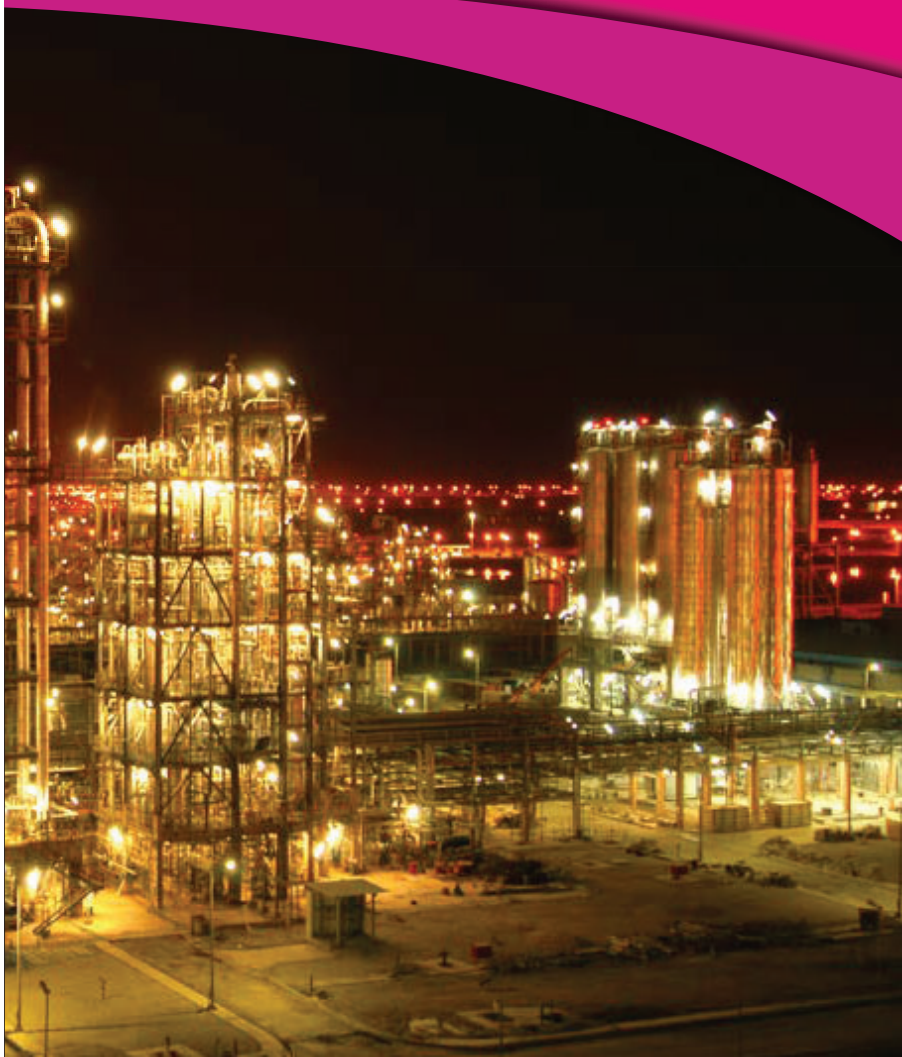


Polypropylene
Homo Polymer





680 ADXP

680 ADXP is a new polypropylene type which features an extremely high stiffness, high gloss, good transparency and improved characteristics at high temperatures.

It has been especially developed for extrusion - thermoforming and film applications where high rigidity, outstanding transparency and very good thermal characteristics are needed.

Typical applications of 680 ADXP include transparent food containers, containers for high temperature filling as well as any applications where high gloss and high stiffness are required.

The composition of the product complies with FDA norms and with regulations in force in major European countries concerning food contact applications. Further details can be supplied on request.



| 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 Tensile | ISO 178 | N/mm ² | 2150 |
| Strength yield | ISO R527 | N/mm ² | 40 |
| 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 | 74 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 159 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 120 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● 680 ADXP 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



770 ADXP

770 ADXP is a new very high flow polypropylene type which features an extremely high stiffness, high gloss, good transparency and improved characteristics at high temperatures. It has been especially developed for TWIM applications where high flow combined with high rigidity, high gloss and very good thermal characteristics are needed.

Typical applications of ADXP include food containers as well as any applications where high fluidity associated with high gloss and high stiffness are required.

The composition of the product complies with FDA norms and with regulations in force in major European countries concerning food contact applications. Further details can be supplied on request.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 4.5 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 2000 |
| Tensile strength yield | ISO R527 | N/mm ² | 41 |
| Elongation at yield | ISO R 527 | % | 7 |
| Izod Impact Strength (notched) at 23 °C | ISO 180 | kJ/m ² | 2 |
| Hardness Shore D | ISO 868 | points | 74 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 157 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 127 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● 770 ADXP 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



V 2400 G

V 2400 G is a new polypropylene type which features an extremely high stiffness and high gloss.

It has been especially developed for the production of stiff injection-moulded articles where high rigidity is needed.

Typical applications of V 2400 G include food packaging containers, housewares, small appliances and technical parts. The composition of the product complies with FDA norms and with regulations in force in major European countries concerning food contact applications.

