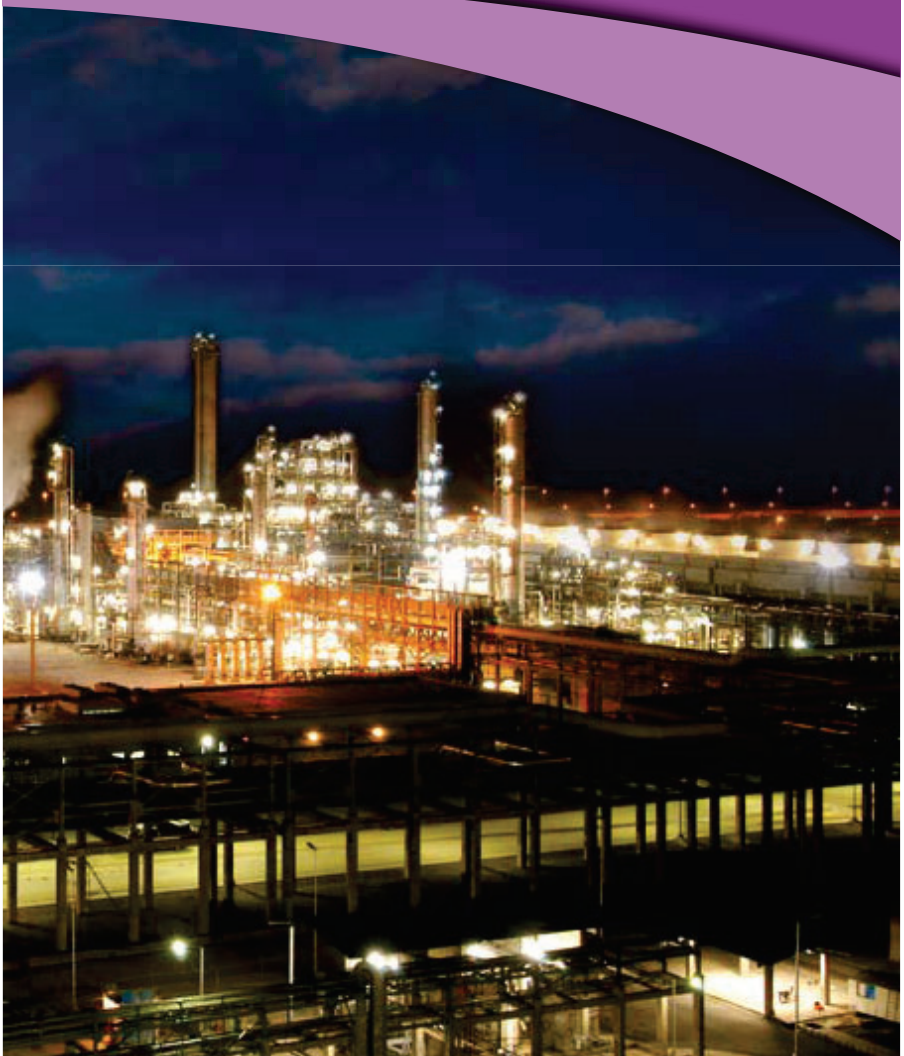
Polypropylene
Hetrophasic copolymer



HiFax

BA238G3

HiFax BA 238 G 3 is a non-filled polypropylene copolymer for injection moulding with very high impact strength. The product has good U.V. resistance designed for outdoor application. This grade is available in custom colour, pellet form.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	g/10min	12
Specific gravity	ISO 1183/A		0.9
Mechanical properties			
Flexural modulus Notched Izod	ISO 178/A	MPa	900
Impact strenght at 23 °C	ISO 180/1A	KJ/m^2	45
-20 °C	ISO 180/1A	KJ/m^2	9
Thermal properties			
H.D.T. (1.82 MPa)	ISO75/A	°C	50
Vicat softening point (49N)	ISO306/B50	°C	55

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumulated.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-C30 R

EP-C 30 R is a heterophasic polypropylene copolymer for injection moulding. The product offers an excellent balance of stiffness, impact strength and processability.

