Chemicals

Fibres Alcudia® Polyethylene/ Isplen® Polypropylene
Chemicals

In its chemical activity, Repsol produces and markets a wide variety of products, ranging from base petrochemicals to derivatives.

Repsol’s chemical production in Europe is based at three large petrochemical complexes, two in Spain, in Puertollano and Tarragona, and one in Sines, Portugal.

The Polyolefin Business Unit has a production capacity of over 1,400,000 tonnes a year, distributed among low density polyethylene (LDPE) and high density polyethylene (HDPE), ethylene vinyl acetate copolymers (EVA), ethylene butyl acrylate copolymers (EBA) and polypropylene (PP).

Fibres: bonded by commitment

As proof of its firm commitment to clients, Repsol is increasing its investment, acquiring new production technologies and developing new applications.

The acquisition of the Petrochemical Complex in Sines, has enabled Repsol to extend its product range with a new application: high-density polyethylene fibre.

This application gives the company the edge over its European competitors in technology and range: grades for easy processability tapes, with excellent optical and mechanical properties, and grades for production of medium to very high-toughness monofilaments. A vast range of products for manufacturing:

- Fishing nets
- High strength mooring ropes
- Ropes an twines
- Nets for packaging
- High-toughness tapes
- Protective netting

It is from this ability to adapt grades to our clients’ needs, helping them to create better products, from which Repsol draws its inspiration to move ahead.
Polypropylene

**Non-woven textiles**

<table>
<thead>
<tr>
<th>Grade</th>
<th>MFI</th>
<th>Properties</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO1133-g/10' 190°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.16 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP050Y1E</td>
<td>6</td>
<td>Good mechanical properties, general purposes</td>
<td>Tapes and monofilaments for general purposes. Very high toughness staple fibre</td>
</tr>
<tr>
<td>PP070Y1E</td>
<td>12</td>
<td>Gas fading resistance</td>
<td>Multifilament yarns and high toughness staple fibre</td>
</tr>
<tr>
<td>PP084Y1E</td>
<td>19</td>
<td>Narrow MWD, gas fading resistance</td>
<td>High tenacity BCF/CF, technical and hygienic low title non-woven, spunbonded and staple fibre</td>
</tr>
<tr>
<td>PP086Y1E</td>
<td>25</td>
<td>Narrow MWD, gas fading resistance</td>
<td>High speed lines, BCF/CF, POY yarns, technical and hygienic low title non-woven and staple fibre</td>
</tr>
<tr>
<td>PP086Y2E</td>
<td>25</td>
<td>Excellent processability, narrow MWD, gas fading resistance</td>
<td>High speed lines, BCF/CF, POY yarns, technical and hygienic low title non-woven and staple fibre</td>
</tr>
<tr>
<td>PP086U6E</td>
<td>25</td>
<td>Narrow MWD, gas fading resistance, UV light resistance</td>
<td>High speed lines, BCF/CF, POY yarns, technical and hygienic low title non-woven and staple fibre</td>
</tr>
<tr>
<td>PP089Y1E</td>
<td>30</td>
<td>Very narrow MWD, Gas fading resistance</td>
<td>High speed lines, technical and hygienic very low title non-woven and staple fibre</td>
</tr>
<tr>
<td>NW110M1</td>
<td>1200</td>
<td>Easy processing</td>
<td>Melt blown</td>
</tr>
</tbody>
</table>

**Polypropylene technical textiles**

<table>
<thead>
<tr>
<th>Grade</th>
<th>MFI</th>
<th>Properties</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO1133-g/10' 190°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.16 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP020G3E</td>
<td>0,90</td>
<td>Good mechanical properties, high thermal resistance</td>
<td>High toughness strapping, tapes, thermoforming and profiles</td>
</tr>
<tr>
<td>PP030G1E</td>
<td>1,70</td>
<td>Good balance of processability and properties, general purposes</td>
<td>High toughness tapes and monofilaments, extruded nets, twines and ropes</td>
</tr>
<tr>
<td>PP031G1E</td>
<td>2</td>
<td>Good balance of processability and properties, general purposes</td>
<td>High toughness tapes and monofilaments, extruded nets, twines and ropes</td>
</tr>
<tr>
<td>PP040G1E</td>
<td>3</td>
<td>Good processability, general purposes</td>
<td>Textile tapes, monofilaments and ropes</td>
</tr>
<tr>
<td>PP045G1E</td>
<td>4</td>
<td>Good processability</td>
<td>Textile tapes, monofilaments</td>
</tr>
</tbody>
</table>

*Abbreviations*  
MWD: Molecular Weight Distribution.  
BCF/CF: Bulked Continuous Filament/Continuous Filament.  
POY: Partial Oriented Yarn.

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## Polyethylene

### Polyethylene Technical Textiles

<table>
<thead>
<tr>
<th>Grade</th>
<th>MFI</th>
<th>Density</th>
<th>Polydispersity</th>
<th>Properties</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>R4805EP</td>
<td>0,55</td>
<td>948</td>
<td>Medium</td>
<td>Low fibrillation tendency, high tensile strength at break, easy processing</td>
<td>Blown film for stretched tapes, Iso Mayer textile applications, tapes for webs and ropes</td>
</tr>
<tr>
<td>R4805D1</td>
<td>0,55</td>
<td>948</td>
<td>Medium</td>
<td>Low fibrillation tendency, high tensile strength at break, easy processing</td>
<td>Blown film for stretched tapes, high speed textile lines, tapes for webs and ropes</td>
</tr>
<tr>
<td>R4806HT</td>
<td>0,60</td>
<td>948</td>
<td>Narrow</td>
<td>Low fibrillation tendency, high tensile strength at break, easy processing</td>
<td>Blown film for stretched tapes, high speed textile lines, tapes for webs and ropes</td>
</tr>
<tr>
<td>M5204</td>
<td>0,45</td>
<td>952</td>
<td>Narrow</td>
<td>Highest toughness, high stretching ratios</td>
<td>Monofilaments for fishing nets with very high strenght</td>
</tr>
<tr>
<td>M5206</td>
<td>0,60</td>
<td>952</td>
<td>Narrow</td>
<td>Very high toughness</td>
<td>Monofilaments for fishing nets with very high strenght</td>
</tr>
<tr>
<td>M5305</td>
<td>0,50</td>
<td>953</td>
<td>Medium</td>
<td>High toughness</td>
<td>Ropes, fishing nets</td>
</tr>
<tr>
<td>M5309</td>
<td>0,95</td>
<td>953</td>
<td>Medium</td>
<td>Medium toughness, soft yarns</td>
<td>Monofilament for textile applications (nets and webs)</td>
</tr>
</tbody>
</table>

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Quality, Safety and the Environment

All the petrochemical sites and those belonging to subsidiaries run by Repsol Chemicals use management systems which comply with current ISO 9001:2000 standards, referring to the Quality of processes ranging from manufacture to distribution, transport management and end product warehousing; OHSAS 18001 (Occupational Health and Safety Assessment Series), in all matters related to Safety and Occupational Health, and ISO 14001, concerning Environmental issues in its installations.

Technical Data Sheets and MSDS are available on: www.chemicals.repsol.com

December 2011
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