Polypropylene (PP) is one of the most versatile of the bulk polymers. Its intrinsic properties of high stiffness, good tensile strength, good processability and inertness towards acid, alkalis and solvents has secured its position in a wide range of consumer and industrial products, manufactured by several high volume forming methods.

In addition, its low density and cost advantage over other thermoplastic polymers make it suitable for applications that are weight and cost conscious. These properties plus good heat resistance and ease of recycling has made PP the polymer of choice in the automotive industry where 50 percent of all plastics used in passenger cars is PP.

Key applications include packaging, fibres and automotive parts. Injection moulded PP has applications in packaging, automotive, electronic and electrical appliances, houseware, toys and luggage. PP fibres are used in carpets, clothing and non-woven, while its combined strength and resistance has led to the replacement of sisal and jute in ropes, twine and string. Film grade PP offers excellent optical clarity and low moisture vapour transmission with uses in the packaging of sweets, snack foods and cigarettes, capacitors and other electronic films, photo and graphic arts applications, and pressure sensitive tape backing and labels. IPP (Isotactic PP) film grades can be used for clothing packaging (China) and food packaging (Thailand). BOPP film is mainly used in food and cigarette packaging in Asia. The difference between IPP usage and BOPP usage is that IPP grades are more popular with smaller scale converters, while BOPP is used for larger converters.

Copolymer PP is used in car and truck bumper manufacturing and has medical applications as well. PP sheet is used in thermoformed food containers, which can be blow or injection moulded. Polypropylene can be extruded for use in pipe and conduit, wire and cable, while atactic polypropylene finds outlets in paper laminating, sealants and adhesives.

**Density (at 20°C)**  
0.88-0.91

**Vicat Softening Point (°C)**  
154

**Melting Temperature (°C)**  
170-172

**Tensile Strength (Mpa)**  
29.3-38.6

**Tensile Elongation at rupture (%)**  
20-600

**Impact strength (notched Izod)**  
21
PP fibres are used in carpets, clothing and non-woven, while its combined strength and resistance has led to the replacement of sisal and jute in ropes, twine and string. In the Middle East, typical melt flow index is of 25.0.

**ICIS news Data**

ICIS pricing quotes Polypropylene in *Europe*, *Asia-Pacific*, the *USA*, *Middle East/West Asia*, *Latin America* and *Africa*.

**Frequency:**

Published weekly on Fridays, and the Africa report on Wednesdays.

**Polypropylene (EUROPE)**

*The FD EU quote represents gross delivered prices, later discounted, throughout Europe. It does not reflect net business in any part of Europe.*

**Weekly Price Assessments:**

*Co-Polymer Spot Prices (Net)*

- FD NWE (EUR/MT & conversion to US CTS/LB)

*Homo-Polymer Raffia Spot Prices (Net)*

- FD NWE (EUR/MT & conversion to US CTS/LB)
- FOB NWE (USD/MT & conversion to US CTS/LB)
- EXW Russia Rb/MT (conversion to EUR/MT)

*Homo-Polymer Injection Spot Prices (Net)*

- FD NWE (EUR/MT & conversion to US CTS/LB)
- CFR Turkey (USD/MT & conversion to US CTS/LB)

*Raffia Domestic Prices (gross)*

- FD EU (EUR/MT & conversion to US CTS/LB)
- FD UK (GBP/MT & conversion to US CTS/LB)
Injection Domestic Prices (gross)

- FD EU (EUR/MT & conversion to US CTS/LB)
- FD UK (GBP/MT & conversion to US CTS/LB)

Co-Polymer (bloc) Domestic Prices (gross)

- FD EU (EUR/MT & conversion to US CTS/LB)
- FD UK (GBP/MT & conversion to US CTS/LB)

Polypropylene Feedstock Prices (gross)

- PROPYLENE FD NWE Monthly (EUR/MT)