EP-C 30 R is largely used in the consumer, packaging and appliance industries for injection moulding applications that require a good mechanical properties balance.

Typical applications include household articles, toys, small containers, pails, crates, caps, closures, lids and thin-walled packaging for cold shelf presentation.

EP-C 30 R is also designed for demanding injection moulding applications such as automotive parts, wheels, garden furniture, chair shells and stadium seats.

EP-C 30 R is furthermore suitable for the extrusion of cast film for stationery.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	Dg / min	7
Density	ISO 1183	g/cm³	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm²	1150
Tensile strength yield	ISO R527	N/mm²	26
Elongation at yield	ISO R 527	%	10
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m²	8
-20°C	ISO 868		6
Hardness Shore D		points	68
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-C 30 R is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-C31 H

EP-C 31 H is a medium flow heterophasic polypropylene copolymer with high stiffness and good impact strength. Items produced with EP-C 31 H also feature excellent aesthetic properties, with high gloss and good stress whitening resistance.

EP-C 31 H is designed for moulding small and medium sized rigid containers. packaging items and housewares.

The product is also recommended for toys, tools, caps and closures.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	6
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1450
Tensile strength yield	ISO R 527	N/mm^2	28
Elongation at yield	ISO R 527	%	8
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	7.5
-20°C	ISO 868		3
Hardness Shore D		points	70
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	100
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-C 31 H is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-C 31 HR

EP-C 31 HR is a medium flow heterophasic polypropylene copolymer with an improved mechanical properties balance. The product features an high stiffness and an outstanding impact strength.

EP-C 31 HR is specifically designed for injection moulding applications.

EP-C 31 HR combines high stiffness with an outstanding impact strength, even at low temperature.

In comparison to conventional copolymers with the same MFR and same rigidity. EP-C 31 HR, exhibits a 35 % higher toughness.

EP-C 31 HR is suitable for a wide range of applications in the packaging, automotive and consumer goods industries. Typical applications include luggage, paint pails, buckets, containers, crates, batteries and large toys.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	6
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1300
Tensile strength yield	ISO R 527	N/mm^2	26
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	15
-20°C	ISO 868		6.5
Hardness Shore D		points	68
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	95
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-C 40 R

EP-C 40 R is a heterophasic polypropylene copolymer designed for injection moulding battery cases and technical items.

The product offers an excellent balance of mechanical properties and processability and features an excellent long-term heat-stability.

Articles moulded with EP-C 40 R offer a good balance of stiffness and toughness, good surface properties and a very high resistance to chemicals and crazing.

EP-C 40 R is largely used for automotive components.

Battery cases, cooling water compensation reservoirs, brake fluid reservoirs, wash water reservoirs, dashboard supports. luggage compartment trims and door trim panels are typical applications.

In the electro-technical industries. EP-C 40 R is used for appliances, cables and wires (e.g . as slotted core element in fibre optic cables).

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	7
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1150
Tensile strength yield	ISO R 527	N/mm^2	26
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	8
-20°C	ISO 868		6.5
Hardness Shore D		points	68
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	1800
Elongation at yield	isoR527	%	10

EP-C 40 R is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-D 60 R

EP-D 60 R is a high molecular weight heterophasic copolymer for blow moulding and extrusion and is designed to produce items with superior toughness, even at low temperature.
EP-D 60 R exhibits excellent heat and detergent resistance.
Because of its excellent impact strength and its particular formulation, EP-D 60 R is well suited for extrusion blow moulding appliance components, wheels, under-the-hood automotive parts, toolboxes, suitcases and large containers.
Extrusion applications of EP-D 60 R include profiles, pipes and tough sheet for industrial applications. Sheet produced with EP-D 60 R is also well suited for thermoforming trays for cold storage.
EP-D 60 R can be compression moulded into thick sheet.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	0.4
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1050
Tensile strength yield	ISO R 527	N/mm^2	26
Elongation at yield	ISO R 527	%	16
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	60
at -20°C			6.5
Hardness Shore D	ISO 868	points	60
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	1800

EP-D 60 R is suitable for food contact

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-F 31 H

EP-F 31 H is a heterophasic polypropylene copolymer with an improved mechanical properties balance. The product features an outstanding stiffness and a high impact strength and is designed for injection moulding applications.

