

Title (en)
Heated cylinder

Title (de)
Beheizter Zylinder

Title (fr)
Cylindre chauffé

Publication
EP 1079022 B1 20060726 (DE)

Application
EP 00106970 A 20000401

Priority
DE 19929520 A 19990628

Abstract (en)
[origin: DE19929520A1] The heated cylinder (1) for drying a fiber web (2), especially of paper or cardboard or tissue, has a mantle cladding layer (3) of good thermal conductivity, heated by at least one external heater (4). A thermal insulation layer (5) is within the cylinder mantle at the outer mantle cladding (3). The shape stability and strength of the cylinder (1) is generally through the outer mantle layer (3), which is pref. of metal and with a thickness of ≤ 30 mm and pref. ≤ 5 mm. The shape stability and strength of the cylinder (1) can also be through the inner insulation layer (5) and/or an inner metal carrier structure (6) at the insulation (5) within the cylinder mantle. The insulation layer (5) and/or the carrier structure (6) can be of a plastics with fiber reinforcement. The outer mantle layer (3) has a thickness of ≤ 5 mm and pref. ≤ 1 mm and especially ≤ 0.2 mm. The insulation layer (5) and/or the carrier structure (6) fill a major part of the interior of the cylinder (1) and pref. fill it completely. The cylinder (1) has a dia. of 500-3000 mm and pref. 1200-1800 mm. The heater (4) is an infra-red heater and/or an induction heater. The heater has a number of separately controlled zones, along the length of the cylinder (1), with a zone width of ≤ 200 mm at 30-100 mm and pref. 40-75 mm. The cylinder mantle thickness is reduced between the heating zones, as narrow peripheral grooves. The max. cylinder surface temp. is 120-250 deg C and pref. 150-200 deg C. The max. heating power consumption is at least 60 kW/m for a cylinder dia. of 1200 mm, and at least 80 kW/m for cylinders with a dia. of 1200-1800 mm, and at least 120 kW/m for cylinder dias. ≥ 1800 mm. The contact time between the cylinder surface and the fiber web (2) is at least 50 ms and pref. at least 80 ms and especially at least 120 ms.

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