**Polypropylene (ASIA-PACIFIC)**

**Weekly Price Assessments:**

**BOPP Film Spot Prices (All origins)**

- CFR CHINA MAIN PORT (USD/MT & conversion to US CTS/LB)
- CFR HONG KONG (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (USD/MT & conversion to US CTS/LB)

**BOPP Film Spot Prices**

- CFR S.E.ASIA (subject to import duties of 5% to 20%) (USD/MT & conversion to US CTS/LB)
- **CFR S.E.ASIA** (not subject to import duty) (USD/MT & conversion to US CTS/LB)

**IPP Film Spot Prices (All origins)**

- CFR CHINA MAIN PORT (USD/MT & conversion to US CTS/LB)
- CFR HONG KONG (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (USD/MT & conversion to US CTS/LB)

**IPP Film Spot Prices**

- CFR S.E.ASIA (subject to import duties of 5% to 20%) (USD/MT & conversion to US CTS/LB)
- **CFR S.E.ASIA** (not subject to import duty) (USD/MT & conversion to US CTS/LB)

**Injection Spot Prices (All origins)**

- CFR CHINA MAIN PORT (Exclude non-dutied sources) (USD/MT & conversion to US CTS/LB)
- CFR HONG KONG (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (USD/MT & conversion to US CTS/LB)

**Flat yarn (Raffia) Spot Prices (All origins)**

- CFR CHINA MAIN PORT (Exclude non-dutied sources) (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (USD/MT & conversion to US CTS/LB)

**Flat yarn (Raffia) Spot Prices**

- CFR S.E.ASIA (subject to import duties of 5% to 20%) (USD/MT & conversion to US CTS/LB)
- **CFR S.E.ASIA** (not subject to import duty) (USD/MT & conversion to US CTS/LB)

**Block Co-Polymer (General Purpose Grades) Spot Prices (All origins)**

- CFR CHINA MAIN PORT (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (USD/MT & conversion to US CTS/LB)

**Block Co-Polymer (General Purpose Grades) Spot Prices**

- CFR S.E.ASIA (subject to import duties of 5% to 20%) (USD/MT & conversion to US CTS/LB)
- **CFR S.E.ASIA** (not subject to import duty) (USD/MT & conversion to US CTS/LB)
Polypropylene Feedstock Prices

- PROPYLENE CFR N.E.ASIA (USD/MT)

Polypropylene (CHINA)

Weekly Price Assessments:

Import Prices (spot) – CFR China

- BOPP FILM (USD/MT)
- IPP FILM (USD/MT)
- INJECTION (USD/MT)
- FLATYARN (RAFFIA) (USD/MT)
- BLOCK CO-POLYMER (GENERAL PURPOSE GRADES) (USD/MT)

Import Prices (spot) – CFR China, Tax & Duty Paid (CNY)

- BOPP FILM (CNY/MT)
- IPP FILM (CNY/MT)
- INJECTION (CNY/MT)
- FLATYARN (RAFFIA) (CNY/MT)
- BLOCK CO-POLYMER (GENERAL PURPOSE GRADES) (CNY/MT)

Domestic Prices (spot)

- INJECTION EXWH (CNY/MT)
- FLATYARN (RAFFIA) EXWH (CNY/MT)
- BLOCK CO-POLYMER (0.3 ≤ MI ≤ 3) EXWH (CNY/MT)
- BLOCK CO-POLYMER (20 ≤ MI ≤ 30) EXWH (CNY/MT)

Regional Spot Prices

China produced Injection (spot)

- NORTH CHINA EXWH (CNY/MT)
- EAST CHINA EXWH (CNY/MT)
- SOUTH CHINA EXWH (CNY/MT)
Imported Injection (spot)

- EAST CHINA EXWH (CNY/MT)

China produced Flat yarn (Raffia) (spot)

- NORTH CHINA EXWH (CNY/MT)
- EAST CHINA EXWH (CNY/MT)
- SOUTH CHINA EXWH (CNY/MT)