EP-F 31 H combines superior stiffness with high impad strength, even at low temperatures.

In comparison with conventional conventional copolymers with the same MFR and the same toughness, EP-F 31 H exhibits a 20 % higher rigidity.

EP-F 31 H is suitable for a wide range of applications in the packaging, automotive and consumer goods industries. Typical applications include housewares. containers, bins, baskets, flowerpots, toys, lids, caps and closures .

EP-F 31 H is also well suited for mouding garden furniture, chair shells, crates, trays and automotive parts.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	12
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1450
Tensile strength yield	ISO R 527	N/mm^2	28
Elongation at yield	ISO R 527	%	8
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	8
at -20°C			4.5
Hardness Shore D	ISO 868	points	70
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	100
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-F 31 H is suitable for food contact applications.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-F 31 HA

EP-F 31 HA is a heterophasic polypropylene copolymer with an improved mechanical properties balance.
The product features an outstanding stiffness, high impact strength , excellent antistatic properties and is designed for injection moulding applications.
EP-F 31 HA combines superior stiffness with high impact strength, even at low temperatures.
In comparison with conventional copolymers with the same MFR and the same toughness, EP-F 31 HA exhibits a 20 % higher rigidity.
EP-F 31 HA is suitable for a wide range of applications in the packaging, automotive and consumer goods industries.
Typical applications include housewares, containers, bins, baskets, flowerpots, toys, lids, caps and closures
EP-F 31 H is also well suited for moulding garden furniture. chair shells, crates, trays and automotive parts.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	12
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1450
Tensile strength yield	ISO R 527	N/mm^2	28
Elongation at yield	ISO R 527	%	8
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	8
at -20°C			4.5
Hardness Shore	ISO 868	points	70
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	100
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-F 31 HA is suitable for food contact applications.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-F 31 HR

EP-F 31 HR is an easy flow heterophasic polypropylene copolymer with an improved mechanical properties balance. The product features an high stiffness and an outstanding impact strength.

EP-F 31 HR is specifically designed for injection moulding applications.

EP-F 31 HR combines, high stiffness with an outstanding impact strength, even at low temperature.

In comparison to conventional copolymers with the same MFR and same rigidity EP-F 31 HR, exhibits a 20 % higher toughness.

EP-F 31 HR is suitable for a wide range of applications in the packaging, automotive and consumer goods industries. Typical applications include luggage, paint pails, buckets, containers, crates, batteries and large toys.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	12
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1250
Tensile strength yield	ISO R 527	N/mm^2	24
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	11
at -20°C			5.0
Hardness Shore	ISO 868	points	66
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	150
H.D.T. (0.46 Mpa)	ISO 75/B	°C	90
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-H 31 RA

EP-H 31 RA is a high melt flow rate, heterophasic copolymer for thin walled injection moulding.
Items made with EP-H 31 RA exhibit high stiffness, good impact resistance and excellent antistatic properties.
The use of EP-H 31 RA allows high productivity because of the easy mould filling and short cycle times.
The excellent balance of mechanical properties combined with the outstanding organoleptic properties and antistatic characteristics make EP-H 31 RA particularly suitable for thin-walled packaging.
Some typical food packaging applications of EP-H 31 RA are margarine tubs and pots for soft cheese, pudding, mayonnaise and other dairy or fatty products.
Other major applications of EP-H 31 RA include caps, closures and flower pots.
The product is also suitable for injection moulding videocassette boxes, appliance components, small pails, cool boxes and food containers.

