

Title (en)

METHOD FOR PRODUCING A LASER MARKING ON REFLECTIVE MATERIAL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER LASERMARKIERUNG AUF REFLEKTIERENDEM MATERIAL

Title (fr)

PROCEDE DE REALISATION D'UN MARQUAGE AU LASER SUR UN MATERIAU REFLECTORISANT

Publication

**EP 1618983 A4 20070704 (EN)**

Application

**EP 04729405 A 20040426**

Priority

- CN 2004000406 W 20040426
- CN 03127963 A 20030425

Abstract (en)

[origin: EP1618983A1] A method for producing a laser mark on reflective material by a laser beam is provided, wherein a plurality of images on the same laser mark can be observed only from different view angles. The method includes the steps of selectively vaporizing the sides of each group of reflective bodies to form rough surfaces by a laser beam with a certain incident angle, and then selectively vaporizing another side of said each group of reflective bodies to form rough surfaces by a laser beam with another incident angle. Due to the different reflectivity of the rough surfaces and the unrough surfaces, dark spots and bright spots are respectively formed and hence constitute pictures. Therefore, different images may be recorded and shown on the same reflective body by means of more than one surfaces thereof. The commercial reflective material can be used in the method of the invention, so that middle or small manufacturers can produce laser marks with high quality, low cost, excellent optical effect and high difficulty of counterfeit by common computers and laser scanning devices.

IPC 8 full level

**B23K 26/00** (2006.01); **B23K 26/36** (2006.01); **B41M 3/14** (2006.01); **B41M 5/24** (2006.01); **G02B 5/00** (2006.01)

CPC (source: EP US)

**B41M 3/148** (2013.01 - EP US); **B41M 5/24** (2013.01 - EP US)

Citation (search report)

- [AD] US 6217175 B1 20010417 - WONG WILLIAM [US], et al
- [A] WO 03005075 A1 20030116 - 3M INNOVATIVE PROPERTIES CO [US]

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1618983 A1 20060125**; **EP 1618983 A4 20070704**; **EP 1618983 B1 20090304**; AT E424306 T1 20090315; CN 100421966 C 20081001; CN 1539589 A 20041027; DE 602004019773 D1 20090416; HK 1087058 A1 20061006; US 2006213871 A1 20060928; WO 2004101210 A1 20041125

DOCDB simple family (application)

**EP 04729405 A 20040426**; AT 04729405 T 20040426; CN 03127963 A 20030425; CN 2004000406 W 20040426; DE 602004019773 T 20040426; HK 06107082 A 20060621; US 55222005 A 20051006