

Title (en)

Dense oxide coatings by thermal spraying.

Title (de)

Dichte Oxidbeschichtungen beim thermischen Spritzen.

Title (fr)

Revêtement d'oxyde dense par pulvérisation thermique.

Publication

**EP 0621079 A1 19941026 (EN)**

Application

**EP 94106071 A 19940419**

Priority

US 4971893 A 19930420

Abstract (en)

A thermal spray gun (10) includes a nozzle member with an axial conduit (34) that conveys a powder stream of heat fusible oxide ceramic in a carrier gas. The conduit (34) terminates at the nozzle face in a plurality of radially divergent orifices (65). A gas cap (14) extends from the nozzle member and defines a combustion chamber (82). An annular flow of a combustible mixture is injected from the nozzle member coaxially into the combustion chamber (82). Air is injected adjacently to the gas cap wall so that a spray stream containing the ceramic is propelled through the open end, preferably supersonic. An aluminum oxide coating sprayed thereby should comprise substantial alpha phase and have good dielectric breakdown strength. <IMAGE>

IPC 1-7

**B05B 7/20**; **C23C 4/12**

IPC 8 full level

**B05B 7/20** (2006.01); **C23C 4/10** (2006.01); **C23C 4/12** (2006.01)

CPC (source: EP)

**B05B 7/205** (2013.01); **C23C 4/11** (2016.01); **C23C 4/129** (2016.01)

Citation (search report)

- [YA] FR 1161232 A 19580825 - METALLIZING ENGINEERING CO
- [Y] US 3455510 A 19690715 - ROTOLICO ANTHONY J
- [YA] US 2976166 A 19610321 - WHITE ROBERT E, et al
- [Y] DE 3806177 A1 19890907 - SIEMENS AG [DE]
- [A] US 5148986 A 19920922 - RUSCH WILLIAM P [US]
- [A] EP 0379119 A1 19900725 - PERKIN ELMER CORP [US]
- [A] FR 1260838 A 19610512 - METALLIZING ENGINEERING CO INC
- [A] EP 0142816 A2 19850529 - HUHNE ERWIN
- [A] P. FAUCHAIS, A. VARDELLE, M. VARDELLE, J. F. COUDERT AND J. LESINSKI: "CORRELATION OF THE PHYSICAL PROPERTIES OF SPRAYED CERAMIC COATING TO THE TEMPERATURE AND VELOCITY OF THE PARTICULES TRAVELLING IN ATMOSPHERIC PLASMA JETS: MEASUREMENTS, MODELLING AND COMPARISON", THIN SOLID FILMS, vol. 121, no. 4, November 1984 (1984-11-01), LAUSANNE, SWITZERLAND, pages 303 - 316
- [A] PATENT ABSTRACTS OF JAPAN vol. 12, no. 462 (C - 549)<3309> 5 December 1988 (1988-12-05)
- [A] DATABASE WPI Week 8631, Derwent World Patents Index; AN 86-201813
- [A] PATENT ABSTRACTS OF JAPAN vol. 12, no. 115 (E - 599) 12 April 1988 (1988-04-12)

Cited by

CN106111383A; CN108745677A; EP1245692A3; EP0825273A1; CN1077456C; EP0848998A3; EP3816320A1; CN112742620A; CN114616037A; US8318261B2; US12076884B2; WO2009146832A1; US11925954B2; WO2021090238A1; JP2011522115A

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DOCDB simple family (application)

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