PROPERTIES		METHOD (b)	UNIT	
Melt Flow Rate (230 °C . 16 kg)	(1)	ASTM D 1238L	Dg/min	40
Density	(2)	ASTM D 1505	g/cm^3	0.9
Flexural modulus	(3)	ASTM D 790	N/mm^2	1300
Tensile strength yield	(3)	ASTM D 638	N/mm^2	27
Elongation at yield	(3)	ASTM D 638	%	6
Izod Impact Strength (notched) at 23°C at -20°C	(3)	ASTM D 256	J/m	65 30
Rockwell Hardness	(3)	ASTM D 785	R scale	95
Vicat softening point	(3)	ASTM D 1525	°C	150
HDT (0.46 N/mm^2)	(3)	ASTM D 648	°C	108
Accelerated oven ageing air (forced circulation) at 150°C		ASTM D 3012	hours	360

EP-H 31 RA is suitable for food contact (4)

1) Measured at230 under a load of 2.160 kg, with a standard nozzle having a diameter of 2.095 mm.

2) Average nominal value referred to a tensile injection mo';ded specimen, type I (ASTM 0 638).

3) Typical mechanical property values measured on standard specimens, injection moulded under conditions designed to minimise orientation and in-moulded stresses and in line with the conditions generaly used by industrial converters. Specimens are concitioned at room temperature (ASTM 0618 - Procedure A).

4) The compositon of the product complies with the regulations in force in major European countries concerning polypropylene resins for use in food contact applications. Further details can be supplied on request.

EP-YH 71 HA

EP-YH 71 HA is a high melt flow rate heterophasic copolymer for thin walled injection moulding.

The product features an improved mechanical properties balance: items made with EP-YH 71 HA combine superior stiffness. good impact resistance and excellent antistatic properties.

The use of EP-YH 71 HA allows high productivity because of the easy mould filling and short cycle times

In comparison with conventional copolymers with the same MFR and the same toughness EP-YH 71 HA exhibits a 15 % higer rigidity.

The outstanding balance of mechanical properties combined with the excellent organoleptic properties and antistatic characteristics make

EP-YH 71 HA particular1y suitable for thin-walled packaging. Typical food packaging applications are margarine tubs, yoghurt pots, pots for soft cheese, pudding and mayonnaise. EP-YH 71 HA is furthermore suitable for injection moulding caps , closures , flower pots , cool boxes and food containers.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	44
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1450
Tensile strength yield	ISO R 527	N/mm^2	28
Elongation at yield	ISO 180	%	7
Izod Impact Strength (notched) at 23°C		kJ/m^2	5.5
at -20°C			2.5
Hardness Shore D	ISO 868	points	70
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	100
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-N 31 MA

EP-N 31 MA is an ultra high fluidity heterophasic copolymer for thinwalled injection moulding.
The product offers a good stiffness / impact balance, good dimensional stability and outstanding antistatic properties. EP-N 31 MA offers the typical advantages of PP such as low odour transfer, no monomer migration, excellent stress cracking resistance and high chemical resistance.
The ultra high MFR and the specific formulation of EP-N 31 MA result in very easy mould filling, short cycletimes, low shrinkage and low war page.
The finished items show excellent dimensional stability, good surface finish and high antistatic properties.
EP-N 31 MA is mainly used for packaging, housewares and garden furniture. The most typical applications are items with long flow paths such as laundry bins, drawer trays, toy boxes, small containers, video boxes, margarine tubs and packaging for dairy products.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	100
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1500
Tensile strength yield	ISO R 527	N/mm^2	30
Elongation at yield	ISO R 527	%	7
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	3
Hardness Shore D	ISO 868	points	72
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	152
H.D.T. (0.46 Mpa)	ISO 75/B	°C	105
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-N 31 MA is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-Q 30 M

EP-Q 30 M is a high molecular weight, heterophasic polypropylene copolymer designed for extrusion applications which require a balance of high stiffness and very good impact strength.

EP-Q 30 M offers excellent processability in extrusion.

The final items show very good mechanical properties. even at temperatures down to - 20 °C .

Major applications of EP-Q 30 M are profiles, pipes, ducts for electrical distribution and automotive parts.

This grade is also used for extrusion blow moulding pigmented, glossy monolayer bottles for toiletries, detergents and foodstuffs.

EP-Q 30 M is also well suited for corrugated board and sheet fat thermoforming.