Further details can be supplied on request.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 15 |
| Density | ISO 1183 | g/cm ³ | 0.91 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 2250 |
| Tensile strength | ISO R527 | N/mm ² | 41 |
| yield Elongation | ISO R 527 | % | 7 |
| at yield | | | |
| Izod Impact Strength (notched) at 23 °C | ISO 868 | kJ/m ² | 2.5 |
| Hardness Shore D | ISO 868 | points | 74 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 159 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 125 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● V 2400 G 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



699 ADXP

699 ADXP is a new polypropylene type which features an extremely high stiffness, high gloss, good transparency and improved characteristics at high temperatures.

It has been especially developed for BOPP and Cast film applications where high rigidity, outstanding transparency and very good thermal characteristics are required. Strapping made out of 699 ADXP show extremely good creep resistance.

Typical applications of 699 ADXP include flowers and textile packaging, sterilizable and pasteurizable food packaging, printing lamination and tobacco film as well as any other applications where high gloss and high stiffness are needed.



| 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 | 1950 |
| Tensile strength yield | ISO R527 | N/mm ² | 37 |
| Elongation at yield | ISO R 527 | % | 9 |
| Izod Impact Strength (notched) at 23 °C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | points | 72 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 159 |
| 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 |

● 699 ADXP 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 accumulated.

b) ISO test methods are the latest under the society current procedures.

All specimens are prepared by injection moulding.



C 30 G

C 30 G is a polypropylene homopolymer for injection moulding. The main applications of C 30 G offers housewares, small containers, crates, garden furniture, stadium seats, toys, caps and closures.

Other major applications are components for appliances and parts for the automotive industry.



| 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 | 1500 |
| Tensile strength yield | ISO R 527 | N/mm ² | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 112 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hour | 360 |

● C 30 G 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



C 30 S

C 30 S is a polypropylene homopolymer with a good flow properties and is particularly suitable for the extrusion of film yam, monofilament, cast film and sheet. C 30 S combines outstanding process ability with good mechanical properties. C 30 S is particularly suitable to produce film yam with the cast film process. Film yam of C 30 S is used for baler twines, packaging twines and ropes.

C 30 S is well suited for the production of monofilament used for instance in brush and broom filling and technical applications.

Other applications of C 30 S are monolayer or coextruded film for packaging, thin sheet for stationery folders and sheet for thermoforming.

C 30 S is also used for the extrusion of straws



| 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 | 1500 |
| Tensile strength yield | ISO R 527 | N/mm ² | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 112 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hour | 360 |

● C 30 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



D 50 S

D 50 S is a homopolymer with a high molecular weight and outstanding mechanical properties.

The product shows excellent processability in extrusion applications and exhibits excellent long-term heat ageing resistance.

D 50 S is well suited for technical extrusion applications that require both high stiffness and high impact resistance.

typical application include the extrusion of thick, heavy sheet for industrial applications, strapping, tubes, profiles and pipes.

D 50 S is also used for the extrusion of thin sheet for thermoforming dairy tubes and other food packaging.

Extrusion blow moulded small containers and technical parts are other typical application of D 50 S.

D 50 S is also appropriate for injection moulding wheels, fittings and high performance industrial components.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | dg / min | 0.3 |
| 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 | 33 |
| Elongation at yield | ISO R 527 | % | 14 |
| Izod impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 15 |
| Hardness Shore D | ISO 868 | points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 153 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 100 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hours | 2250 |

● D 50 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



F 79 S

F 79 S is a polypropylene homopolymer designed for the production of fine denier staple fibres for nonwoven, thermobonded fabrics.

F 79 S offers outstanding spinnability, superior thermobonding properties and excellent antigasfading properties.

Fabrics made with F 79 S are characterised by softness, textile-like appearance and high tear resistance.

The fabrics are particularly suited for the production of fabrics for feminine care products, diapers, incontinence pads, medical disposables, wipes and other application in the hygienic and medical sector.

Other applications include filters and fabrics for the automotive, clothing and furniture industry.

In comparison with standard polypropylene types for thermobonding applications, F 79 S offers some distinct advantages.

- The processability with the long-spinning technology is outstanding, resulting in high and uniform fibre quality and less down-time.



- F 79 S gives a broad thermal bonding window, which facilitates start-up and adjustments of the plant.
- F 79 S show a 20 to 30 % increase in thermal bonding ability. This makes it possible to produce fabrics with a higher tear strength or with a lower weight per m² for the same strength.



F 30 G

F 30 G is a medium-high fluidity polypropylene homopolymer for injection moulding.

Because of its good flow properties, this grade offers easy mould filling and short cycle times.

Articles produced from F30 G exhibit good dimensional stability and high stiffness.

F 30 G is widely used for injection moulding consumer goods such as food containers, cool boxes, vacuum flasks, flower pots, toys, garden furniture and small appliances.

In the medical sector, F 30 G is used for 3-part syringes and a wide range of health-care items.

Other applications are closures, caps and crates for products.



| 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 | 1550 |
| Tensile strength yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 3.5 |
| Hardness Shore D | ISO 868 | points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 117 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hour | 360 |

● F 30 G 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



F 30 S

F 30 S is a medium-high fluidity polypropylene homopolymer. F 30 S is particularly suitable for the production of heavy denier staple fibre and continuous filament.

F 30 S exhibits good process stability and constant, high flow during extrusion.

F 30 S is developed for the extrusion of staple fibres for spinning wool system fibres for carpets, rugs and garments such as overalls and socks.

F 30 S is also suited for the production of continuous filament for ropes, belts and straps.

