

Title (en)
Soft roll

Title (de)
Elastische Walze

Title (fr)
Rouleau élastique

Publication
EP 1188859 A3 20030604 (DE)

Application
EP 01121948 A 20010912

Priority
DE 10046055 A 20000918

Abstract (en)
[origin: EP1188859A2] Roller has hard roller core (10) with outer elastic cladding (12). The cladding has elastic matrix material (16) with embedded fibers (19) with diameter of ≤ 800 nm, so that outer surface (20) of the cladding is highly polished with Ra value of ≤ 0.6 microns. The elastic cladding has thickness of 3-20 mm. The matrix material also has embedded powder bulking materials (17) with outer dimensions of ≤ 1 micron at least in one direction. The paper web polishing roller has embedded fibers in the elastic matrix cladding material with a diameter of ≤ 500 nm, (preferably ≤ 200 nm). The outer dimensions of the embedded powder materials are ≤ 800 nm in at least one direction, (preferably ≤ 200 nm). The powder materials are in round or spherical particles, at least partially of carbon. The fibers are carbon fibers. The materials for the fibers and the bulking powders have a thermal conductivity which is higher than the matrix material, and they are evenly distributed through the matrix. The polished elastic cladding surface has a roughness value Ra of ≤ 0.5 microns, (preferably ≤ 0.2 microns, more preferably ≤ 0.1 microns). An Independent claim is included for a roller production process, where the elastic cladding is formed with embedded fibers and bulking powders.

IPC 1-7
D21G 1/02

IPC 8 full level
D21G 1/02 (2006.01)

CPC (source: EP US)
D21G 1/0233 (2013.01 - EP US); **Y10T 29/49551** (2015.01 - EP US); **Y10T 29/49563** (2015.01 - EP US)

Citation (search report)

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- [A] US 4466164 A 19840821 - TADOKORO EIICHI [JP], et al
- [A] EP 1001081 A2 20000517 - VOITH SULZER PAPIERTECH PATENT [DE]
- [A] DE 19807712 A1 19990916 - FREUDENBERG CARL FA [DE]
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Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
EP 1188859 A2 20020320; EP 1188859 A3 20030604; EP 1188859 B1 20060705; AT E332410 T1 20060715; DE 10046055 A1 20020328; DE 50110388 D1 20060817; US 2002045523 A1 20020418; US 6682467 B2 20040127

DOCDB simple family (application)
EP 01121948 A 20010912; AT 01121948 T 20010912; DE 10046055 A 20000918; DE 50110388 T 20010912; US 95319901 A 20010917