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Axial tensioning minimises wear and increases service life many-fold

Composite rolls with integrated hydraulic nut

The specialists in hydraulic high-pressure tools from Schaaf have addressed the issues of prolonged service life and dramatic reduction in wear-related costs with a new roll concept. The EcoRolls (composite rolls) are based on the roll carrier, manufactured from high-strength forged steel, with an axially tensioned hydraulic nut. Roll rings of any material (carbide, powder metal and ceramic) can be operated reliably with Eco Rolls. Because of the high axial tension, the torque is transferred perfectly and prevents slippage of the roll rings even under high loading. The bottom line is that the design has an immediate and direct effect on significantly longer service life and markedly reduced subsequent machining work. A direct comparison with conventional solid and composite rolls has shown that subsequent machining could be reduced by a factor of 4.5 and service life extended by a factor of 4 to 20. For production, this essentially means markedly longer roll times, considerably more tonnage per calibre and fewer interruptions of the roll program.

In order to generate the high axial surface pressure necessary, the Eco Rolls are fitted with a Schaaf hydraulic nut that, with a hydraulic pressure of up to 4000 bar, generates enormous pre-tensioning force to reliably secure the roll rings. In addition, the tension system, even after years of use, allows the dependable loosening of the hydraulic nut, and hence quick removal of old as well as quick fitting of new roll rings.