Another typical applications of F 30 S is the extrusion of decorative ribbons.



| 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 | 1550 |
| Tensile strength yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 3.5 |
| Hardness Shore D | ISO 868 | points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 117 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

● F 30 S 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



H 22 S

H 22 S is a high melt flow rate homopolymer with a narrow molecular weight distribution for the high speed production of low denier continuous filament for spun-bonded, nonwoven fabrics.

The major applications for spunbonded fabrics made of H 22 S are diapers, medical and sanitary tissues, protective fabrics for agricultural, industrial and medical applications, backings and linings for the furniture and carpet industries. H 22 S can also be used for the production of partially oriented yarn and bulked continuous filament.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 37 |
| 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 | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 2.5 |
| Hardness Shore D | ISO 868 | points | 72 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 118 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 250 |

● H 22 S 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



H 32 GA

H 32 GA is a high melt flow homopolymer with a narrow molecular weight distribution. H 32 GA is designed for high speed Injection moulding of thin-walled items with a good transparency and optimum antistatic properties.

Because of its outstanding flow properties, its very high stiffness and excellent dimensional stability, H 32 GA can be moulded at very high speeds producing thin-wall~ parts, even with complicated shapes, without distortion.

H 32 GA is widely used for thin-walled packaging in the cosmetic and food industry.

The product is also suited for pens, videocassette boxes, caps, closures, housewares and small appliances such as coffee machines and food processors.

Other typical applications of H 32 GA include office accessories, disposable razors and camping articles.

In many of these applications H 32 GA can replace traditional materials such as polystyrene since the product exhibits excellent processability, low inmoulded stress, low shrinkage and war page on top of the advantages typical of polypropylene such as light weight, low odour transfer, high chemical resistance and a good balance of mechanical properties.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 35 |
| 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 | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 2.5 |
| Hardness Shore D | ISO 868 | points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 120 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



H 39 S

H 39 S is a very high fluidity homopolymer for the high speed production of very low denier BCF and CF. H 39 S exhibits excellent antigasfading properties.

Because of its high homogeneity and very high MFR, H 39 S offers stable extrusion and excellent processability on both short and long spinning lines. This grade allows a high stretch ratio and gives tough, resilient and colourfast fibres.

H 39 S is eminently used for the high speed production of bulked continuous filament for carpet face yarns.

Another major application is the production of high tenacity continuous filament for straps for backpacks, handles for big bags and safety belts.

Continuous filament with medium tenacity is used for upholstery and heavy duty clothing.



| PROPERTIES | | METHOD (b) | UNIT | |
|--|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 35 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1700 |
| Tensile strength yield | (3) | ASTM D 638 | N/mm ² | 37 |
| Elongation at yield | (3) | ASTM D 638 | % | 10 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 30 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 97 |
| Vicat softening point | (3) | ASTM D 1525 | °C | 155 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 98 |
| Accelerated oven ageing air | | ASTM D 3012 | hours | 150 |

● H 39 S 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



Q 30 P

Q 30 P is a homopolymer Particularly Suitable for extrusion. Q 30 P Combines excellent processability With an Outstanding mechanical properties balance .

Q 30 P is well suited for technical extrusion strapping, sheet, profiles and small diameter pipes such as refills for ball pens. Another typical application of Q 30 P is the extrusion of nets for various purposes and end – uses, for instance nets for olive harvesting or for the packaging of salami,s and hams



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 0.7 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1400 |
| Tensile strength yield | ISO R 527 | N/mm ² | 33 |
| Elongation at yield | ISO R 527 | % | 14 |
| Izod impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 10 |
| Hardness Shore D | ISO 868 | points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 154 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 100 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 2250 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



S 28 C

S 28 C is a modified homopolymer designed for the very high speed production of BOPP films. S 28 C allows an outstanding extrusion stability and thickness variation control and provides a very high drawability and readiness to a two way orientation. The product contains a reinforced processing stabilisation and features low water carry-over properties.

BOPP films produced with S 28 C feature good mechanical properties, high impact strength and puncture resistance, even at low temperatures. The films form an excellent barrier against moisture, odours, oils, fats and oxidation and feature good transparency and gloss.

Monolayer or coextruded films made of S 28 C with a thickness ranging from 20 to μm are used for the packaging of foodstuffs, cosmetics and videocassettes.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 2.1 |
| 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 | 33 |
| Elongation at yield | ISO R 527 | % | 13 |
| Izod impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 6.5 |
| Hardness Shore D | ISO 868 | Points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 105 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



S 28 F

S 28 F is a homopolymer for the production of biaxially oriented polypropylene films.

The product is particularly suitable for metallization, both as monolayer film and in coextruded structures.

S 28 F has been designed to provide a very stable extrusion on stenter lines and to give excellent thickness control, increased drawability and readiness to a two way orientation.

S 28 F contains a reinforced processing stabilisation but does not contain any slip or antiblocking agents.

The product features low water carry-over properties and is therefore also suitable for tubular BOPP.

BOPP films produced with S 28 F feature good mechanical properties, high impact strength and puncture resistance, even at low temperatures.

The films form an excellent barrier against moisture, odours, oils, fats and oxidation and feature good optical properties.

Monolayer or coextruded films made of S 28 F with a thickness ranging from 20 to 40 µm are used for the packaging of foodstuffs, cosmetics and videocassettes.

Metallized BOPP films made with S 28 F are also suitable for lamination to other flexible films.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | dg / min | 2.0 |
| 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 | 33 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 6.5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 105 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

● S 28 F 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



S 30 G

S 30 G is a polypropylene homopolymer for general injection moulding applications

Besides a high stiffness and a good impact strength, S 30 G offers also a good processability.

