

# TECHNICAL DATASHEET

## PP 310MK40

### DESCRIPTION

PP 310MK40 is a nucleated polypropylene impact copolymer resin typically used for injection molding applications. Molded parts made from this resin exhibit balanced impact and stiffness. It contains anti-static agent.

### TYPICAL APPLICATIONS

PP 310MK40 can be used to produce crates, pails & appliance components. This product is not intended for use in medical and pharmaceutical applications.

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
Melt Flow Rate (MFR)			
230 °C/2.16 kg	24.5	g/10 min	ASTM D1238
Density	905	kg/m <sup>3</sup>	ASTM D1505
<b>MECHANICAL PROPERTIES <sup>(1) (2)</sup></b>			
Tensile Strength at Yield	26	MPa	ASTM D638
Tensile Strength at Break	17	MPa	ASTM D638
Flexural Modulus (1% Secant)	1430	MPa	ASTM D790 A
Izod Impact Strength			
Notched, 23 °C	9	kJ/m <sup>2</sup>	ISO 180
Notched, -20 °C	6	kJ/m <sup>2</sup>	ISO 180
Rockwell Hardness, R-Scale	91	-	ASTM D785
<b>THERMAL PROPERTIES <sup>(1) (2)</sup></b>			
Vicat Softening Point	151	°C	ASTM D1525
Heat Deflection Temperature at 455kPa	124	°C	ASTM D648

(1) Typical values only, not to be construed as specification limits

(2) Test specimen preparation method : Pursuant to ASTM D4101

### PROCESSING CONDITIONS

Typical Processing conditions for 310MK40 are:

Recommended melt temperature : 190 - 230 °C

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50 °C. We would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery

# TECHNICAL DATASHEET

## PP 310MK10

### DESCRIPTION

PP 310MK10 is a nucleated polypropylene impact copolymer for injection molding applications. Molded parts made from this resin exhibit balanced impact and stiffness.

### TYPICAL APPLICATIONS

P 310MK10 can be used to produce crates, pails & appliance components. This product is not intended for use in medical and pharmaceutical applications.

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
Melt Flow Rate (MFR)			
230 °C / 2.16 kg	24.5	g/10 min	ASTM D1238
Density	905	kg/m <sup>3</sup>	ASTM D1505
<b>MECHANICAL PROPERTIES</b>			
Tensile Strength at Yield	24	MPa	ASTM D638
Tensile Strength at Break	17	MPa	ASTM D638
Flexural Modulus	1290	MPa	ASTM D790
Izod Impact Strength			
Notched, 23 °C	8	kJ/m <sup>2</sup>	ISO 180
Notched, -20 °C	5	kJ/m <sup>2</sup>	ISO 180
Rockwell Hardness, R-Scale	90	-	ASTM D785
<b>THERMAL PROPERTIES</b>			
Vicat Softening Point	151	°C	ASTM D1525
Heat Deflection Temperature at 455kPa	109	°C	ASTM D648

### PROCESSING CONDITIONS

Typical Processing conditions for 310MK10 are:

Recommended melt temperature: 190 - 230 °C

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50 °C. would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery.

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Any sale by , its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

# TECHNICAL DATASHEET

## PP QR6711K

### DESCRIPTION

PP QR6711K is a PP random grade with narrow molecular weight distribution intended specifically for producing injection molded articles with high clarity. This grade contains advanced clarifier & anti-static agent. © PP QR6711K has the following features: Consistent processability; Good stiffness; Exceptional clarity; Low thickness; Low warpage; Easy to flow; Better cycle time comparing to normal PP random copolymer grades; Less energy consumption.

### TYPICAL APPLICATIONS

QR 6711K can be used for clear thin-walled containers & boxes, housewares, caps & closures and lids.

