

Accelerated printing process for German toy manufacturer

Stamp of Approval from Playmobil



How an advanced Kaeser blower installation enhances printing on Playmobil figures and accessories.

Playmobil has been an unparalleled success in the toy industry for more than thirty years and continues to go from strength to strength (see box below: How Playmobil came to be...). Commissioned in the early 1970s, the production facility in the Middle Franconian market town of Diethofen, near Nuremberg in Germany, now employs approximately 700 people involved in the manufacture of Playmobil toys: Comprising more than 220 of the most

advanced injection moulding machines, including 2-, 3- and 4-colour automatic injection systems, the Playmobil plastic injection facility is one of the largest of its kind in Europe. An additional 120 machines will also further increase the plant's capacity by mid-2006. From the 10,000 (metric) tonnes of material currently required by the facility each year, approximately four million parts are produced every day during three daily shifts. This amounts to a total of around 80 million parts per month. Moreover, state-of-the-art packing systems send, on average, approximately 110,000 ready-packaged toy sets each day to the fully automated high-rack warehouse, which has a capacity of 50,000 palettes.



New products for 2006 (top) and the popular "Bunnies' School" – The mushroom's roof ...

A rainbow of colours

Before reaching this stage however, the play figures, vehicles, buildings and all other accessories are given their individual colouring in the pad-printing facility, where 25 high-speed print machines place the colour exactly where it is needed. The pad-printing process uses flexible "stamps" which lift the ink from an etched image area of a plate that has been charged with ink from a reservoir. The pad then moves towards the object to be printed and precisely places this ink onto the work-piece, which is positioned and fixed accordingly. The consistency of the ink is critical for this process to work: Exactly the correct amount of solvent must evaporate during the actual printing procedure to allow the ink to align with the contours of the work-piece and also detach from the pad without leaving be-

... gets its white dots right here



The blower system for the Playmobil pad-printing facility

hind any residue. However, the process for the ink to reach this precise state would take too long without the use of additional help, as Jörg Bergmann, Manager of the Playmobil pad-printing facility, explains: "We're talking about two or three minutes here. Therefore to speed things up, we use targeted blowing of air at approximately 0.5 bar(g). Our new blower system has reduced this evaporation time to the point where it is virtually unnoticeable."

More is less

Incidentally, before the pad-printing facility was moved to another building, the blowing air was supplied by compressed air diverted from a previous system that was also planned and installed by Kaeser Kompressoren. However the new solution is more elegant and efficient, as it produces its own blowing air and doesn't need to expand compressed air at 8 bar down to a pressure of 0.5 bar. As Jörg Bergmann happily continues, "The print facility, which is normally so labour intensive, has therefore been able to make a sig-



nificant contribution towards maintaining competitive unit costs".

The blower installation ...

... comprises a total of three BB88C Kaeser rotary blowers. The two main

units used for normal operation are both equipped with modulation control systems. A master controller ensures that the 10 m³/min base load and 16 m³/min peak load requirements are met with optimum efficiency.

The blower system has significantly reduced processing time at the printing facility

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How Playmobil came to be what it is today

1876 Andreas Brandstätter founds the company bearing his name in the Bavarian town of Fürth, Germany, for the production of ornamental casket fittings and locks

1908 Andreas Brandstätter's son takes over the company and changes the name to geobra Brandstätter, an acronym taken from his name, Georg Brandstätter.

1954 Horst Brandstätter, today's sole owner, joins the company and starts a new era. At this time the company makes many products, including piggy banks, telephones, cash registers and scales. They are initially manufactured from metal, but are later made from plastic.

1969 The foundation stone for the main production facility at Diethofen is laid. The early 70's sees geobra's traditional range of toys affected by cost pressures from low-cost countries and the oil crises. Horst Brandstätter recognises that now is the time to introduce a completely new concept in toys: Playmobil.

1974 Playmobil is launched. Hans Beck, Head of Development at geobra, had been working on the small, moveable figures and their accessories since 1971/72. Playmobil sets geobra Brandstätter on the road to success. Just a few years after introducing Playmobil, geobra Brandstätter becomes the largest German toy manufacturer and remains so today.

2004 Playmobil celebrates its 30th anniversary. Nearly 2 billion figures have been produced up to this point.

2005 The Brandstätter group employs 2591 employees internationally, 1439 of which are based in Germany. The group achieves a turnover of € 377 million - the Playmobil range accounts for the lion's share with its largest turnover to date of € 370 million. The group includes production sites in Malta, Spain and the Czech Republic and has Playmobil subsidiaries in ten other countries.