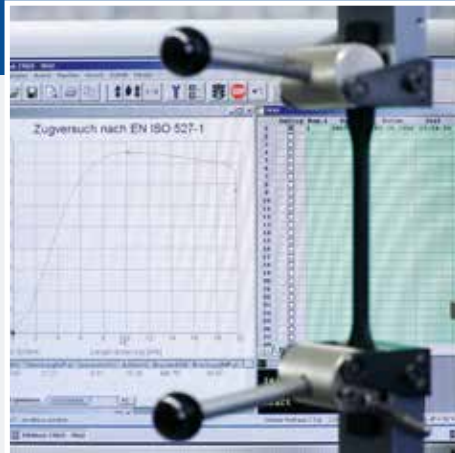
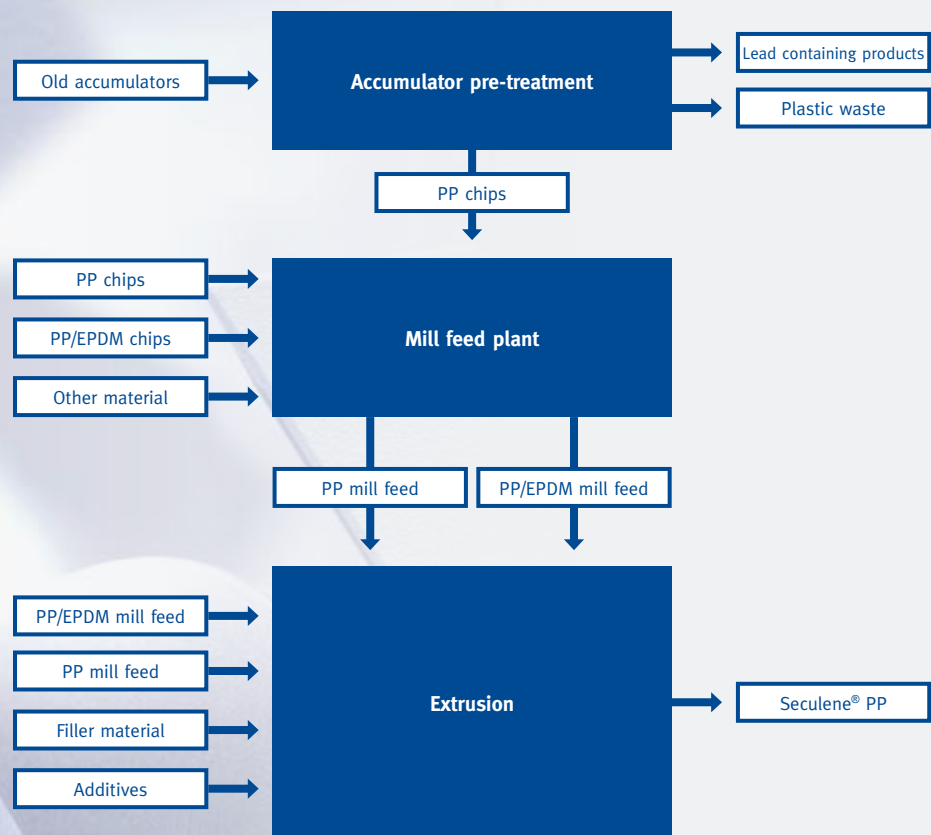


# SECULENE® PP: COMPOUNDS MADE FROM SECONDARY MATERIALS



# PROFILE



## LEADING IN ENVIRONMENT-FRIENDLY PP COMPOUNDING

As the foremost producer of high-grade PP compounds from secondary materials, BSB Recycling GmbH, Braubach, is a much sought after partner by automotive subcontractors.

Since 1990, the company has been operating a plastic extrusion plants for polypropylene (PP). PP compounds with the trade name Seculene® set standards in the world of polypropylenes. The PP compounds produced here are qualitatively on par with those produced from primary raw materials and excel through their leadership in cost efficiency and flexibility of application.

In close cooperation with industrial partners and based on research extending over a number of years, BSB developed Seculene® PP, a product which was and is still being optimized continuously. Using an all-encompassing concept for a self-contained PP-material cycle – recycling, compounding, distribution and service – the BSB qualifies as a company offering future-oriented solutions. BSB was one of the first companies to be granted a certification for quality management according to DIN EN ISO 9002 back in 1994 and is now additionally certified according to ISO/TS 16949.

Around 35 people are employed in the process-controlled production of PP chips from secondary raw materials and manufacturing (custom-built) PP compounds. With its annual production of 42,000 tonnes Seculene® PP, BSB, as innovative service provider for the plastic industry, leads in developing groundbreaking application possibilities.

