

BondStar® 289L: Increase of Fillers in Fine Paper

In recent years, the cost pressure on fine paper has resulted in constant search for a suitable replacement of the expensive fibers.



In order not to affect adversely the optical properties and the printability of papers, primarily less costly fillers are used as fiber substitutes. Nowadays the quantities of fillers used are largely exhausted, because the paper industry has been particularly active in this area. Now a further increase of the quantities is attempted by using chemicals. Despite higher filler contents some strength parameters partially can be kept constant by using dry strength agents such as the ACAT BondStar® 289 L.

However, the increase of fillers often causes loss of bending stiffness that is of great importance for printing machines and copiers.

ACAT has expanded its portfolio to BondStar® 201 L, which has the ability to compensate the loss of stiffness. Test runs were carried out on a fine paper machine producing mainly copying paper with 60 and 90 g / m². The retention aid system was a typical two component system using polymer and bentonite. The test run was carried out as follows:

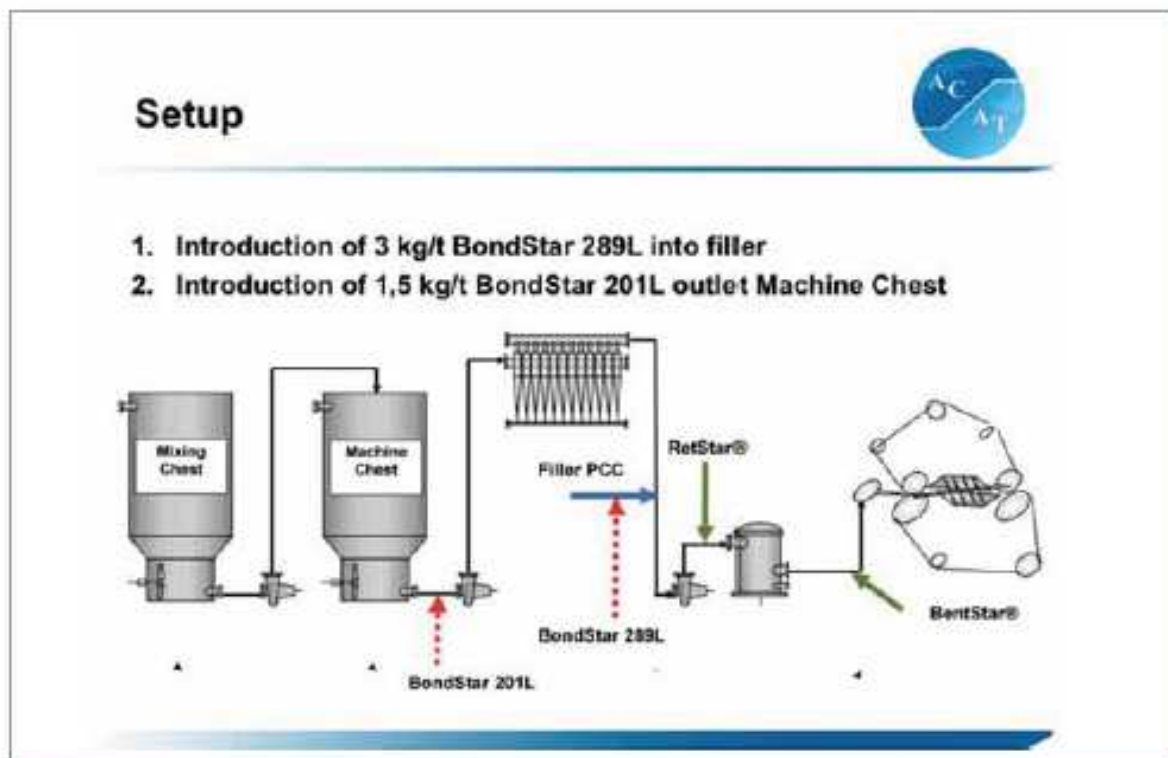
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- copying paper 80 g/m²
- PM speed: 850 m/min

First BondStar® 289 L was introduced into the filler pipe with a quantity of 3 kg / t. In a further step BondStar® 201 L was added at the outlet of the machine chest with 1.5 kg / t (see fig.)

With the addition of BondStar®289 L the filler content (GCC) increased from 22% up to 26%. This led to a 5% loss of stiffness. To compensate the loss BondStar® 201 L was



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added and stiffness increased up to 5% above the initial value. To get to the bottom of the potential of this system, the filler content was increased again by a further 2% up to 28%. As a result the stiffness reached the initial value (see fig. below)

Conclusion: With the addition of 3 kg / t BondStar® 289 L and 1.5 kg / t BondStar® 201 L it is possible to increase filler content by 6% without losing bending stiffness.

