

Title (en)

PROCESS FOR MANUFACTURING THERMAL INK JET PRINTHEADS AND STRUCTURES PRODUCED THEREBY

Publication

EP 0244643 A3 19880928 (EN)

Application

EP 87104971 A 19870403

Priority

US 86119286 A 19860508

Abstract (en)

[origin: EP0244643A2] This invention is directed to a process for manufacturing thermal ink jet printheads wherein a polymer barrier layer is employed between a thin film resistor (TFR) substrate and a metal nozzle plate and serves as both the ink reservoir-defining material and the adhesive bonding mechanism for firmly securing these members one to another. The polymer barrier layer material is initially U.V. cured, then partially thermally cured in a heat staker and finally completely thermally cured in an oven. The surface contour of the barrier layer follows that of the nozzle plate and TFR substrate and thereby prevents any gaps from occurring in this composite structure. This feature in turn enhances the structural integrity of the printhead, enhances its lifetime to and improves its frequency response. Repeatability of manufacturing and a more consistent drop volume ejection from printhead to printhead is also achieved.

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CPC (source: EP)

B41J 2/1603 (2013.01); **B41J 2/1623** (2013.01)

Citation (search report)

- [A] US 4535343 A 19850813 - WRIGHT CONRAD L [US], et al
- [A] EP 0124312 A2 19841107 - HEWLETT PACKARD CO [US]
- [A] US 4567493 A 19860128 - IKEDA MASAMI [JP], et al
- [A] PATENT ABSTRACTS OF JAPAN, vol. 8, no. 167 (E-258)[1604], 2nd August 1984, page 14 E 258; & JP-A-59 061 940 (SHARP K.K.) 09-04-1984
- [A] PATENT ABSTRACTS OF JAPAN, vol. 10, no. 55 (M-458)[2112], 5th March 1986, page 87 M 458; & JP-A-60 203 451 (CANON K.K.) 15-10-1985

Cited by

US7607761B2; US6575560B2; US8141250B2; US7296869B2; US7175255B2; US6964467B2; US7118193B2

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