Imported Flat yarn (Raffia) (spot)

- EAST CHINA EXWH (CNY/MT)

China produced Block Co-Polymer (0.3 \leq MI \leq 3) (spot)

- NORTH CHINA EXWH (CNY/MT)
- EAST CHINA EXWH (CNY/MT)
- SOUTH CHINA EXWH (CNY/MT)
- SOUTHWEST CHINA EXWH (CNY/MT)

China produced Block Co-Polymer (20 \leq MI \leq 30) (spot)

- EAST CHINA EXWH (CNY/MT)

Imported Block Co-Polymer (20 \leq MI \leq 30) (spot)

- EAST CHINA EXWH (CNY/MT)

Polypropylene (USA)

Weekly Price Assessments:

Homopolymer Contract Prices

- BULK (INJ) DEL (US CTS/LB & conversion to USD/MT)
- BULK (RAFFIA) DEL (US CTS/LB & conversion to USD/MT)
- BULK FILM (BOPP) DEL (US CTS/LB & conversion to USD/MT)

Co-Polymer Contract Prices

- BULK DEL (US CTS/LB & conversion to USD/MT)
GP FILM DEL (US CTS/LB & conversion to USD/MT)

Export Prices, Bagged Material

- RAFFIA FOB USG (US CTS/LB & conversion to USD/MT)
- INJECTION FOB USG (US CTS/LB & conversion to USD/MT)

Polypropylene (MIDDLE EAST/SOUTH ASIA)

Weekly Price Assessments:

IPP Film Spot Prices

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)
- CFR PAKISTAN (USD/MT & conversion to US CTS/LB)
- CFR INDIA MAIN PORT (USD/MT & conversion to US CTS/LB)

BOPP Film Spot Prices

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)
- CFR PAKISTAN (USD/MT & conversion to US CTS/LB)
- CFR INDIA MAIN PORT (USD/MT & conversion to US CTS/LB)

Injection Spot Prices

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)
- CFR PAKISTAN (USD/MT & conversion to US CTS/LB)
- CFR INDIA MAIN PORT (USD/MT & conversion to US CTS/LB)

Fibre Spot Prices

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)

Flat yarn Spot Prices

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)
- CFR PAKISTAN (USD/MT & conversion to US CTS/LB)
- CFR INDIA MAIN PORT (USD/MT & conversion to US CTS/LB)
- FOB Saudi Arabia (USD/MT & conversion to US CTS/LB)
- DEL Saudi Arabia (USD/MT & conversion to US CTS/LB)
- DEL west India (INR/KG & conversion to US CTS/LB)

**Block Copolymer Spot Prices**

- CFR GCC* (USD/MT & conversion to US CTS/LB)
- CFR EAST MED (USD/MT & conversion to US CTS/LB)
- CFR PAKISTAN (USD/MT & conversion to US CTS/LB)
- CFR INDIA MAIN PORT (USD/MT & conversion to US CTS/LB)

**IPP Film List Prices**

- DEL India (Rs/kg & conversion to US CTS/LB)

**BOPP Film Spot Prices**

- DEL India (Rs/kg & conversion to US CTS/LB)

**Injection List Prices**

- DEL India (Rs/kg & conversion to US CTS/LB)

**Flat yarn List Prices**

- DEL India (Rs/kg & conversion to US CTS/LB)

**Block copolymer List Prices**

- DEL India (Rs/kg & conversion to US CTS/LB)

* Cooperation Council for Arab States of the Gulf.
Polypropylene (LATIN AMERICA)

Weekly Price Assessments:

*General Purpose (Raffia) Package Domestic Prices*

- DEL ARGENTINA (ARS/MT & conversion to USD/MT)
- FOT BRAZIL (BRL/MT & conversion to USD/MT)
- DEL CHILE (CLP/KG & conversion to USD/MT)
- FOT COLOMBIA (COP/MT & conversion to USD/MT)
- FOT MEXICO (MXN/KG & conversion to USD/MT)
- FOT VENEZUELA (VEF/MT & conversion to USD/MT)

