J53-08 N2000	LDPE film		953	C6	Very thin film for high speed lines. High stiffness. Bimodal grade
LL0208S	LDPE film	0,8	920	C4	Blown general purpose film
PC4017	Pipes	0,85	948	C6	Cross-linked natural color HDPE for pipes
PN038-090-122	Pipes		938	C6	PE80 standard polymer
PN043-090-122	Pipes		943,5	C6	PE80 standard polymer. Bimodal grade
PN049-030-122	Pipes		948,5	C6	PE100 standard polymer. Bimodal grade
T60-800	Centrifugal moulding		961	C4 or C6	Boxes, waste bins, hard hats, general purpose goods
T50-2000	Centrifugal moulding		953	C4 or C6	Caps, top caps, toys, household items, general purpose goods