POLYMERS

THERMOPLASTICS

CONTRACT MANUFACTURING
NYLON is one of the most significant raw materials for the engineered resin industry. Key attributes are high impact strength, good slip and abrasive performance as well as outstanding thermal properties.

NYLON 6

Due to its high impact strength, Nylon 6 is particularly suitable to make compounds that will later end up in applications such as:
- ENGINE COVERS
- RADIATOR GRILLS
- TURN SIGNAL INDICATORS
- WALL PLUGS
- ELECTRIC TOOL CASINGS
- CHAIR BASES

As our raw materials are residue materials from textile-, technical fiber- or film applications and as we keep those groups separated from each other, our products have different but consistent viscosity levels. Products made from textile grades usually have a low Rv of 2.3 – 2.5, other raw materials lead to medium Rv of 2.6 – 2.7, higher Rv materials will have values of 2.8 – 2.9, more a specialty are high viscosities starting at Rv 3.0 and higher.

NYLON 66

Nylon 66 has, due to its different chemical structure, different physical properties, such as e.g. higher heat resistance and stiffness and is therefore particularly suitable to make compounds that will later end up in applications such as:
- SLIDE BEARINGS
- GEAR BOX PARTS
- COOLENT HOSES
- CABLE STRAPS
- WHEEL COVERS
- OIL PAN PARTS
OTHER POLYMERS AND SPECIALTIES

PET

In addition to high transparency and good thermal properties, one of the main strengths of POLYETHYLENTEREPHTHALATE (PET) is its extremely easy and efficient, almost endless recycling possibilities. PET was initially used in textile fiber and yarn applications. However, PET has been found to perform well in packaging and film applications as well. More recently, engineered resin applications have been developed for PET.

Textile applications utilize primarily PET homopolymer with IVs in the 0.60 – 0.70 range. Packaging and film applications as well as Carpet Yarn utilize primarily PET copolymer (produced by adding Isophthalic Acid) with IVs in the 0.76 – 0.82 range.

Some specific applications for Barnet PET products are:
- SHEET PRODUCTION FOR VACUUM FORMING
- PACKAGING FILM PRODUCTION
- STRAPPING
- PREFORM, BOTTLE PRODUCTION
- SEMI FINISHED PRODUCTS / RODS
- COMPOSITES

The use of Polyester, Nylon or specialty short cut fibers in Polymer is growing as they help to improve the strength, stiffness and durability of the base resin.

- PC

The remarkable characteristics of Polycarbonate are its high tensile strength, impact strength, stiffness and hardness, but especially that it is a very clear product. Therefore it is not surprising that main end uses are CDs, OPTICAL LENSES, HEADLAMP DIFFUSERS, AIRCRAFT WINDOWS or VISORS FOR HELMETS.

- PBT

As the name Polybutylenterephthalate indicates, PBT belongs to the Polyesters and has similar characteristics as PET. It is however better suited for injection moulding as it has a different cooling as well as process performance. The main advantage on e.g. POM or Nylon is that the material has a very high dimensional stability and has good abrasion and wearout features. End uses are e.g. COUPLING DEVICES, CASES OF ELECTRO-TECHNIC TOOLS or SHOWER QUENCH HEADS.

OTHER POLYMERS

- PP

Polypropylene is due to its low density one of the lightest plastics and therefore excellently qualified for end use applications such as BICYCLE HELMETS, CAR DASHBOARDS, CAR BATTERY CASES or BOTTLE CAPS.

- ABS

With its high surface hardness and impact strength, ABS is very well suited for applications that need a scratch resistant and semi gloss surface. Another feature is its suitability to be coated with metal. Some end use applications are SHEETS, CASES FOR HOUSE HOLD APPLIANCES, DOOR KNOBS, WHEEL COVERS.

- ELASTOMERS

Precision cut fibers and flock are added to reinforce natural and synthetic rubber products to improve performance of V-BELTS, TIMING BELTS and RUBBER HOSES.

- COMPOSITES

These are available in Nylon 6, Nylon 66, Polyester, PP or specialty short cut fiber for reinforcement purposes in:

- ELASTOMERS

Precision cut fibers and flock are added to reinforce natural and synthetic rubber products to improve performance of V-BELTS, TIMING BELTS and RUBBER HOSES.

- COMPOSITES

Barnet is working to develop compounding feedstocks using post consumer feedstocks. While recovery processes are constantly improving, the challenge associated with producing compounding feedstocks is the removal of a significant amount of foreign matter that may be found in the recovered fiber. Our goal is to produce pellets with ash contents less than 1%. The most common applications for these feedstocks is in mineral filled, glass - mineral, and glass filled compounds.
YARNS

Barnet is a global supplier of both high tenacity yarns and textile filaments for applications including NARROW and BROAD FABRIC, CIRCULAR-, REGULAR- AND WARP-KNITTING, CORDAGE, NETTING, SLINGS, HOSES, GEOTEXTILES, amongst many others.

We supply various grades and counts of polyester, nylon 6 and nylon 66, viscose or polypropylene in several make-ups and quality levels. High-tech yarns can also be supplied on request.

For special requirements such as customized twist constructions, colors or make-ups, please contact our team who will endeavor to handle your request to your highest satisfaction.

For antistatic protection we offer Nega-Stat® P190 and Nega-Stat® P210.

CONTRACT MANUFACTURING

Each of Barnet’s production processes is also offered as contract manufacturing service.

OUR PRODUCTION CAPABILITIES INCLUDE

- PELLETIZATION – On our extruders we are able to transform filament- and fabric waste back into a granule through a melting (including filtration) process. Usually this is a pure transformation process without adding anything to the materials. Other possible raw materials can be regrinds or a combination of them and the above.

- AGGLOMERATION – With our agglomeration line, we transform light density products e.g. film-, filament- or fabric waste back into a form, ready to use in other processes.

- GRINDING / CRUSHING – On our grinding lines, we process rocks / lumps, strands, preforms, bottles, filmwaste etc. and bring them into a form you workable form. Metal detection / separation is a matter of course.

- CRYSTALLIZATION – With a capacity of 10 tons per day, we can crystallize amorphous pellets and regrinds in order to avoid clotting during further drying processes.

- DRYING / BLENDING – Our drying Silo has a loading capacity of approx. 5 tons. We can dry granules or regrinds to levels that are perfectly workable for a compound application. Blending of different grades to your specifications is another process possible on this equipment.

Other services offered are rebailing / repacking, tube cutting and screening.

OUR OTHER PRODUCTS

Our two other strategic business units are in Fibers and Yarns.

A short description of these businesses can be found below. For more detailed information, please ask for the specific brochure or visit our web page www.barnet-europe.com. Our team is ready to assist you in any way it can.

FIBERS

Being one of the largest global traders and producers of synthetic fibers in staple and continuous tow form, Barnet’s product range includes first grade fibers for high-tech applications and environmentally friendly fibers produced from post-industrial and post-consumer waste materials.

For principal applications such as spinning yarns, filtration, or geotextiles, we supply fibers in semi dull, bright and black. A range of colored fibers, flame retardant or specialty fibers are also available on request.

Furthermore Barnet is a specialist in the production of short cut fibers to serve many new and technical applications. The expertise of our product development team enables us to respond to your requirements and offer you the right fiber to suit your application, especially with regard to dispersion and performance.

Our flexible approach and ability to source globally means that we can supply both standard and custom-made grades upon request, including different colors, specialty finishes, various cross-sections, flame retardant grades, etc.

YARN