S 30 G is suitable for a wide range of injection moulding applications such as appliance components, textile bobbins, wheels, fittings closures, caps and household articles.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 1.8 |
| 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 | 33 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 6.5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 105 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

● S 30 G 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



S 30 S

S 30 S is a polypropylene homopolymer particularly suitable for the production of sheet for thermoforming, film yarn and monofilament.

S 30 S combines excellent processability with high stiffness. S 30 S is designed for the production of quality thermoforming such as drinking beakers, packaging for dairy products, nursery flower pots and trays for fruit, biscuits and chocolates.

S 30 S is also particularly suitable to produce film yarn, both with cast and tubular processes.

Textile film yarns have a denier count of not more than 1100 to 1200 and are used for the production of bags, industrial fabrics and mats.

Film yarn with a denier count ranging from 3000 to 28000 is used for baler twines, packaging twines and ropes.

S 30 S is also well suited for the production of monofilament used for instance for brush and broom filling and technical applications.

Strapping, extruded nets, blow moulded small containers and technical components are other typical applications of S 30 S.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 1.8 |
| 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 | 33 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 6.5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 105 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hour | 360 |

● S 30 S 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



S 38 CA

S 38 CA is a modified homopolymer designed for the very high speed production of coextruded BOPP films. The product is used for the core of the coextruded film structure with a low seal temperature resin in the outside layers.

S 38 CA has been developed for coextrusion lines with a very high output and linear speed. The product allows an outstanding extrusion stability and thickness variation control, especially on cascade lines. The product provides also a very high drawability and readiness to a two way orientation. The product contains a reinforced processing stabilisation and a package of slip and antistatic agents but does not contain any antiblocking agents. BOPP films produced with S 38 CA feature good mechanical properties, high impact strength and puncture resistance, even at low temperatures. The films form an excellent barrier against moisture, odours, oils, fats and oxidation and feature high transparency, high gloss and good printability after corona treatment. The low sealing biaxially oriented coextruded films obtained with S 38 CA can be used for Vertical Form Fill Seal applications and lamination as well as Horizontal Form Fill Seal and overwrapping applications, according to the thickness and sealing properties obtained.



Coextruded film with a thickness of 20 to 40 μm is used for the automatic packaging of bakery products, snacks and pasta as well as for the overwrapping of boxes and cigarette packets.

| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | dg / min | 2.1 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1350 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 33 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 6.5 |
| Hardness Shore D | ISO 868 | Points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 105 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hour | 360 |

- 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 latest under the society's current procedures.
- All specimens are prepared by injection moulding.



HP 520 H

HP 520 H is a polypropylene homopolymer especially designed for the production of biaxially oriented polypropylene films (BOPP). It contains a general purpose formulation. Typical applications of HP 520 H are film, for adhesive tapes and general packaging.

HP 520 H is suitable for food contact.

Product Characteristics

| | |
|-------------------------------|---|
| Status | Commercial: Active |
| Test Method used | ISO ASTM |
| Availability | Europe, Africa – Middle East |
| Processing Method | BOPP |
| Features | Homopolymer |
| Typical Customer Applications | Film, Raffia/Tapes/Strapping, BOPP, Food packaging Film |



| PROPERTIES | Method | TYPICAL Value unit |
|--|--------------|-------------------------|
| Physical | | |
| Density | ISO 1133 | 0.900 g/cm ³ |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | 2.0 g/10 min |
| Mechanical | | |
| Tensile modulus (1 mm/min) | ISO 527-1,-2 | 1500MPa |
| Tensile strength at yield (50 mm/min) | ISO 527-1,-2 | 34.0 MPa |
| Tensile strength at yield (50 mm/min) | ISO 527-1,-2 | 410% |
| Tensile strength at Break (50 mm/min) | ISO 527-1,-2 | 11% |
| Hardness | | |
| Shore hardness (Shore D) | ISO 868 | 71 |
| Thermal | | |
| Heat deflection temperature B(0.45 MPa) Unannealed | ISO 758-1,-2 | 93.0 °C |
| Vicat softening temperature (A50 (50 °C/h 10N)) | ISO 306 | 152 °C |



S 38 FA

S 38 FA is a homopolymer designed for the manufacturing of coextruded biaxially oriented polypropylene films. The product is used for the core of the coextruded film structure with a low seal temperature random copolymer in the outside layers.

S 38 FA has been designed to provide a very stable extrusion on stenter lines and to give excellent thickness control, increased drawability and readiness to a two way orientation.

The product contains a reinforced processing stabilisation and a package of slip and antistatic agents but does not contain any antiblocking agents.

BOPP films produced with S 38 FA feature good mechanical properties, high impact strength and puncture resistance, even at low temperatures.

The films form an excellent barrier against moisture, odours, oils, fats and oxidation and feature high transparency, high gloss and good printability after corona treatment.

The low sealing biaxially oriented coextruded films obtained with S 38 FA can be used for Vertical Form Fill Seal applications and lamination as well as Horizontal Form Fill Seal and overwrapping applications, according to the thickness and sealing properties obtained.

