

knitting. Brazil honoured him by making him a 'Knight of the National Order of Merit, Southern Cross' and, in fact, he is one of the few foreigners ever to have received this award. The fields of education and research showed their great respect towards this entrepreneur who had built up a firm of world renown from modest beginnings, by bestowing on him the highest honorary positions. The Japanese College of Technology in Fukui made him an honorary professor in recognition of his achievements and enormous contribution to textile machine building world-wide. The famous Philadelphia College of Textiles and Science in America awarded him an honorary doctorate in textile science.

### **The importance of education and training**

In the same way that Karl Mayer single-mindedly pursued his own studies to become a qualified mechanic and master craftsman, he demanded that his clients and employees also received in-depth training. To this end, he set up his own warp knitting school where more than 1500 young people

from 69 countries attending a 6-month course, and 2300 trainees on short courses, have been able to obtain qualifications. Approx. 180 trainees also receive first-class, in-depth training in the Karl Mayer training centre.

### **Civic and social responsibility**

Karl Mayer never regarded social responsibility as being just an empty platitude but, in every sense of the word, he actually lived with and for his employees. His profound humanitarianism meant that he was always personally committed to providing for the needs and requirements of his employees. Not only did he create hundreds of jobs in Obertshausen, he also had hundreds of homes built for his employees, and made it possible for them to own their own flats and houses. Karl Mayer also rendered outstanding service to the town where he was born. At a relatively early age, he became involved in politics by sitting on the local parliament and becoming a member of the town council. The cultural life of Obertshausen was particularly dear to his heart. He founded his own music school

where children and young people could learn to play a musical instrument free of charge.

It was his wish to enlarge the new music school in Obertshausen to give underprivileged children the opportunity of playing a musical instrument. He was delighted when he fulfilled his dream, and the Karl Mayer orchestra made a name for itself in the world of music.

In the last few years, Karl Mayer has gradually withdrawn more and more from his work within the company, and has transferred its management to his sons and his most trusted associates. His grandchildren, too, now work in the company but, with his wealth of experience, he has always been on hand to give them help and advice.

Three years ago, Karl Mayer presented his parents' house to the town where he was born and it has since become a museum. This is a perfect use for the place where he spent his childhood and youth, and 'Karl Mayer's House' constantly reminds the citizens of the town that this is where the talented and energetic Karl Mayer built up his successful company through sheer hard work and determination.

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## **Raschel machines**

# **Three years of Simplex fabrics from the RD 2 N raschel machine – now up to 1400/min**

Simplex fabrics are a particular warp knitting speciality which could only be produced on double-bar tricot machines up to three years ago. Because of the great demands which are made on this fabric there was no question of using any other machine up to this point in time, although there are technologies within warp knitting which can produce much more rationally. In the meantime the end-use profile of Simplex fabrics changed from the earlier dominant fabrics for gloves

and riding breeches to moulded double knits for bra cups and the underwear sector.

Three years ago greater profitability and changes in product end-uses caused Karl Mayer Textilmaschinenfabrik GmbH to develop a more efficient method for producing Simplex fabrics with the same features as before. The double-bar RD 2 N raschel machine is a machine with two latch needle bars, two guide bars and an N pattern drive which has been used successfully in various

countries of the world up to now for the production of Simplex fabrics. Because of its excellent features it was possible to integrate the RD 2 N into continuous textile production without any problems and to take over production from classical Simplex tricot machines with bearded needles. Here it was also found that the decision then taken in favour of the latch needle was the correct one, as it operates without any problems, can withstand high yarn tensions and is easy to operate. The selection

of a suitable needle system is of great importance for the production of Simplex fabrics, since the shaping of the stitches – and hence also the drape and the handle – are crucially determined by the needle system in the case of these fine double knits. In addition to the good shape of the stitches and a high machine processing safety level, the latch needle system offers system-linked protection against bunching-up and double stitches. This made it possible to eliminate a problem with which the knitter had to cope for decades and it needed a great deal of experience and much sensitivity to reach the goal aimed at.

Things are quite different in the case of the new RD 2 N raschel machine: this machine is easy to operate, runs reliably, and the fabric quality corresponds to that of normal, traditional Simplex fabrics; indeed in some cases it is even superior to some extent. A soft drape, freedom from bariness and uniformity – the "new Simplex fabric" corresponds to the prototype at every point on the quality standard which is set very high. Even in the case of very high stitch densities of 20 to 30 stitches/cm on each side of the fabric – depending on the yarn used – the fabric can be produced without any problems. Simplex net fabrics, which were difficult to produce on conventional double-bar tricot machines, can be produced simply and reliably on the RD 2 N. Even in the case of patterns with long repeats which are worked with profiled chain links very high production rates can be achieved without detracting from the efficiency. In addition to cotton, man-made fibres and viscose, silk can also be processed. Simplex fabrics can

consist of different yarns on both fabric sides in order to give the fabric the desired properties and/or a specific appearance. The yarn counts start at 22 f1 dtex monofilament and also include microfibres, depending on the fabric weight aimed at. The end-uses of Simplex fabrics include the moulded cups for foundation garments and swimwear already mentioned which – despite the deformation – have the same strength at all points, and hence also the same physiological properties such as softness, air permeability, close fit, etc. A bulky handle, combined with low weight and a soft surface, are characteristic of these fabrics. Simplex products also include underwear fabrics, suede fabrics, glove fabrics and shoe fabrics. Despite its good initial success, the RD 2 N Simplex raschel machine was developed further and various essential features were improved. As a result of redesigning the needle bar crank drive it was possible to increase the speed to 1400/min while simultaneously reducing the noise level. The latch needle which has already been mentioned was also improved as a result of the increase in performance. Because of the even heat distribution which has been achieved within the machine as a result of design measures, Simplex raschel machines with a nominal width of up to 4318 mm (170") can today be used in countries where the temperature conditions are not exactly ideal. Compared to the DK 2 and HDK 2 Simplex machines used over the decades, the textile industry particularly appreciates the operational reliability of the RD 2 N, in addition to the doubling of the speed. The prob-

lems of bunching-up which have already been mentioned, and which could occur on DK 2 and HDK 2 machines, are not to be found on the RD 2 N.

### Technical data

#### Nominal widths:

2332, 3505 and 4318 mm  
(93, 138 and 170")

#### Machine gauges:

E 28, 30, 32 (170": E 28 and 30)

#### Number of guide bars:

#### Number of needle bars:

Two latch needle bars, needles used individually

#### Knock-over comb bars:

Two drop-wire knock-over comb bars

#### Stitch comb bars:

#### Maximum stitch density:

30 courses/cm

#### Pattern drive:

N drive with pattern wheels or PN chain links

#### Yarn supply:

Free-standing warp-beam  
mounting two beams with a flange  
diameter of 810 mm (32")

#### Yarn feed arrangement:

Two mechanical yarn draw-off  
mechanisms with one central  
mechanism; the electronic EBA-1  
system is an alternative

#### Fabric take-down mechanism:

Three-roller fabric take-down,  
change-gear mechanism

#### Batching-up system:

Rising-roll batcher with a diameter  
of 533 mm (21"), separate from the  
machine

#### Speed (max.):

1400/min

## Stitch bonding machines

## Kändler 'Superpol', model 14123, terry knitting machine

### Efficient production of single- and double-sided pile fabrics

For some time now, terry goods have been particularly popular among

consumers. In recent years, their applications, which used to be

restricted to conventional bathroom and hygiene products, have been