*Injection Package Domestic Prices*

- DEL ARGENTINA (ARS/MT & conversion to USD/MT)
- FOT BRAZIL (BRL/MT & conversion to USD/MT)
- DEL CHILE (CLP/KG & conversion to USD/MT)
- FOT COLOMBIA (COP/MT & conversion to USD/MT)
- FOT MEXICO (MXN/KG & conversion to USD/MT)
- FOT VENEZUELA (VEF/MT & conversion to USD/MT)

*General Purpose (Raffia) International Prices*

- FOB ARGENTINA (US CTS/LB & conversion to USD/MT)
- FOB BRAZIL (US CTS/LB & conversion to USD/MT)
- CFR CHILE (US CTS/LB & conversion to USD/MT)
- FOB COLOMBIA (US CTS/LB & conversion to USD/MT)
- DAF MEXICO (US CTS/LB & conversion to USD/MT)
- FOB VENEZUELA (US CTS/LB & conversion to USD/MT)

*Injection Package International Prices*

- FOB ARGENTINA (US CTS/LB & conversion to USD/MT)
- FOB BRAZIL (US CTS/LB & conversion to USD/MT)
- CFR CHILE (US CTS/LB & conversion to USD/MT)
- FOB COLOMBIA (US CTS/LB & conversion to USD/MT)
- DAF MEXICO (US CTS/LB & conversion to USD/MT)
- FOB VENEZUELA (US CTS/LB & conversion to USD/MT)
Polypropylene (AFRICA)

Weekly Price Assessments

Homopolymer (Raffia) Spot Prices

- CFR EGYPT (USD/MT)
- CFR NORTHERN AFRICA (USD/MT)
- FD SOUTH AFRICA (ZAR/MT)
- CFR EASTERN AFRICA (USD/MT)
- CFR WESTERN AFRICA (USD/MT)

Block Copolymer (General Purpose Grades) Spot Prices

- CFR EGYPT (USD/MT)
- CFR NORTHERN AFRICA (USD/MT)
- FD SOUTH AFRICA (ZAR/MT)
- CFR EASTERN AFRICA (USD/MT)
- CFR WESTERN AFRICA (USD/MT)

General Information:

Assessment window: Price assessments are based on information supplied by market participants through the week up to close of business on Fridays at 1800 hours in London, Singapore and Houston. In Africa, price assessments are based on information supplied by market participants through the week up to close of business on Wednesdays at 1700 hours in London.

Specification: ICIS pricing assesses IPP (Inflated PP), injection, yarn, block-copolymers and BOPP (Bi-axially Oriented PP) film grades, except for China where producers’ list prices for BOPP are mentioned in the text. Prices for random copolymers are discussed in the text.
Homopolymer injection and flat yarn grade covers material with a melt flow rate (MI) of 2-30. In the China report, block-copolymer prices reflect local product of MI 10 or less, and imported material of MI 1-30. Block-copolymer in other markets covers a melt flow index of between 1-30.

**Timing:** Cargoes typically loading or delivered two-four weeks forward from the date of publication. In the China and India domestic markets, cargoes are for delivery one week forward from the date of publication. In Africa, cargoes are typically loading or delivered two-four weeks forward from the date of publication.

**Terms:** Typically 30-60 days after bill of lading date. Assessments for China, Hong Kong, Taiwan, Southeast Asia and India are based on a LC at sight basis only, although deals with differing credit terms will be taken into consideration. Spot delivered prices in Europe and USA are typically based on 30-60 days credit. In the China report, first-tier distributors’ price quotes are for payment at sight. In the Africa report, terms are typically 30-90 days after bill of lading date.