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
<b>Melt Flow Rate</b>			
at 230 °C and 2.16kg	45	g/10 min	ASTM D1238
<b>Density</b>			
at 23 °C	905	kg/m <sup>3</sup>	ASTM D792
<b>MECHANICAL PROPERTIES</b>			
<b>Tensile Properties (1)</b>			
stress at yield	28	MPa	ASTM D638
strain at yield	13	%	ASTM D638
Flexural Modulus (1% Secant) (1)	1150	MPa	ASTM D790
<b>Izod Impact Strength (1)</b>			
notched, at 23 °C	56	J/m	ASTM D256
Rockwell Hardness, R-Scale (1)	85	-	ASTM D785
<b>THERMAL PROPERTIES</b>			
Vicat Softening Temperature	124	°C	ASTM D1525
Heat Deflection Temperature			
at 455kPa	71	°C	ASTM D648

(1) Based on injection molded specimens

### PROCESSING CONDITIONS

Typical processing conditions for QR6711K are

# TECHNICAL DATASHEET

## PP QR6711K

Barrel temperature range: 185 - 225°C.

Mold Shrinkage: 1.2 - 2.0% depending on wall thickness and processing conditions. Mold Temperature:  
Normally in the range of 25 - 40°C.

### HEALTH, SAFETY AND FOOD CONTACT REGULATIONS

PP QR6711K is suitable for food contact application. Detailed information is provided in relevant documents / certificates and for additional specific information please contact local representative. **DISCLAIMER:** This product is not intended for and must not be used in any pharmaceutical / medical applications.

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. We would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery.

### DISCLAIMER

The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties.

It is the customer's responsibility to inspect and test our product(s) in order to satisfy itself as to the suitability of the product(s) for its and its customers particular purposes. The customer is responsible for the appropriate, safe and legal use, processing and handling of all product(s) purchased from us.

Nothing herein is intended to be nor shall it constitute a warranty whatsoever, in particular, warranty of merchantability or fitness for a particular purpose. as referred to herein means any legal entity belonging to the group of companies headed by Saudi Arabia Basic Industries Corporation.

# TECHNICAL DATASHEET

## PP QR6701K

### DESCRIPTION

PP QR6701K is specially developed for producing injection molded & ISBM articles with very high clarity at low processing temperatures. This grade contains advanced clarifier and anti-static agent.

® PP QR6701K has the following features: Consistent processability; Good stiffness; Excellent clarity; Lower energy consumption and less cycle time due to low processing temperatures.

### TYPICAL APPLICATIONS

PP QR6701K can be used for clear housewares & packaging items, appliances, caps & closures, lids and bottles (ISBM).

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES <sup>(1)</sup></b>			
Melt Flow Rate			
at 230° C and 2.16kg	10	g/10 min	ASTM D1238
Density			
at 23° C	905	kg/m <sup>3</sup>	ASTM D792
<b>MECHANICAL PROPERTIES <sup>(2)</sup></b>			
Tensile Properties			
Strength @ Yield	28	MPa	ASTM D638
Elongation @ Yield	12	%	ASTM D638
Flexural Modulus (1% Secant) <sup>(2)</sup>	1050	MPa	ASTM D790 A
Izod Impact Strength			
notched, at 23° C	85	J/m	ASTM D256
Rockwell Hardness, R-Scale	94	-	ASTM D785
<b>THERMAL PROPERTIES</b>			
Vicat Softening Temperature	128	°C	ASTM D1525
Heat deflection temperature			
at 455kPa	83	°C	ASTM D648

(1) Typical values; not to be construed as specification limits.

(2) Based on injection molded specimens

### PROCESSING CONDITIONS

Typical processing conditions for QR6701K are:

Barrel temperature range: 190 - 220 °C.

Mold Shrinkage: 1.2 - 2.0 % depending on wall thickness and processing conditions.

Mold Temperature: Normally 15 - 40° C, up to 65° C for thick part

# TECHNICAL DATASHEET

## PP QR6701K

### HEALTH, SAFETY AND FOOD CONTACT REGULATIONS

Material Safety Data Sheets (MSDS) and Product Safety declarations are available on our Internet site <http://www.ramzpf.com> For additional specific information please contact local representative.

DISCLAIMER: This product is not intended for and must not be used in any pharmaceutical / medical applications.

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery.

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# TECHNICAL DATASHEET

## PP 500P

### DESCRIPTION

PP 500P is a medium flow, multipurpose grade for extrusion and injection molding applications.