Coextruded film with a thickness of 20 to 40 μm is used for the automatic packaging of bakery products, snacks and pasta as well as for the overwrapping of boxes and cigarette packets.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 2.1 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1650 |
| Tensile strength yield | (3) | ASTM D 638 | N/mm ² | 35 |
| Elongation at yield | (3) | ASTM D 638 | % | 12 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 60 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 105 |
| Vicat softening point | (3) | ASTM D 1525 | °C | 154 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 94 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 500 |

- 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



HP 525 J

HP 525 J is a polypropylene homopolymer designed for the production of biaxially oriented polypropylene films (BOPP). The product is suitable for metallizable film, both as monolayer and in coextruded structures. It contains a standard processing stabilisation but does not contain any slip, antiblocking agents and is Calcium Stearate free.

HP 525 J offers good optical, easy processing and very good film profile. Typical applications are BOPP packaging films and Solid Phase Thermoforming sheets.

HP 525 J is suitable for food contact.

Product Characteristics

| | |
|---|---|
| Status | Commercial: Active |
| Test Method used | ISO ASTM |
| Availability | Europe, Africa – Middle East |
| Processing Method | Extrusion Thermoforming, BOPP |
| Features Good Processability | High Clarity, Medium Flow, High Gloss, Homopolymer |
| Typical Customer Applications Packaging Film | BOPP, Thermoformed Food Containers, Food |



| PROPERTIES | Method | TYPICAL Value unit |
|--|--------------|-------------------------|
| Physical | | |
| Density | ISO 1183 | 0.900 g/cm ³ |
| Melt flow rate(MFR) (230°C, 2.16 kg) | ISO 1133 | 3.0 g/10 min |
| Mechanical | | |
| Tensile modulus (1 mm/min) | ISO 527-1,-2 | 1450 MPa |
| Tensile stress at Break (50 mm/min) | ISO 527-1,-2 | 23.0 MPa |
| Tensile strain at yield (50 mm/min) | ISO 527-1,-2 | 34.0 MPa |
| Tensile strain at Break (50 mm/min) | ISO 527-1,-2 | >50% |
| Tensile strain at yield (50 mm/min) | ISO 527-1,-2 | 11% |
| Hardness | | |
| Shore hardness (Shore D) | ISO 868 | 70 |
| Thermal | | |
| Heat deflection temperature B(0.45 MPa) Unannealed | ISO 758-1,-2 | 85.0 °C |
| Vicat softening temperature (A50 (50°C/h 10N)) | ISO 306 | 156 °C |



T 30 G

T 30 G is a polypropylene homopolymer for injection moulding applications.

T 30 G combines high stiffness and fairly good impact strength with good processability. The grade is suitable for a wide range of applications such as housewares, caps, closures, small containers, toys, parts for small appliances and components for the automotive industry.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 3.2 |
| 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 | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 110 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● T 30 G 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



T 30 S

T 30 S is a polypropylene homopolymer particularly suitable for the extrusion of sheet for thermoforming, film yam and monofilament.

T 30 S combines outstanding processability with good mechanical properties.

T 30 S is designed to produce stiff sheet for high quality thermofonmings such as vending cups, packaging for dairy products and trays for fruit, biscuits and chocolates.

T 30 S is also particularly suitable to produce film yam, with both cast and tubular processes.

Textile film yams with a denier count of not more than 1100 to 1200 and are used for the production of carpet backings, bags, industrial fabrics, mats and artificial grass.

Film yam with a denier count ranging from 3000 to 28000 is used for baler twines, packaging twines and ropes.

T 30 S is also well suited for the production of monofilament used for Instance for brush and broom filling and technical applications.

Another typical application of T 30 S is the extrusion of nets for various purposes.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 3.2 |
| 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 | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 110 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● T 30 S 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



T 30 SW

T 30 SW is a polypropylene homopolymer for the production of film yarn and monofilament. T 30 SW features outstanding processability and low water carry-over properties.

T 30 SW is particularly suitable for the high speed extrusion of film yarn for industrial fabrics, heavy duty bags, ropes and twines. The product is also suitable for the production of water-quenched blown film and monofilament.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 3.2 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1550 |
| Tensile strength at yield | (3) | ASTM D 638 | N/mm ² | 35 |
| Elongation at yield | (3) | ASTM D 638 | % | 12 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 55 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 102 |
| Vicat softening point (10N) | (3) | ASTM D 1525 | °C | 156 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 94 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 360 |

● T 30 SW 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



T 31 SE

T 31 SE is a polypropylene homopolymer particularly suited for clear and pigmented thermoforming applications.

T 31 SE offers high stiffness, excellent processability, good contact clarity and high gloss.

T 31 SE is increasingly used for the extrusion of sheet for thermoforming.

The main applications are vending cups, blister packs, packaging for dairy products, trays for biscuits, chocolates and fruits.

T 31 SE is also used for coextruded multilayer sheet with high barrier properties to produce retortable containers.

In thermoforming, polypropylene offers some distinct advantages over conventional materials like PVC and PS.

Polypropylene gives extensive food contact credentials, a good toughness-stiffness balance and excellent high temperature and chemical resistance.