PROPERTIES		METHOD (b)	UNIT	
Melt Flow Rate (230 °C 2. 16 kg)	(1)	ASTM D 1238L	Dg/min	0.8
Density	(2)	ASTM D 1505	g/cm^3	0.9
Flexural modulus	(3)	ASTM D 790	N/mm^2	1250
Tensile strength yield	(3)	ASTM D 638	N/mm^2	30
Elongation at yield	(3)	ASTM D 638	%	13
Izod Impact Strength (notched) at 23°C at 0°C at -20°C	(3)	ASTM D 256	J/m	 >600 130 50
Rockwell Hardness	(3)	ASTM D 785	R scale	90
Vicat softening point	(3)	ASTM D 1525	°C	152
HDT (0.46 N/mm^2)	(3)	ASTM D 648	°C	90
Accelerated oven ageing air (forced circulation) at 150°C		ASTM D 3012	hours	360

EP-Q 30 M is suitable for food contact.(4)

1) Measured at 230•C under a load of 2.160 kg, with a standard nozzle having a diameter of 2.095 mm.

2) Typical nominal value referred to a tensil ingection mouled type 1(ASTM D 6381)

3) Typical mechanical property values measured on standard specimens. injection moulded under Conditions designed to minimise orientation to and in-mouded stresses and in line with the conditions generally used by industrial converters.

Specimens are conditioned at room temperature (ASTM 0518 - procedure A)

4) The composition of the product complies with 1he FDA norms and with regulations in force in major Europe8'I CCU1Iries concerning polypropylene resins for use in food contact applications. Further details can be supplied on request.

EP-Q 30 RF

EP-Q 30 RF is a high molecular weight, heterophasic polypropylene copolymer designed for extrusion applications where smooth process ability and high mechanical properties are of the utmost importance.

The process ability of EP-Q 30 RF in extrusion is excellent. The final items show a good stiffness and a very high impact strength, even at -20 C.

EP-Q 30 RF is particularly suitable for the extrusion of film for adhesive tapes and film for lamination to paper and other resins.

Extrusion blow moulded containers for detergents, toiletries and foodstuffs and blow moulded technical parts are important applications.

EP-Q 30 RF is also widely used for the production of corrugated board, smooth and corrugated pipe and for the extrusion of sheet for thermoforming.

EP-Q 30 RF is also Suitable for injection moulding items which require a very good mechanical properties balance.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	0.8
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1100
Tensile strength yield	ISO R 527	N/mm^2	26
Elongation at yield	ISO R 527	%	16
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	50
at -20°C			5
Hardness Shore D	ISO 868	points	62
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-Q 30 RF is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-S 31 HP

EP-S 31 HP is a heterophasic polypropylene copolymer with an exceptional mechanical properties balance. The product has been specifically designed for the extrusion of conduit pipe, corrugated pipe and other extrusion applications.

In comparison with standard polypropylene copolymers with the same fluidity. EP-S 31 HP offers some distinct advantages:

- higher stiffness.
- superior impact resistance both at room temperature and at low temperatures.
- excellent creep and deformation resistance
- very high dimensional stability.

Because of these outstanding mechanical properties.

EP-S 31 HP can be used in demanding applications such as conduit pipes and fittings for electrical distribution and cable protection.

Corrugated pipes for automobile and machine construction, plane- and shipbuilding and for domestic appliances are another major application.

EP-S 31 HP can also be used for the extrusion blow moulding of bottles and containers and for the extrusion of corrugated board.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230 °C, 2.16 kg)	ISO 1133	dg / min	1.3
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1350
Tensile strength yield	ISO R 527	N/mm^2	27
Elongation at yield	ISO R 527	%	8
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	40
at -20°C			8
Hardness Shore D	ISO 868	points	68
Thermal properties			
Vicat softening point (9.8 N)	Intemal	°C	-55
H.D.T. (0.46 Mpa)	ISO 306/A	°C	152
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 75/B	°C	100
	ISO 4577	hours	360

EP-S 31 HP is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-T 30 M

EP-T 30 M is a medium flow, heterophasic polypropylene copolymer.

This grade combines excellent stiffness with high impact and is suitable for injection moulding and thermoforming.

Because of its particular balance of mechanical properties, EP- T 30 M is widely used for injection moulding toys, sports articles, small containers, housewares, closures and caps.

