Concrete reinforcement using the warp knitting technique
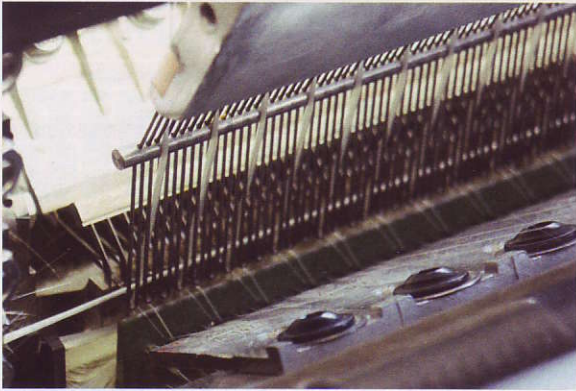

Photo: Deutsches Zentrum Textilbeton

chines in the aspect of patterning diversity, and flat knitting machines are brilliant at producing pieces of fully fashioned knitting.

Terrot, Chemnitz (D), presents its prototype of these machines on the occasion of the ITMA 2003 in Birmingham (GB). The company is offering two Jacquard machines today, the UCC548 and the UCC572, each in three diameters each as well as numerous gauges of up to E32. This brief description for knitted spacer fabrics comes from Chemnitz also: "Goods designated as knitted spacer fabrics consist of two separate knits (front and reverse) usually connected by means of more or less stiff monofilament yarns. The threads of the rib dial and cylinder stitches are composed of natural or textured synthetic yarns – depending on the later field of application. For circular knitting machines, spacer height is based on the rib dial height setting relative to the machine cylinder and can be adjusted variably between 1.5 mm and 5.5 mm. The force keeping the two cloth widths at distance is determined by both thickness and cross-section of the employed monofilament yarns, combined with the selected knit weave. As a matter of course, the production of knitted spacer fabrics is also possible using machines of other leading suppliers.

Stiff filaments

Knitwear experts used to soft yarns regard the stiff filaments as a challenge – also to technology. Wires, glass fibres or carbon filaments are processed two-dimensionally; warp knitting technology is frequently used here, but also circular knitting. The flat knitting technique is particularly predestined for placed laid-in func-

Technique overview

Circular knitting	Warp knitting	Flat knitting
in horizontal stripes, as laid-in yarn	in the warp, as laid-in weft	as intarsia yarn, as laid-in yarn