Title (en)

Headbox

Title (de)

Stoffauflauf

Title (fr)

Caisse de tête

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Abstract (en)

[origin: DE19937302A1] The stock inlet for a papermaking machine has a turbulence insert with a number of channels (5) to carry the fiber suspension. They have hydraulic diameters which expand from the penultimate diameter (D2) to the final diameter (D1). The start point of the final expansion is at a gap (L1) from the end of the turbulence insert. The turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 where; a = 10.252; and b = 0.457. The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably from ?+20% to ?-20%. The suspension flow speed at the cross section of the final hydraulic diameter (D1) of the turbulence channel (5) is set at a rate (VL) of 0.5-5.0 m/sec., and preferably 0.8-3.0 m/sec., and especially preferably 1.0-2.5 m/sec. The suspension concentration (k), for the stock inlet operation, is 5-25 g/l and preferably 7-20 g/l and especially preferably 7-15 g/l. The suspension flow speed at the start of the final expansion (7) and the end of the turbulence insert has a mean speed level (VL) where the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (VL(m/s)/c)<3/4> where; a = 10.252; b = 0.457; and c = 2.2 (m/s). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially from ?+10% to ?-20%. The suspension flow through the turbulence insert has a mean concentration k (g/l) where the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (d/k(g/l))<1/2> where; a = 10.252; b = 0.457; and d = 5 (g/l). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially preferably ?+10% to ?-20%. With a mean suspension concentration k (g/l) and an average flow speed VL between the start of the final expansion (7) and the end of the turbulence insert, the turbulence insert meets the conditions: L1/D1=a asterisk expb asterisk D1/D2 asterisk (VL(m/s)/c)<3/4> asterisk (d/k(g/l))<1/2> where; a = 10.252; b = 0.457; c = 2.2 (m/s); and d = 5(g/l). The maxim permissible deviation of the L1/D1 value is from ?+30% to ?-60% and preferably ?+20% to ?-40% and especially preferably ?+10% to ?-20%. The free cross section of the turbulence channels (5) at least at the end section is quadratic, rectangular, circular, hexagonal, or lozenge-shaped. The free cross section at the entry into the turbulence channels (5) is circular. The turbulence channels (5) have a double expansion. At least one expansion (6,7) in at least one channel (5) has an abrupt step structure, or is conical. At least one expansion (6,7) in at least one turbulence channel (5) has a transit between two cross section shapes of the turbulence channel (5).

Abstract (de)

Die Erfindung betrifft einen Stoffauflauf einer mit mindestens einem Gap- und/oder Hybridformer ausgestatteten Papier- oder Kartonmaschine mit einem Turbulenzeinsatz (2) mit einer Vielzahl an Faserstoffsuspension führenden Kanälen (5) mit hydraulischen Durchmessern, die sich von einem vorletzten hydraulischen Durchmesser D2 auf einen letzten hydraulischen Durchmesser D1 erweitern, wobei der Beginn der letzten Erweiterung einen Abstand L1 zum Ende des Turbulenzeinsatzes aufweist. Die Erfindung ist dadurch gekennzeichnet, dass der Turbulenzeinsatz (2) die folgenden Bedingungen erfüllt: ((L1) / (D1)) = a * exp<b*((D1) / (D2))> mit a = 10,252 und b = 0,457, wobei eine maximale Abweichung des L1/D1 - Wertes von +30%/-60%, vorzugsweise +20%/-40%, vorzugsweise +10%/-20%, erlaubt ist. <IMAGE>

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