

Title (en)  
Soft roll

Title (de)  
Elastische Walze

Title (fr)  
Rouleau élastique

Publication  
**EP 1188859 B1 20060705 (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  $\leq 800$  nm, so that outer surface (20) of the cladding is highly polished with Ra value of  $\leq 0.6$  microns. The elastic cladding has thickness of 3-20 mm. The matrix material also has embedded powder bulking materials (17) with outer dimensions of  $\leq 1$  micron at least in one direction. The paper web polishing roller has embedded fibers in the elastic matrix cladding material with a diameter of  $\leq 500$  nm, (preferably  $\leq 200$  nm). The outer dimensions of the embedded powder materials are  $\leq 800$  nm in at least one direction, (preferably  $\leq 200$  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  $\leq 0.5$  microns, (preferably  $\leq 0.2$  microns, more preferably  $\leq 0.1$  microns). An Independent claim is included for a roller production process, where the elastic cladding is formed with embedded fibers and bulking powders.

IPC 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)

Cited by  
EP2644773A1; EP2462280A1

Designated contracting state (EPC)  
AT DE FI SE

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