

Title (en)
Method and device for treating a textile fabric

Title (de)
Verfahren sowie Vorrichtung zur Behandlung einer textilen Warenbahn

Title (fr)
Procédé et dispositif pour le traitement d'une étoffe textile

Publication
EP 1024220 B1 20030502 (DE)

Application
EP 00100197 A 20000113

Priority
DE 19903045 A 19990126

Abstract (en)
[origin: EP1024220A2] For processing fabric piecegoods, the fabric is joined together at both ends to form a continuous loop, to be moved through the treatment zone for saturation with the treatment fluid. The fabric is mangled directly it leaves the fluid, and the extracted fluid is caught. The fabric is then exposed to a gas flow, and then it is allowed to rest for a given dwell time without further fluid contact. The process stages are repeated as required. The fabric is immersed in the treatment fluid for 0.01-1.0 seconds, on each recirculating movement pass. After saturation, the fabric is mangled for 0.01-1.0 seconds to give a residual fluid concentration of 80-300 wt% and especially 120-180 wt% in relation to the dry fabric weight. The fabric is saturated in a jet with the fluid. The fabric is moved through the processing assembly at a speed of 100-800 m/min. and especially 300-600 m/min. The processing stages are effected at a temp. of 30-150 degrees C and especially 60-140 degrees C. The dwell time is 1-10 mins. The treatment fluid is mangled mechanically out of the fabric, and the extracted fluid is returned to the fabric saturation stage. The blown gas is an air and/or steam flow. An Independent claim is included for a fabric piecegoods treatment assembly with an initial jet (3) to saturate the continuous material (2) in the direction (8) of fabric movement, followed by a mangle station (5,5a-5c). After mangling, the fabric moves past a gas jet (6). A unit (7) catches the surplus fluid at the jet (3) and the extracted treatment fluid at the mangle (5,5a-5c), to be passed to a separate vessel (10) from the fabric dwell stage (4). The mangle station has a roller (5a) to deflect the fabric (2) as a reel, where the material passes round it at an angle of 90-180 degrees and especially 130-170 degrees . A further mangle roller (5b) presses the deflected fabric (2) against the first roller (5a), and one roller (5a) and/or the other (5b) has an adjustable pressure action on the material (2) between them. One mangle roller (5a) and/or the other (5b) has a power drive. The treatment fluid catch unit (7) covers the saturation jet (3) on all sides to form a catch zone for surplus fluid. The jet (3) is a cylindrical jet tube, within a cylindrical catch pipe (7), with a radial gap to catch the fluid with an opening aligned towards the mangle station (5). The fluid catch zone has an initial tube (9) link to the fluid store vessel (10), and a further pipe link (11) to the jet (3) has a pump (12) for the fabric saturation. A fluid catch zone (15) is at the fabric dwell stage (4), in a position so that the fabric (2) is not in contact with it while it is held in the dwell stage. The fluid catch zone (15) is linked to the store vessel (10) and/or the second pipe system (11). A freely rotating drum is within the cylindrical treatment assembly (1), composed of two axially adjacent drum half-sections with a gap between them. A mangle gap is between the drum half-sections, extending over the whole circumference of the drum mantle surface. The gas jet is at the drum mantle gap, and is aligned so that the fabric is carried through the mantle gap into the interior of the drum, to be laid or folded. The treatment assembly has up to eight inner drums, and preferably two to four drums. The assembly (1) is wholly enclosed and pressure sealed, especially as a cylindrical autoclave. The autoclave has a hermetically sealable loading opening for the insertion and removal of the fabric (2). The store vessel (10) for the caught fluid is pressure sealed.

IPC 1-7
D06B 3/28

IPC 8 full level
D06B 3/28 (2006.01)

CPC (source: EP)
D06B 3/28 (2013.01); **D06B 15/02** (2013.01)

Cited by
WO2016180390A1; CN102899826A; CN114801440A; US7886459B2; CN107636221A; US2018119323A1; RU2707795C2; DE102016005441A1; US10895031B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 1024220 A2 20000802; EP 1024220 A3 20010314; EP 1024220 B1 20030502; AT E239121 T1 20030515; DE 19903045 A1 20000727; DE 50001923 D1 20030605; ES 2194628 T3 20031201

DOCDB simple family (application)
EP 00100197 A 20000113; AT 00100197 T 20000113; DE 19903045 A 19990126; DE 50001923 T 20000113; ES 00100197 T 20000113