Technical application are components for appliances and parts for the automotive industry .

Thermoformed cotainers are another important application of EP-T 30 M.

PROPERTIES		METHOD (b)	UNIT	
Melt Flow Rate (230 °C 2 . 16 kg)	(1)	ASTM D 1238L	Dg/min	3.5
Density	(2)	ASTM D 1505	g/cm^3	0.9
Flexural modulus	(3)	ASTM D 790	N/mm^2	1250
Tensile strength yield	(3)	ASTM D 638	N/mm^2	29
Elongation at yield	(3)	ASTM D 638	%	9
Izod Impact Strength (notched) at 23°C at -20°C	(3)	ASTM D 256	J/m	 120 25
Rockwell Hardness	(3)	ASTM D 785	R scale	94
Vicat softening point	(3)	ASTM D 1525	°C	152
HDT (0.46 N/mm^2)	(3)	ASTM D 648	°C	90
Accelerated oven ageing air (forced circulation) at 150°C		ASTM D 3012	hours	360

EP-T 30 M is suitable for food contact.(4)

1) Measured at 230•C, under a load of 2.160 kg, with a standard nozzle having a diameter of 2.095 mm.

2) Average nominal value referred to a tensile injection moUcled specimen, type 1 (ASTM D 638).

3) Typical mechanical property values measured On standard specimens, injection moulded under conditions designed to minimise orientation and in-moulded stresses and in in line with the conditions generally used by industrial converters. Specimens are concitioned at room temperature (ASTM D 618• Procedure A.)

4) The composition of 1he product compties with the FDA norms and with regulations in force in major European countries concerning polypropylene resins for use in food contact applications. Further details can be supplied on request

EP-T30 R

EP-T 30 R is a medium flow, heterophasic polypropylene copolymer mainly designed for injection moulding applications. EP-T 30 R combines good process ability with very high impact and good stiffness.

Because of its high mechanical properties, EP- T 30 R is widely used for injection moulding medium sized containers, buckets, pails, transport crates and crates for cold storage. other typical applications of EP-T 30 R are injection moulded components for small appliances, components for industrial applications and parts for the automotive industry (e.g. wheel arch liners, steering wheels and interior parts). EP-T 30 R is further suitable for housewares, seats. chair shells, toys. suitcases and small packaging items).

Thermoforming multilayer containers for dairy products is also an important application of EP- T 30 R

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	dg / min	3.5
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1150
Tensile strength yield	ISO R 527	N/mm^2	26
Elongation at yield	ISO R 527	%	10
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	14
at -20°C			4
Hardness Shore D	ISO 868	points	66
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP- T 30 R is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-T 30 U

EP- T 30 U is a heterophasic copolymer for injection moulding applications.

EP- T 30 U combines outstanding processability with extremely high impact resistance.

EP-T 30 U is designed for applications where very high toughness is a primary requirement.

Some of the major applications of EP- T 30 U are consumer goods such as housewares, toys, indoor and outdoor furniture and suitcases.

Other applications are parts for sports equipment and bicycles , and technical components.

In the material handling and packaging industries, EP-T 30U is widely used for injection moulding boxes, containers, pallets, crates, pails and lids.

For these applications very high impact polypropylene offer definite advantages over HDPE because of the better stack ability and stress cracking resistance.

EP- T 30 U is also suitable for bitumen modification and various compounding applications.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	dg / min	3.5
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	950
Tensile strength yield	ISO R 527	N/mm^2	22
Elongation at yield	ISO R 527	%	11
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	60
at -20°C			8
at -40°C			6
Hardness Shore D	ISO 868	points	60
Thermal properties			
Ductile Brittle transition temperature	Internal	°C	-60
Vicat softening point (9.8 N)	ISO 306/A	°C	141
H.D.T. (0.46 Mpa)	ISO 75/B	°C	85
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-T 30 U is suitable for food contact

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding.

EP-V 31 RA

EP-V 31 RA is a high fluidity heterophasic copolymer for thin-walled injection moulding. Items made with EP-V 31 RA exhibit high stiffness, relatively good impact resistance and excellent antistatic properties.

