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Nonstick-coated belts

A strong solution for thermal bonding of thick nonwovens

J.H. Ziegler GmbH, which is headquartered in Achern, Schwarzwald, is a leading German producer of technical nonwovens made of staple fibres. In 2006, the company opened its Hungarian subsidiary about 100 kilometres west of Budapest. Around 3,500 tons of fibres are processed there annually into high-quality products, including nonwovens with grammages of up to 4,400 g/m². Such weights pose enormous challenges for capital equipment and components like process belts. When a new double-belt oven was put into operation in the Hungarian facility, serious problems arose with the thermal bonding process. Neither the oven itself nor the process belts could cope with the increased requirements that were placed on them. In collaboration with the oven manufacturer, Ziegler finally found a solutions partner in GKD – Gebr. Kufferath AG, thanks to whose expertise in innovative belt construction and design the required process reliability and efficiency of the thermal bonding process could be achieved.

Ziegler's target customers are the furniture and construction industries, capital equipment manufacturers requiring filter and insulation materials, and the automotive industry. In 2006, the Achern works had reached the limits of its capacity, so, in order to continue delivering the same level of quality and profitability, the company followed its existing customers from the automotive and furniture industries to Bábolna. There, on an 18,000-square-metre plot of land, production halls were built with two nonwovens plants and further equipment for finishing. In 2011, Ziegler put a new double-belt oven for



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thermal bonding into operation. After commissioning, it soon became clear that the oven and the belts could not deal with the nonwoven grammages of up to 4,400 grams per square meter. In the case of products with higher grammages, there were recurrent problems involving deformation of the belts. The Technical Director of the Ziegler Group then contacted GKD directly. Together – and in close coordination with the oven manufacturer – they developed belts precisely tailored to the special requirements of the thick insulation products. The solution for the upper belt is a blended mesh construction of PPS and steel custom-developed for Ziegler. The directional weft wire with its unusually large diameter ensures the required high degree of cross-stability and robustness in both the lower and the upper belt. In the upper belt, the thick weft wire is precisely dimensioned to secure reliable adhesion to the magnetic strips and thus to ensure exact calibration even with the thick insulation sheets. The innovative coating on the lower belt, which not only ensures trouble-free detachment of the product but also makes cleaning the belt – something which previously cost a lot of time and effort – almost unnecessary, underlines the process efficiency of the solution. The new prototypes were installed in August 2013, and have been running trouble-free ever since.



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As a privately owned technical weaver, GKD - Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof: Industrial Mesh (woven metal mesh and filter solutions), Process Belts (belts made of mesh and spirals), Architectural meshes (façades, safety and interior design made of metal fabrics) and Mediamesh® (Transparent media façades). With its headquarter in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in France,



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Spain, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.

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