

DETERGENTS SECTOR

G.S.G. S.p.A.
Gussago (BS), Italy

Rotary stretch-blow moulders
SMIFORM SR 4HC · SR6



VIDEO



GEO LOCATION





Every day millions of people worldwide use cleaning products for house cleaning and professional sanitizers for cleaning the workplace. Faced with such a vast market, the companies in the sector must keep thinking about innovative solutions to be able to offer products for household and professional use to live up to consumers' expectations in terms of quality, safety, environmental friendliness and social responsibility. In Italy the joint-stock company GSG of Gussago (in the province of Brescia), which specializes in the production of detergents, has built its success on strong capacity for innovation and the constant search for cutting-edge solutions, which differentiate this company since its foundation. These aspects of the business have made it possible to create strong relationships with some companies of the packaging sector such as SMI, strongly oriented to technological innovation. In fact, GSG purchased from SMI two Smiform rotary stretch-blow moulders, one of which blow moulds preforms which feature a new



grade of polypropylene developed by the multinational Borealis (a leading company in providing innovative solutions for plastic granules).





THE PARTNERSHIP BETWEEN PRODUCT INNOVATION AND PACKAGING INNOVATION



GSG knows very well how important innovative momentum is, intended as company development and growth, in a very competitive and "crowded" market environment. Hence the need to combine the strong experience of GSG in the field of detergency with that of SMI in the primary packaging field and stretch-blow moulding of PET and PP containers. The partnership between the two companies was essential to create a modern industrial plant for the large-scale production of 0.75 and 1-liter polypropylene containers for bottling the cleaning products of the Gussago company.

Moreover, this choice guarantees GSG the proper operative flexibility of its systems since the Brescia-based company produces a wide range of detergents, both proprietary branded and private label brands for many customers-distributors. Major large retail chains and discount supermarkets rely on GSG to offer

their customers a complete portfolio of high quality cleaning products, whether intended for household or workplace use. The packages and containers made in the GSG plants are easily recognizable on store shelves due to their appealing and innovative packaging, and are highly appreciated by consumers for the great variety of solutions, substances, colors and fragrances.

> Technology and research to respect the environment

GSG, the Gussago-based joint stock company, invests heavily in human resources specialized in the research and testing of new raw materials to continuously improve the quality and safety of its products. A large number of research projects are oriented to the identification of chemical





substances and packaging formulas that protect the health of the end user, be it the housewife dealing with household chores or the employee of a cleaning company. Thanks to ingenious solutions such as, for example, the coloring of its liquid detergents, GSG protects the safety of its customers by making it easy to identify the product, therefore preventing misuse or harmful use. With a view to consumer safety, even innovations linked to the plastic bottles that contain GSG detergents are of great importance: greater resistance to shock and damage, easier to handle, use and store and better sealing of caps and closures are just a few eloquent examples of the efforts made by the Brescia-based company in this field but which also represent distinctive elements of a strategic marketing choice that aims at full quality.



THE TECHNOLOGY OF PLASTICS STRETCH-BLOW MOULDING

The versatility of the rotary stretch-blow moulders from Smiform's SR series offers high performance in the production of PET and PP bottles and containers.

Smiform blow moulders allow you to switch between the blowing of PET and PP containers without having to change machine configuration, providing customers high production capacity, quick format changeovers and low cost of use.

Currently, PP polymers can be used in the stretch-blow moulding process for a wide range of containers thanks to their good transparency and gloss, low water permeability, excellent heat resistance and sterilization.

The advantage of using PP bottles is even greater if the containers are produced with stretch-blow moulding machines rather than by extrusion.

In fact, the stretch-blow moulding of PP containers ensures:

- higher output per hour per cavity;
- lower initial cost of the systems since all that is needed is a preforms press and a rotary stretch-blow moulder instead of the larger





number of machines required by the extrusion process;

- low energy consumption, thanks to the much shorter time required to pre-heat the preforms (approx. 5 minutes);
- faster and simplified format changeovers, resulting in greater machine flexibility;
- lighter preforms (weighing about -30%) as compared to extrusion;
- malleability of PP containers similar to that of PET containers;
- better mechanical properties of the container thanks to excellent resistance to fall, good stiffness, high resistance to hot filling, high transparency and gloss and low wear of moulds.