Moreover, polypropylene offers easy recycling and is environmentally sound.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 3.8 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1650 |
| Tensile strength at yield | (3) | ASTM D 638 | N/mm ² | 36 |
| Elongation at yield | (3) | ASTM D 638 | % | 11 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 50 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 105 |
| Vicat softening point (10N) | (3) | ASTM D 1525 | °C | 156 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 114 |
| Haze | (4) | ASTM D 1003 | % | 35 |
| Gloss (45°) | (4) | ASTM D 523 | % | 63 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 360 |

● T 31 SE is suitable for food contact. (5)

- 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



T 36 F

T 36 F Is a polypropylene homopolymer for tenter BOPP film.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 3.2 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1500 |
| Tensile strength at yield | (3) | ASTM D 638 | N/mm ² | 36 |
| Elongation at yield | (3) | ASTM D 638 | % | 12 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 45 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 90 |
| Vicat softening point (10N) | (3) | ASTM D 1525 | °C | 153 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 95 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 360 |

● T 36 F is approved for food contact and medical applications. (5)

- 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



T 50 G

T 50 G is a heat and detergent resistant polypropylene homopolymer. The product is designed for injection moulding items which are subject to severe environmental conditions.

T 50 G offers good processability by injection moulding. Finished items produced with T 50 G show a good balance of stiffness and impact strength.

T 50 G is formulated with a very effective heat and detergent stabilisation package for both dry and wet environment.

The product also shows a high resistance to solvents and chemicals. In a dry environment items produced with T 50 G can withstand a continuous heat of 95°C for over 80.000 hours and 70°C for over 1.000.000 hours.

In a wet environment the items can resist to a continuous temperature of 95°C for over 10.000 hours and 70°C for over 130.000 hours. In a wet environment in the presence of detergents, the items can withstand 95°C for over 4.500 hours and 70°C for more than 50.000 hours.

Because of these properties, T 50 G is particularly suitable for injection moulding automotive under-the-hood applications and components for small household appliances such as irons, coffee machines, hair dryers and toasters.



Other typical applications are technical items such as parts for dish washers, washing machines and refrigerators.

T 50 G is also used for industrial parts such as chain links for conveyor belts and textile bobbins.

| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 3.0 |
| 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 | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 5 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 110 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 1800 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



HA 840 K

Polypropylene, High Crystallinity

HA840K is a nucleated high crystallinity homopolymer for extrusion, thermoforming and film applications.

HA840K features very high stiffness, high transparency, high gloss and good dimensional stability even at elevated temperatures. The main applications of HA840K are films and sheets, transparent food containers, containers for high temperature filling and articles where high gloss and high stiffness are required.



Technical data

| | |
|--|---|
| Haze | 30 % |
| Haze | 30 % (1000 u) |
| Density | 0.9 g/cm ³ |
| Melt flow rate (MFR) | 3.5 g/10 min (230°C/2.16kg) |
| Melt volume flow rate | 4.7 cm ³ /10min (230°C/2.16kg) |
| Tensile Modulus | 2150 MPa |
| Tensile Stress at Yield | 40 MPa |
| Tensile Strain at Break | 20 % |
| Tensile Strain at Yield | 7% |
| Charpy unnotched impact strength | 65 kJ/m ² (0 °C) |
| Charpy unnotched impact strength | 140 kJ/m ² (23 °C) |
| Charpy notched impact strength | 2.5 kJ/m ² (23 °C) |
| Heat deflection temperature B (0.45 MPa) | 113 °C Unannealed |
| Ball indentation hardness | 85 MPa (H 358/30) |
| Gloss | 95 % (60°) |
| Vicat softening temperature A/50 | 158 °C |
| Vicat softening temperature B/50 | 103 °C |



V 29 G

V 29 G is a polypropylene homopolymer featuring high fluidity and superior transparency. The product is designed for the production of three-part syringes and a wide range of medical articles. V 29 G is sterilisable both with gamma and E-beam irradiation and with ETO. The processability of V 29 G is excellent. Because of the high melt flow, mould filling is easy and cycle times are short. The warpage is minimal. Items produced with V 29 G feature good stiffness, high impact strength, and high chemical resistance and offer a really outstanding transparency. The major application for this product are highly transparent 3-part syringes and a diverse range of health-care items and labware such as needle hubs, pipette tips, test tubes, jugs, cylinders and containers.

Syringes and other end-items moulded with V 29 G are suitable for E-beam and gamma ray sterilisation and have a shelf life of well over 5 years after sterilisation with dosage levels of 2.5 Mrads.

Items moulded with this product are also suitable for sterilisation by ethylene oxide and heat. Because this product features outstanding transparency and higher stiffness than conventional random copolymers, V 29 G is also suitable for high quality household articles and packaging components.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | Dg / min | 18 |
| 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 | 31 |
| Elongation at yield | ISO R 527 | % | 15 |
| IZOD impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 4.5 |
| Hardness Shore D | ISO 868 | Points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 150 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 112 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hours | 200 |
| Optical Properties | | | |
| Haze | MTM 17031 | % | 15 |
| Gloss (45°C) | MTM 17021 | % | 62 |

- 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 latest under the society's current procedures.
- All specimens are prepared by injection moulding.



V 30 G

V 30 G is a polypropylene homopolymer with good flow properties for injection moulding and compounding applications.

V 30 G offers a medium-high fluidity, easy mould filling and short cycle times. The final items moulded with V 30 G exhibit good dimensional stability and high stiffness.

The product is well suited for the production of thin-walled articles and articles with long flow paths such as containers, boxes, caps, closures, household articles and toys.

V 30 G is also an excellent polymer base for compounding and master batches.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 16 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1550 |
| Tensile strength yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| 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 | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 117 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● V 30 G 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



V 79 S

V 79 S is a high fluidity polypropylene homopolymer for the production of staple fibres with improved thermo-bonding ability for nonwoven fabrics.