Because of its excellent mould ability and short cycle times, EP-V 31 RA allows high productivity rates.

The finished items show good mechanical properties, a high dimensional stability and excellent antistatic properties.

EP-V 31 RA is very well suited for the production of thin-walled articles or articles with long flow paths such as flower pots, containers, housewares, filters, filter housings and appliance components.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	dg / min	21
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1500
Tensile strength yield	ISO R 527	N/mm^2	27
Elongation at yield	ISO R 527	%	8
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	6.5
at -20°C			4
Hardness Shore D	ISO 868	points	69
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	100
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-V 31 RA is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding

EP-YH 31 U

EP-YH 31 U is a high fluidity heterophasic copolymer. The product is particularly suitable for injection moulding items that require a superior mechanical properties balance over a wide temperature range. The easy flow. of EP- YH 31 U provides outstanding processability and reduced cycle times. Items moulded with EP- YH 31 U feature excellent impact strength and good stiffness.

The mechanical properties at low temperature and dimensional stability are excellent.

EP-YH 31 U has been designed for injection moulding large items with significant impact requirements: boxes.

crates, pails and large household articles.Other applications include toys, appliance components, battery cases and some smaller items such as caps, closures and flower pots.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	dg / min	42
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1150
Tensile strength yield	ISO R 527	N/mm^2	24
Elongation at yield	ISO R 527	%	7
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	6
at -20°C			3.5
Hardness Shore D	ISO 868	points	66
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	150
H.D.T. (0.46 Mpa)	ISO 75/B	°C	95
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-YH 31 U is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding

EP-YS 30 RE

EP-YS 30 RE is a heterophasic polypropylene copolymer designed for extrusion applications where smooth processability and a good balance of mechanical properties are required. EP-YS 30 RE offers excellent process ability and the final items show good stiffness and outstanding impact resistance, even at temperatures down to -20 °C.

The major applications of EP-YS 30 RE are the production of corrugated board and the extrusion of sheet for thermoforming. Other applications include blow moulded bottles and containers for detergents and foodstuffs as well as technical parts for the automotive and appliance industries.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	dg / min	1.3
Density	ISO 1183	g/cm^3	0.9
Mechanical properties			
Flexural modulus	ISO 178	N/mm^2	1100
Tensile strength yield	ISO R 527	N/mm^2	27
Elongation at yield	ISO R 527	%	13
Izod Impact Strength (notched) at 23°C	ISO 180	kJ/m^2	50
at -20°C			5
Hardness Shore D	ISO 868	points	64
Thermal properties			
Vicat softening point (9.8 N)	ISO 306/A	°C	151
H.D.T. (0.46 Mpa)	ISO 75/B	°C	88
Accelerated oven ageing in air (forced circulation) at 150 °C	ISO 4577	hours	360

EP-YS 30 RE is suitable for food contact.

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding

SP 179

SP 179, an injection moulding thermoplastic polypropylene grade, is designed for high impact strength even at low temperatures, a high melt flow rate and medium rigidity. This grade is available in natural pellet form, for use with masterbatches, or in special colors.

PROPERTIES	METHOD (b)	UNIT	TYPICAL VALUE (a)
Physical properties			
Melt flow rate (230°C, 2.16 kg)	ISO 1133	g / min	8
Specific gravity	ISO 1183/A	-	0.9
Hardness, Shore D	ISO 868	points	60
Mechanical properties			
Flexural modulus	ISO 178	MPa	800
Tensile strength yield	ISO R 527	MPa	20
Elongation at yield	ISO R 527	%	650
Notched Izod impact strenghh at -20°	ISO 180/1A	kJ/m^2	9
Thermal properties			
Vicat softening point (49 N)	ISO 306/B50	°C	57
H.D.T. (1.82 Mpa)	ISO 75A	°C	45
H.D.T. (5 Mpa)	ISO 75B	°C	75

a) Values shown are averages and are not to be considered as product specification These values may shift slightly as additional data are accumlsted.

b) ISO test methods are the lates under the societys current procedures.

All specimens are prepared by injection moulding