Thanks to recent technical developments in the production of resins, even pharmaceutical and beverage industries will benefit from

BI-ORIENTED PP: LIGHTER AND TRANSPARENT BOTTLES

The strong demand for lighter, durable and transparent plastic bottles was the predominant factor behind GSG's decision to install a Smiform SR6 rotary stretch-blow moulder, which uses preforms of the polypropylene grade developed by Borealis.

Thanks to the bi-axial orientation of the polymer, the new grade of PP allows to reduce the weight of the bottles by approximately 30% compared to the grades of high density polyethylene (HDPE) and ensure, at the same time, excellent transparency and gloss. GSG was among the first companies in this sector to use the new grade of PP also thanks to its collaboration with SMI that developed the stretch-blow moulding technology of this type of plastic.

The new PP-based material and the advanced processing technology have enabled the Brescia-based company to extend the range of plastic bottles used in its plants for bottling cleaning liquids.

The containers are lighter now, thanks to the best mechanical and structural features of the new material, which has allowed GSG to launch a new line of bottles characterized by innovative shapes and a more attractive appearance.



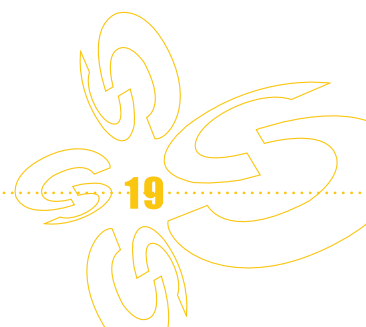
Focus on Research & Development

Smiform's Research & Development laboratories employ a large amount of resources in testing new materials and new applications, especially in the stretch-blow moulding of preforms made from recycled material, multilayer preforms and preforms for hot filling.

Besides, Smiform engineers perform extensive testing and dimensional trials on the preforms supplied by the customer before installing a blow-moulder, using sophisticated equipment such as cameras and software, configured for comparison, which measure the thickness of the preforms through infrared rays and check polymer homogeneity through polarized light devices.

the advantages of PP polymers as an alternative to PET.

In addition, companies operating in the "food & beverage" sector, not requiring a high barrier to oxygen, will be able to provide healthier drinks with fewer preservatives since PP is excellent for hot filling.



DETERGENTS

IN HISTORY

Social responsibility for environmental protection is a recent achievement for humanity, even if the benefits of living in a clean, healthy, unpolluted environment, not detrimental to the health of individuals, are well known since time immemorial. To learn more on this subject, simply trace one of history's little-known paths that begins from the custom of boiling animal fats in pots to give them absolute hygiene, softness, transparency and gloss. In 2800 BC, the Babylonians began to manufacture soap by boiling fat and ashes while in 1500 BC the ancient Egyptians combined animal and vegetable oils with salt to obtain a substance similar to soap. Even the Gauls discovered soap boiling in 312 BC: their women began to mix melted animal fat, wood ashes and clay although the resulting paste was used on the hair rather than to wash clothes. In the Middle Ages the manufacture of soap became an established business, the secrets of which were jealously guarded by the "soap-boiler masters". By mixing animal and vegetable fats with wood ashes, with the addition of perfume, they began promoting many types of soap (for shaving, hair and body cleaning and to do the laundry).

In 800 AD, the French progressed rapidly in the production of soap thanks to the large availability of raw materials such as fat and olive oil; but only in 1746 was this product registered by French Pharmacopoeia, which proposed several methods of manufacture. In 1800 soap was still heavily taxed as a luxury item but when taxes on it were removed, the general level of cleanliness drew enormous benefit. The twentieth century was the century of innovations: multi-purpose powder detergents and powder detergents for laundry and washing machines were created in the 50s; the 60s witnessed the creation of those in powder form for household hygiene, liquid fabric softeners and detergents with the addition of enzymes. The 70s were characterized by the marketing of detergents for delicate fabrics, for family packs and polishing fluids;



softeners for clothing, washing powders compressed into tablets and dish washing gels were all born in the 80s while in the 90s the range of cleaning products was enriched with concentrated and compact detergents, refills, tablets for dishwashers and rinse aids.