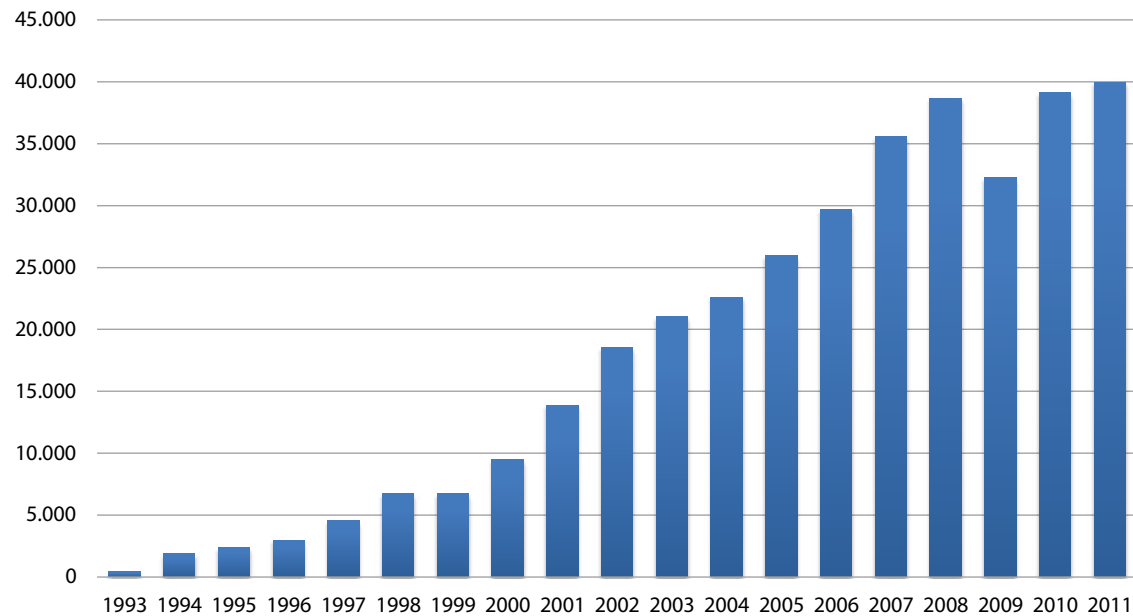
# TECHNOLOGY

## PRE-TREATMENT

Starting materials for Seculene® PP are mono-fraction polypropylene chips obtained from the company own pre-treatment of accumulator scrap and other PP materials, e.g. bottle caps.

These are cleaned thoroughly in multiple stage cleaners before being charged to a wet cutting mill and cut to granules. Metal residues are now separated using density separators. The charge is then dried in mechanical dryers before being fed to air classifiers for separating out particles of paper, wood and rubber. The thus cleaned granulate is transported pneumatically to raw material silos of the compounding plant.

## Development of PP production in t



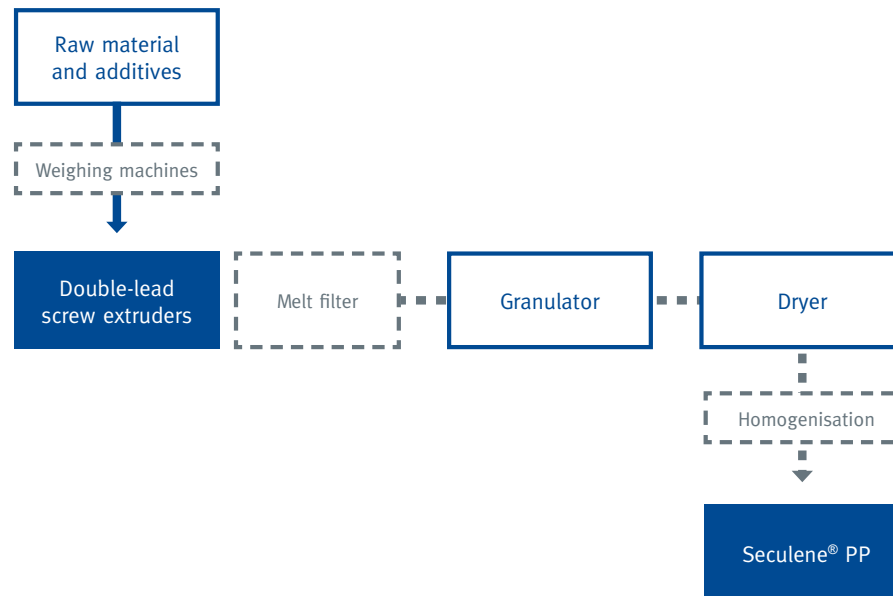
# TECHNOLOGY



## COMPOUNDING

The main feature of compounding is a blending technology allowing the creation of precise formulations based on predefined specifications and individual customer product requirements. Material compositions for specific uses are adjusted by blending mineral fillers, additives or colour batches, the whole then being processed to high-grade PP compounds.

A comprehensive quality control – covering the process technology and beyond – of the process parameters like formulation, temperature, pressure or flow characteristics ensures that the Seculene® PP manufactured is always of a consistently high quality.