The product exhibits excellent antigasfading properties. V 79 S offers an outstanding process stability and spinning behaviour on short-spinning lines and some specific long-spinning lines.

The thermal-bonding ability is high and allows the production of nonwoven fabrics with a higher tear strength or with a lower weight per m² for the same strength. The fabrics made with V 79 S are characterised by softness, textile-like appearance and tear resistance.

The typical applications are coverstock for diapers, feminine care products and incontinence pads. Other applications are wipes, filters and fabrics for the clothing and furniture industry.



| 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 | 1550 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| 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 | 153 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 118 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hours | 120 |

● V 79 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



X 30 G

X 30 G is a polypropylene homopolymer for injection moulding. Because of its good flow properties, this grade offers easy processing.

Articles produced from X 30 G exhibit high stiffness. X 30 G is widely used for injection moulding consumer goods such as food containers, housewares, toys and garden furniture. Other major applications are components for appliances and parts for the automotive industry.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 9 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1500 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 115 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |

● X 30 G 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



X 30 S

X 30 S is a homopolymer particularly suited for the extrusion of cast and water quenched blown film. X 30 S is formulated with a general purpose stabilisation package and does not contain any slip or antiblocking agents.

X 30 S exhibits excellent processability and outstanding optical properties. This makes X 30 S particularly suitable for film for packaging food-stuffs such as pasta, snacks, biscuits, bakery products and confectionery.

Other applications include film for packaging for flowers, books, stationery, blankets, shirts, knitwear and hosiery.

X 30 S is also very appropriate for the extrusion of small pipes and drinking straws.

X 30 S can be used for lamination with polyester, polyamide and aluminium for packaging of snacks, crisps, sweets, coffee, meat products and pre-cooked foods.

In these applications, X 30 S gives an excellent high gloss finish in laminates and exhibits good printability after Corona treatment.

X 30 S can also be coextruded with and VALTEC heterophasic copolymer grades to produce high gloss finishes on blow moulded pigmented bottles and coextruded sheet.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 9 |
| 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 | 34 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 115 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |
| Optical Properties | | | |
| Haze | MTM 17031 | % | 1 |
| Gloss (45 °C) | MTM 17021 | % | 85 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



YD 50 G

YD 50 G is a high molecular weight polypropylene homopolymer for extrusion applications.

The product features excellent mechanical properties and an outstanding long-term heat ageing resistance.

YD 50 G is well suited for extrusion applications where both high stiffness and high impact strength are primary requirements.

Typical applications are the extrusion and compression moulding of thick sheet for technical and industrial applications and the extrusion of pipes and profiles.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | <0.3 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1450 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 33 |
| Elongation at yield | ISO R 527 | % | 14 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 13 |
| Hardness Shore D | ISO 868 | Points | 71 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 154 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 103 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 2250 |

● YD 50 G 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 accumulated.

b) ISO test methods are the latest under the society's current procedures.

All specimens are prepared by injection moulding.



YF 39 S

YF 39 S is a medium-high fluidity homopolymer designed for the production of staple fibres. YF 39 S exhibits excellent anti-gasfading properties.

YF 39 S offers a high process stability and a good thermal-bonding ability.

YF 39 S is mainly used for the production of staple fibres for non-woven fabrics for feminine care products, diapers, medical disposables, wipes, filters and linings.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 12 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1550 |
| Tensile strength at yield | (3) | ASTM D 638 | N/mm ² | 34 |
| Elongation at yield | (3) | ASTM D 638 | % | 12 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 30 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 102 |
| Vicat softening point (10N) | (3) | ASTM D 1525 | °C | 154 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 95 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 150 |

● YF 39 S suitable for food contact.

- 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition 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.



YS 32 S

YS 32 S is a polypropylene homopolymer specifically designed for clear and pigmented thermoforming applications. YS 32 S offers a very high stiffness, excellent contact clarity, high gloss and good antistatic properties.

YS 32 S allows stable, clean and easy processing.

Besides excellent optical properties, YS 32 S also offers excellent organoleptic properties and a good stiffness-impact balance.

The high temperature resistance allows to use this product for hot fill applications.

Extruded sheet of YS 32 S is ideally suited for thermoforming vending cups, blister packs, pots for dairy products and trays for biscuits, chocolates and fruits.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 2.0 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1600 |
| Tensile strength yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 11 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 14 |
| Hardness Shore D | ISO 868 | Points | 72 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 156 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 120 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |
| Optical Properties | | | |
| Haze | MTM 17031 | % | 32 |
| Gloss (45 °C) | MTM 17021 | % | 65 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



YX 37 F

YX 37 F is a polypropylene homopolymer developed for the high speed extrusion of transparent cast and blown film. YX 37 F is formulated with an effective slip and antiblocking package. YX 37 F is suitable for the extrusion of low thickness films and can be used for films from 15 up to 150 urn.

In compahson with standard polypropylene types for film production, YX 37 F allows for faster processing due to its peculiar structure and composition.

Films made with YX 37 F show a good behaviour on the winding rolls and in the cutting section and feature a very high transparency, a high gloss and a good printability after corona treatment.

Because of their high transparency and good handling properties, films made with YX 37 F are used for the production of shopping bags and packaging for snacks, bakery products, books, blankets, hosiery and shirts.