**Standard cargo size:** USA prices are based on a delivered basis for annual volume purchases of 10-20 million lbs/annum. In Asia and the Middle East, bulk parcels are in the range of 100-1,000 tonnes. In the **China** report, typical transaction volume for local and imported material is 5-100 tonnes in bags. In the US, standard size for railcars is between 170,000-195,000 lb. Bulk trucks are 45,000 lbs, and 65,000-75,000 lbs in Canada. Export containers carry 40,000-50,000 lbs in bags or “super sacks”. In Europe and Latin America there is no standard cargo size although typical parcel size is 4-20 tonne truckloads. In Africa, CFR bulk parcels are in the range of 100-500 tonnes. There is no FD standard size although typical parcel size is 4-20 tonnes in bag or bulk. FD standard size for truck loads is 33 tonnes in South Africa.

**Assessment basis:** The ICIS pricing polypropylene price assessments are based on information gathered from the market throughout the week. The assessment of prices takes into consideration the following: transactions and deals, bids and offers, buy and sell indications and notional discussions throughout the week. In the event of the lack of confirmed trades, published price ranges represent the highest reasonable bids received and the lowest reasonable sell indications of the week.

For the **Africa** report, published price ranges include price ideas from producers, distributors and buyers. In the absence of confirmation from all sides, editorial judgement will be used in assessing price ranges.
All regional reports offer market commentary that includes details of traced transactions, news on the supply/demand balance, export/import information, contract price negotiations and general sentiment for price direction. Where applicable, there is product information, comments on up and downstream market developments and general market intelligence.

European and US contract price assessments are quoted on a gross basis and do not take account of any discounts or rebates which may be applied on a case by case basis negotiable between individual suppliers and customers. Spot prices are net of discounts.

Contract prices in the US are usually established on a delivered (DEL) basis, but a premium can be added for long distances. Contracts can be freely negotiated, or index or monomer based, or any combination of these. Freely negotiated contracts are usually negotiated monthly, but terms are flexible. During a month, prices may change once, or more than once, or not at all.

The European report includes a formal Russian rouble denominated homopolymer raffia spot price assessment. These figures are quoted on an ex-works basis and include 18% VAT. The Euro quote is a conversion based on the day’s exchange rate noted at the end of the report.

The Asia report quotes spot prices for cargoes 100 tonnes and above for China, and Southeast Asia. Middle East cargo sizes are between 100-500 tonnes. Chinese prices usually set the trend in Asia, but are not necessarily the highest in the region. S.E.Asian numbers tend to be USD 10/tonne higher, and Hong Kong/Taiwan prices tend to be USD 10/tonne lower. Domestic prices in China and Southeast Asia are mentioned in the text. China Main Port cover Shanghai, Ningbo, Xiamen, Shenzhen, Huangpu, Guangzhou, Xingang and Qindao port.

In China, the price assessments for locally produced material across China and imported material in east China reflect transactions, bids/buying indications and offers/selling indications of local distributors, of which 70-80% are first-tier distributors and 20-30% are second-tier distributors. The price assessments for imported material in north and south China reflect transactions, bids/buying indications and offers/selling indications of local distributors, of which 10-20% are first-tier distributors and 80-90% are second-tier distributors. The ex-warehouse (EXWH) prices include VAT. A first-tier distributor is a company that buys directly from a local producer or a foreign supplier.
The All China price quotes are reflective of EXWH prices of imported and local materials in north, south and east China. North China prices cover Tianjin, Beijing, Henan, Hebei and Shandong. East China prices cover Shanghai, Zhejiang and Jiangsu. South China prices cover Guangdong and Fujian. Northeast prices cover Heilongjiang, Jilin and Liaoning. Northwest prices cover Xinjiang, Gansu and Shaanxi. Southwest prices cover Chongqing and Sichuan. The CFR China, tax & duty paid (CNY/MT) price quotes are derived by adding 17% value-added tax and the corresponding import duties (see below table) onto the China CFR prices published in ICIS pricing’s weekly Asia Pacific report. The prices do not include customs clearance and port charges. The applied currency exchange rate is the official US dollar/renminbi rate published by the People’s Bank of China (www.pbc.gov.cn) on Friday afternoons.