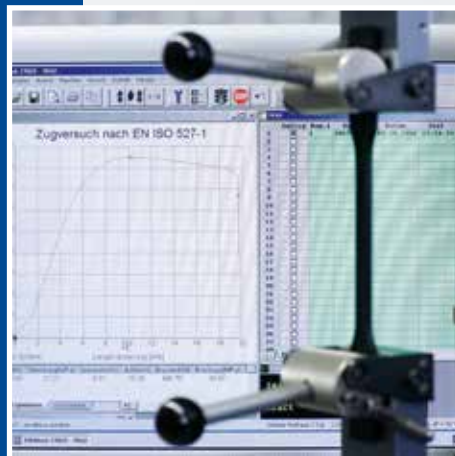
# PRODUCTS & FIELDS OF APPLICATION

## TAILOR-MADE MATERIALS

Seculene® PP, made solely from secondary raw materials, is a top quality brand. Its properties, like density, impact strength, elongation and flow characteristics, are qualitatively equivalent to those of products manufactured from primary materials (so-called new-ware). Seculene® PP compounds, specially tailored to the unique needs of customers for their applications and developed at BSB, often at short notice, are competitive substitutes for new-ware. The consistent and reliable high quality of products made of this innovative material is effective proof of an economical and efficient use of efforts invested.

Automobile subcontractors are increasingly using Seculene® PP with BSB being involved right from the beginning in developing new generations of product types. Increasingly, the automotive industry focus on Seculene® PP and involves BSB right from the beginning in the development of new type generations. Here is BSB an important partner for the increasing quantities of secondary PP.

This material has proved its reliability in such varied applications as wheel housing protector shells, underbody claddings, engine-room covers, water deflectors, guide rails, cable ducts, toolboxes or eaves gutters. Seculene® PP is also being successfully used as housings for starter batteries or accumulators for industrial applications.



Currently, approximately 20 different PP qualities are produced at BSB Recycling GmbH.

## SECULENE® PP: MAIN PROPERTIES AT A GLANCE

- TYPES: PP, PP-T, PP/EPDM
- FILLING GRADE: MINERAL COMPOUNDS 5-40 %
- MVR 230/2,16: 3-20 cm 3/10 min
- YIELD STRESS: 30 MPa max
- TWIST YIELDING: 35% max
- NOTCH TOUGHNESS: 3-60 kJ/m2
- TIME TO YIELD AT 150° C: > 200 h-1000 h

# TECHNOLOGY & ENVIRONMENT

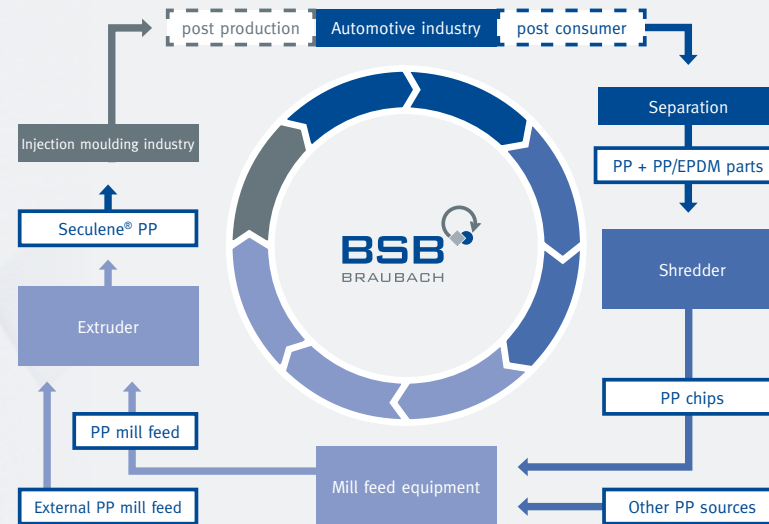


## TECHNOLOGY AND RESPONSIBILITY FOR MAN, NATURE AND TECHNOLOGY

BSB contributes substantially to the protection of the environment and resources by applying highly efficient technologies, consequently optimised processes and innovative products. The ecological and user-specific manufacturing of PP chips made from recycled materials and upgraded to high quality PP compounds is characteristic for the all encompassing concept of BSB Recycling GmbH of operating with closed-circuit material recycling.

Skilled personnel operate and supervise the environment-friendly and economical production. The certification as a company with an integrated management system for quality, energy efficiency, occupational safety and environment protection stresses the pivotal role of performance and responsibility. Continuous investments underline the high standard.

## Production of Seculene® PP



# CUSTOMER BENEFIT

## VALUE ENHANCEMENT THROUGH INTEGRATED SOLUTIONS

Most advanced installations for recycling plastics, innovation excellence and a widespread expertise in application technologies are the basis for providing successful and comprehensive customer-oriented solutions. The integration of competent consultations, right from the beginning, is a sure way of delivering target-oriented services. BSB Recycling GmbH actively helps customers achieve their goals by providing individual solutions for customers' queries regarding composition, application and recycling of plastics, by suggesting alternative plans for substituting primary materials by Seculene® PP or by offering information regarding the production and application of tools. Efficient logistics enabling reliable delivery of standard products within a few days are decisive factors for enabling production processes to run continuously and hitch-free.

BSB Recycling GmbH, a company offering future-oriented solutions for long-lasting and well-functioning material recycling, is committed to product quality, on-schedule deliveries, customer orientation and efficient economisation. A companywide management strategy based on target and key performance indices, enable BSB to fulfil this challenge effectively.



## CERTIFICATION

- DIN EN ISO 14001
- ISO TS 16949
- ISO EN ISO 50001
- ISO 18001
- Specialists for disposal





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