### TYPICAL APPLICATIONS

If applied for extrusion 500P shows an excellent stretch ability and is therefore suitable for tapes and strapping, high tenacity yarns and carpet backing. It can also be used in ropes and twines, woven bags, flexible intermediate bulk containers, geotextiles and concrete reinforcements.

For thermoforming it shows a unique balance between transparency, impact resistance and thickness uniformity.

500P is also suitable for production of injection molded articles e.g. caps and closures and house ware products, where this grade shows a high stiffness, combined with a fair impact resistance and very good surface hardness.

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
Melt Flow Rate			
at 230° C and 2.16kg	3	g/10 min	ASTM D1238
Density			
at 23° C	905	kg/m <sup>3</sup>	ASTM D638
<b>MECHANICAL PROPERTIES</b>			
Flexural Modulus (1% Secant)	1500	MPa	ASTM D790 A
Izod Impact Strength			
notched, at 23° C	25	J/m	ASTM D256
Rockwell Hardness, R-Scale	102	-	ASTM D785
<b>FILM PROPERTIES</b>			
Tensile Properties <sup>(1)</sup>			
stress at yield	35	MPa	ASTM D638
strain at yield	10	%	ASTM D638
<b>THERMAL PROPERTIES</b>			
Vicat Softening Temperature	152	°C	ASTM D1525
Heat deflection temperature <sup>(2)</sup>			
at 455kPa	100	°C	ASTM D648

(1) Based on injection molded specimens.

(2) Flat wise ( testbar 80\*10\*4mm)

### PROCESSING CONDITIONS

Typical processing conditions for 500P are:

Barrel temperature range: 235 - 2

# TECHNICAL DATASHEET

## PP 500P

### HEALTH, SAFETY AND FOOD CONTACT REGULATIONS

Material Safety Data Sheets (MSDS) and Product Safety declarations are available on our Internet site <http://www.ramzpf.com> For additional specific information please contact local representative.

The product mentioned herein is in particular not tested and therefore not validated for use in pharmaceutical/ medical applications.

This grade material is UL registered under File E111275 ([www.ul.com](http://www.ul.com)).

### QUALITY

Europe is fully certified in accordance with the internationally accepted quality standard ISO9001.

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. We would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery.

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# TECHNICAL DATASHEET

## PP 312MK40

### DESCRIPTION

PP 312MK10 is a high flow nucleated polypropylene block copolymer resin typically used for injection molding applications. Molded parts made from this resin exhibit balanced impact and stiffness.

### TYPICAL APPLICATIONS

PP 312MK10 can be used to produce crates, electrical appliances, thin wall and industrial products. This product is not intended for use in medical and pharmaceutical applications.

### TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
Melt Flow Rate @ 230°C/2.16 kg	39	g/10 min	ASTM D1238
Density	905	kg/m <sup>3</sup>	ASTM D1505
<b>MECHANICAL PROPERTIES <sup>(1) (2)</sup></b>			
Tensile Strength at Yield	24	MPa	ASTM D638
Tensile Strength at Break	16	MPa	ASTM D638
Flexural Modulus	1280	MPa	ASTM D790
Izod Impact Strength			
Notched, 23°C	9	kJ/m <sup>2</sup>	ISO 180
Notched, -20°C	5	kJ/m <sup>2</sup>	ISO 180
Rockwell Hardness, R-Scale	86	-	ASTM D785
<b>THERMAL PROPERTIES</b>			
Vicat Softening Point	149	°C	ASTM D1525
Heat Deflection Temperature at 455kPa	118	°C	ASTM D648

(1) Typical values only, not to be construed as specification limits

(2) Test specimen preparation method : Pursuant to ASTM D4101

### PROCESSING CONDITIONS

Typical Processing conditions for 312MK10 are:

Recommended melt temperature : 190 - 230 °C

### HEALTH, SAFETY AND FOOD CONTACT REGULATIONS

Material Safety Data Sheets (MSDS) and Product Safety declarations are available on our Internet site <http://www.ramzpf.com> For additional specific information please contact local representative.

### STORAGE AND HANDLING

Polypropylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PP resin within 6 months after delivery