GSG gives
the label a
new look

In addition to meeting the criteria and requirements laid down by law, the label is also a useful way to “convey” information, data and warnings on the content and safety of the marketed product. For example, GSG indicates on the labels of its detergents the Poison Control Center telephone number of the Niguarda Hospital in Milan, which possesses the safety data sheets for each product produced by the Brescia-based company. Since these sheets are reviewed and validated by hospital doctors, they are very useful when administering first aid to people who ingest chemicals or use them improperly. This initiative, which is aimed at protecting the health of consumers, is one of the many demonstrations of the importance GSG gives to safety and social responsibility in its business strategy.



THE WORD TO THE CUSTOMER

Interview with Gianbattista Gozio, GSG S.p.A. CEO



GSG S.p.A. is a leader in the field of detergents and distributes products throughout Italy both with its own brand and private label. What is the key to your success?

“The key to GSG S.p.A.’s success surely lies in the flexibility and dynamism of our company. GSG is in fact particularly attentive to the specific needs of each customer, who can find modern, efficient and versatile production facilities at our plant, capable of customizing processes according to a wide range of different solutions. This aspect has allowed GSG to win the

trust of large organized distribution chains and become a major player, at a national level, of the private labels productions sector”.

Environmental compliance, product quality, packaging versatility and focus on consumer welfare are the strong points of GSG’s business strategy. How important is the contribution of technologically advanced machinery to achieve these objectives?

“GSG is at the forefront as concerns the use of eco-compatible materials and the production of eco-friendly

packaging. The strong commitment to environment protection requires the use of technologically advanced machinery capable of handling both virgin raw materials and recycled material, reducing energy consumption per produced unit and ensuring maximum product safety for the health of the consumer”.

Research and Development play a key role within GSG. How important is cooperation with SMI in this context?

“Research and innovation are a critical element for the growth of our company as they allow us to propose cutting-edge solutions both in the use of new raw materials and in improving the quality and safety of our products. The partnership with SMI has allowed us to develop a new manufacturing process based on the stretch-blow moulding of new polypropylene bottles, producing aesthetically pleasing PET containers with innovative shapes and reducing, in both cases, the weight of the preforms used while maintaining high production speeds”.



What were the main factors that led GSG to invest in Smiform's SR stretch-blow moulders for the blowing of PP preforms?

"Smiform blow moulders convinced us because of their great operative versatility, they are easy to use and allow the user to quickly switch from the production of one format to another. Moreover, they are characterized by high performance, low power consumption and reduced maintenance. This is why we decided to invest in the purchase of two Smiform rotary stretch-blow moulders: a 6 cavity machine for producing containers up to 3 liters and a 4 cavity machine for producing high capacity containers up to 10 liters".

How important are investments in the search for innovative packaging materials for GSG? What are the strategies implemented by your company to face market competitiveness?

"Technological innovation is a key factor in all GSG production areas. Our company is always looking to find the best solutions to respond promptly and effectively to the needs of present and future customers. Consequently, in order to be competitive on markets that are extremely difficult and very tied to the price factor, we continuously invest in the research and development of new packaging materials and in the

ABOUT GSG S.p.A.

GSG has been present since 1964 in the production and marketing of household cleaners, for professional and industrial environments, for caterers and restaurants. The company's products are distributed throughout the Italian territory by major supermarket chains, discount supermarkets and wholesalers for freelance professionals.

Advanced manufacturing systems ensure continuity in product quality control and compliance with safety regulations, with an eye to environmental protection.

Since the company pays special attention to the quality of the offer, there is a careful selection of raw materials and most appropriate type of packaging for different product lines.

In recent years, the detergent market has focused increasingly upon the functionality and safety of proposed packages that must be very durable and safe as they contain chemical-based liquids (ammonia, ethyl alcohol, degreasers, bleach, etc.). However, the companies of this sector have not neglected other important aspects such as container ease of use and appearance; in fact, in a market where supply is increasingly broad and diverse, the products of a specific brand must capture consumers' attention to be able to stand out from the crowd and increase sales.

purchase of technologically advanced systems. An example is represented by investments in machinery that allowed us to process even the flakes of recycled PET, thus contributing to cost reduction".

What are the current trends of the cleaning products market?

"For about the last two years the detergent market in Italy has been going through a negative period, determined by a drop in sales. Contrary to industry trends, GSG has seen an increase in volume of about 10%.

In the near future, the main challenge of our company will be the strengthening and expansion of the market share also thanks to the use of innovative technologies and supply diversification".

