WINGS HD and eAFK Big V: efficient production of high-titer products using the POY and DTY process

Home textiles made from bulky polyester filament yarn

Home textiles directly influence the feel-good factor of our personal surroundings. Being pleasant to the touch, soft and extremely aesthetic, highly-bulky upholstery fabrics for furniture, decorative fabrics and wall textiles, drapes and pleated curtains and even carpets can support and express our lifestyles and personalities. High-quality textiles for our beds, bathrooms and tables are frequently matter-of-fact for many of us. And high-end yarns are also used in the automobile industry – for seat upholstery, interior cladding and floor covering in cars. Often, they have to withstand heavy demands. For this reason, the yarn quali- ty of the high-titer yarns must be correspondingly high.

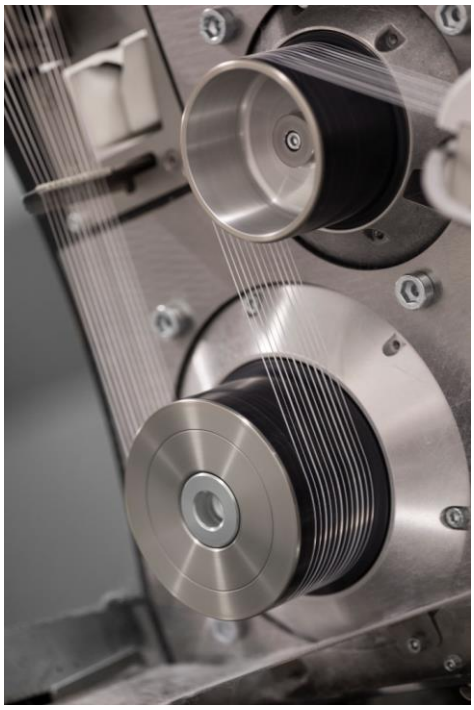
To date, DTY yarns up to 1200 den and with up to 784 filaments have, as standard, been plied from four POY 300d/192f bobbins using DTY machines. However, this process has a fundamental disad- vantage: half of the texturing machine's available winder positions are not used. And – in terms of machine efficiency – this is an unsatisfactory state of affairs.

Here, Oerlikon Barmag offers yarn manufacturers a highly-efficient solution: the spinning concept with WINGS HD winding unit in conjunction with an automatic eAFK Big V Multispindle texturing machine is currently the only system on the market for manufacturing excellent-quality high-titer yarns with maxi- mum machine efficiency.

WINGS HD – superb efficiency and functionality

12 POY packages of up to 600d/576f (final) are produced in the spinning process using WINGS HD 1800. This is made possible as a result of an additional godet, which ensures that the high yarn ten- sions developing in the process are reduced to the yarn tensions common in the case of the winding process to date. At the same time, the newly-developed suction unit with the accompanying yarn cut- ting device (yarn collecting system) ensures – both during string-up and in the event of a yarn break – reliable handling of the yarn with an overall titer of 7,200 den (final) and 6,912 filaments.

With this, the Oerlikon Barmag eAFK Big V Multispindle machine uses all winder positions and hence has the full production capacity at its disposal for manufacturing DTY yarns of 1200 den with up to 1152 filaments. Multiple plying of individually-spun filaments to create a high overall titer fundamentally impacts yarn quality. With the Oerlikon Barmag concept, this is minimized by plying the highest titers possible.



Superbly suited to the efficient production of high-titer yarns:
the Oerlikon Barmag concept comprising WINGS HD and eAFK Big V.

eAFK Big V Multispindle – productive and yarn-gentle

The eAFK Big V Multispindle texturing machine is based on the tried-and-tested eAFK Multispindle concept, with two individual friction rows. The high individual titers of up to 600 den per single filament can be textured using more powerful godet motors, a more powerful friction unit and a 2.5-m heater. The straight configuration of heater and cooling unit ensures particularly gentle yarn handling with a simultaneous drawing/crimping process. This is especially important for producing delicate microfila- ment yarns of the best quality. Thanks to this multiple configuration, 576 texturing positions can be efficiently utilized when manufacturing high-titer yarns, which are then taken up using all 288 positions. And the machine is particularly efficient in the high titer range of between 900 and 1200 den. Here, the operating window of between 30 and 1200 den offers yarn manufacturers maximum flexibility. The eAFK Big V texturing concept was launched in 2018, and has already convinced numerous yarn man- ufacturers with its performance.