<table>
<thead>
<tr>
<th>Most favoured nations</th>
<th>Asean countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homopolymers (HS code 39021000)</td>
<td>Brunei Cambodia Indonesia Laos Malaysia Myanmar Philippines Singapore Thailand Vietnam</td>
</tr>
<tr>
<td>6.5</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>PP block copolymer (HS code 39023090)</td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>PP block copolymer (HS code 39023010)</td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most favoured nations</th>
<th>Asia Pacific Chile Pakistan Singapore New Zealand Peru Hong Kong Macau Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homopolymers (HS code 39021000)</td>
<td>6.5 6.5 1.3 5 0 0 6.5 0 0 6.5</td>
</tr>
<tr>
<td>PP block copolymer (HS code 39023090)</td>
<td>6.5 6 1.3 5 0 0 0 6.5 6.5</td>
</tr>
<tr>
<td>PP block copolymer (HS code 39023010)</td>
<td>6.5 6 1.3 5 0 0 0 6.5 0</td>
</tr>
</tbody>
</table>

The Polypropylene Flatyarn (Raffia) and Injection CFR SE Asia (All origins) assessments reflect import prices in Indonesia, Malaysia, Thailand and the Philippines for dutiable and non-dutiable products.
The **Middle East/South Asia** report includes pricing information in the GCC, East Med, India and Pakistan. The GCC region includes Kuwait, Bahrain, Oman, Qatar, Saudi Arabia and the U.A.E, while the East Med region comprises Syria, Jordan and Lebanon. Pricing information focuses primarily on imported material into each of these regions. Details of domestic trading activity and prices are also included in the report’s market commentary.

DEL Saudi Arabia prices are based on transactions or buy-sell discussions of domestic material in the Saudi Arabian domestic market, while FOB Saudi Arabia prices are based on local originated cargoes, heading to parts of Europe, northern Africa and Turkey. DEL India list prices are prices announced by local producers, inclusive of excise duty, but exclusive of discounts. DEL west India spot prices are deal done prices and discussion levels in the open Indian domestic market by traders to converters and/or importers.

In Latin America, low volumes of polypropylene are traded within the region, which also imports small volumes from the US and from Asia when arbitrage conditions allow.

The Latin American Polypropylene report includes prices for general purpose (raffia) and injection grade homopolymers. Assessments are provided for key Latin American countries. The prices reported include domestic prices in local currencies and also in US dollars/tonne. The report also provides international prices (import/export activity, whatever is applicable to a given country). Domestic prices in Brazil include a tax called PIS/COFINS that varies depending on destination. Although this tax is recoverable, buyers and sellers quote prices that include this tax (on average around 9.25 percent) on a regular basis.

In the US, domestic/contract prices are assessed for two major categories or product types: homopolymer and copolymer. Within these categories, prices are further designated by volume, more specifically bulk or package, and specific grade— injection, raffia, or film (GP or BOPP). In the export/spot market, prices are assessed on a weekly basis for bagged material. The two grades offered are raffia and injection.

The Africa report carries information on spot CFR prices, usually for lots of 100-500 tonnes.
The Egypt quote covers main ports in Egypt (Alexandria, Port Said, Damietta and ports under Red Sea Port Authority). Northern Africa covers main ports in Morocco (Casablanca and Tangier), Algeria (Algiers, Bejaia and Annaba) and Tunisia (Tunis). Eastern Africa covers main ports in Kenya (Mombasa), Tanzania (Dar-es-Salaam) and Ethiopia (via Djibouti). Western Africa covers main ports in Nigeria (Apapa in Lagos) and Ghana (Tema).

The FD South Africa quote represents sales of South African and imported product in the South African Rand (ZAR) currency.

10 September 2013