ideal compressible and an ideal incompressible case. Since a real printing blanket is composed of compressible, e.g. microcellular layer or fabric, and incompressible layers, e.g. the rubber surface, the transmission ratio between form and blanket cylinder is restricted by these two ideal cases. With the comparison of these two ideal cases with the measured transmission ratio for various indentations a semiempirical material constant can be defined which describes the rolling condition of the tested blanket. With this material constant the influence of the blanket can be quantified and so it is possible to take the blanket specific properties regarding rolling condition into consideration when fixing the cylinder diameters of a webpress construction.

Rolling condition of printing cylinders

Depending on the indentation depth of the blanket the deformation in the printing nip causes a effective diameter of the blanket cylinder that is different from its geometric diameter. To calculate the transmission ratio of the cylinders analytically we started out with the considerations of Heyne. Assuming an ideal compressible packing the packing is compressed and the effective radius of the blanket cylinder reduces with increased indentation S (Figure 2).

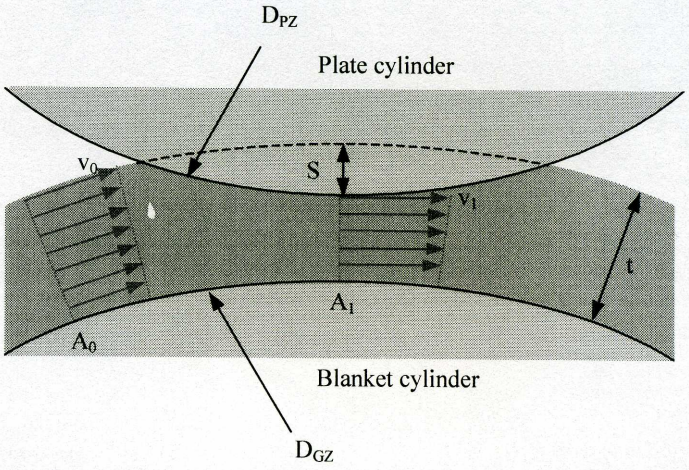

Figure 2: *Ideal compressible medium* passing the printing nip