Another major application is the production of stationery folders, twines and ropes.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 9 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1200 |
| Tensile strength yield | ISO R 527 | N/mm ² | 32 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23 °C | ISO 180 | kJ/m ² | 4 |
| Hardness Shore D | ISO 868 | Points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 151 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 110 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 360 |
| Optical Properties | | | |
| Haze | MTM 17031 | % | 2 |
| Gloss (45 °C) | MTM 17021 | % | 80 |

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 latest under the society's current procedures.

All specimens are prepared by injection moulding.



Z 21 S

Z 21 S is a high melt flow homopolymer with a narrow molecular weight distribution for the high speed production of low denier continuous filament for spun bonded, nonwoven fabrics.

The major applications for spun bonded fabrics made of Z 21 S are diapers, medical and sanitary tissues, protective fabrics for agricultural, industrial and medical applications, backings and linings for the furniture, bedding and carpet industries.

Z 21 S can also be used for the production of partially oriented yarn and bulked continuous filament.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | Dg / min | 25 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1250 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 32 |
| Elongation at yield | ISO R 527 | % | 13 |
| IZOD impact strength (notched) at 23°C | ISO 180 | kJ/m ² | 3 |
| Hardness Shore D | ISO 868 | Points | 70 |
| Thermal properties | | | |
| Vicat softening point (9.8 N) | ISO 306/A | °C | 154 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 116 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hours | 150 |

● Z 21 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



Z 30 G

Z 30 G is a high flow homopolymer for injection moulding and compounding applications.

Z 30 G exhibits a high stiffness and an outstanding processability for shorter cycle times and easy mould filling. The product is suitable for injection moulding applications such as thin-walled containers and other general purpose packaging items, toys.

vacuum flasks, household and kitchen articles. Z 30 G also is an excellent polymer base for compounding and master batches.



| PROPERTIES (See notes overleaf) | | METHOD (b) | UNIT | |
|---|-----|--------------|-------------------|------|
| Melt Flow Rate (230 °C 2.16 kg) | (1) | ASTM D 1238L | Dg/min | 25 |
| Density | (2) | ASTM D 1505 | g/cm ³ | 0.9 |
| Flexural modulus | (3) | ASTM D 790 | N/mm ² | 1500 |
| Tensile strength at yield | (3) | ASTM D 638 | N/mm ² | 32 |
| Elongation at yield | (3) | ASTM D 638 | % | 13 |
| IZOD Impact Strength (notched) at 23°C | (3) | ASTM D 256 | J/m | 30 |
| Rockwell Hardness | (3) | ASTM D 785 | R scale | 100 |
| Vicat softening point (10N) | (3) | ASTM D 1525 | °C | 152 |
| HDT (0.46 N/mm ²) | (3) | ASTM D 648 | °C | 94 |
| Accelerated oven ageing air (forced circulation) at 150°C | | ASTM D 3012 | hours | 360 |

- 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 moulded specimen, type I (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 line with the conditions generally used by industrial converters. Specimens are conditioned at room temperature (ASTM D618 - Procedure A).
- 4) The composition of the product complies with FDA norms and the regulations in force in major European countries concerning polypropylene resins for use in food contact applications. Further details can be supplied on request.



Z 30 S

Z 30 S is a high melt flow homopolymer for the production of low denier BCF, CF and staple fibers at medium to high spinning speeds.

Z 30 S offers a high homogeneity, stable extrusion and excellent processability on both short and long spinning lines.

This grade allows a high stretch ratio and gives tough and resilient fibers.

Z 30 S is widely used for the production of bulked continuous filament for carpet face yarns. Another major application is the production of high tenacity continuous filament for straps for backpacks, handles for big bags and safety belts.

Continuous filament with medium tenacity is used for upholstery, sportswear and heavy duty dothing. Z 30 S is also suitable for the production of low denier staple fibres for thermobonding.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|--|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230°C, 2.16 kg) | ISO 1133 | Dg / min | 25 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1550 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| 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 | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 118 |
| Accelerated oven ageing in air (forced circulation) at 150°C | ISO 4577 | hours | 360 |

● Z 30 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.



Z 69 S

Z 69 S is a high melt flow homopolymer for the production of CF, BCF and staple fibres at medium to high spinning speeds. Z 69 S exhibits excellent anti-gasfading properties.

Z 69 S is suitable for low denier staple fibres for nonwoven fabrics for diapers, medical-sanitary applications and wipes. Another typical application is high tenacity continuous filament for straps for backpacks, sport bags, bulk bags and for safety belts.

Continuous filament with medium tenacity is used for upholstery and sportswear.

Z 69 S is also suited for the production of bulked continuous filament for carpets.



| PROPERTIES | METHOD (b) | UNIT | TYPICAL VALUE (a) |
|---|------------|-------------------|-------------------|
| Physical properties | | | |
| Melt flow rate (230 °C, 2.16 kg) | ISO 1133 | Dg / min | 25 |
| Density | ISO 1183 | g/cm ³ | 0.9 |
| Mechanical properties | | | |
| Flexural modulus | ISO 178 | N/mm ² | 1550 |
| Tensile strength at yield | ISO R 527 | N/mm ² | 35 |
| Elongation at yield | ISO R 527 | % | 13 |
| 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 | 155 |
| H.D.T. (0.46 Mpa) | ISO 75/B | °C | 118 |
| Accelerated oven ageing in air (forced circulation) at 150 °C | ISO 4577 | hours | 150 |

● Z 69 S 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 accumulated.
- b) ISO test methods are the latest under the society's current procedures.
- All specimens are prepared by injection moulding.