

### 3-Plane-Balancing

#### The Problem

Long and slim Calender Rolls in fast running Multi-Nip-Calenders must be looked upon as „flexible rotors“. Such a flexible rotor may develop a centre whip which is depending on centrifugal forces and therefore on the operating speed. Thus, standard 2-plane-balancing is not sufficient for these rolls. 3-plane-balancing becomes mandatory to guarantee a smooth and vibration-free operation.

In many cases, the rolls are hard faced. It is recommended to re-balance the roll after the application of the hard coating, and of course later, when the hard coating has to be renewed.

However, to 3-plane-balance a conventional peripherally bored roll is a major operation. At least one journal had to be disassembled for the necessary insertion of a balance weight in the centre of the roll. Afterwards the T.I.R. may be lost, and the roll had to be reground completely. Regrinding of a hard-faced roll always involves jeopardizing the hard layer.

#### The Solution

SHW CT is offering exclusively the option of 3-plane-balancing a peripherally drilled calendar roll without most of the conventional expenditure: Three additional bores, extending the tapped holes for the bolts allow easy access to the roll centre for adding or removing balance weights during the balancing operation. Patents have been applied for.

