

Title (en)

Plasma spray gun for spraying powdered or gaseous materials

Title (de)

Plasmaspritzgerät zum Versprühen von pulverförmigem oder gasförmigem Material

Title (fr)

Appareil de pulvérisation par plasma de matériaux en poudre ou gazeux

Publication

EP 0500492 B1 19960327 (DE)

Application

EP 92810095 A 19920210

Priority

DE 4105407 A 19910221

Abstract (en)

[origin: EP0500492A1] The plasma spray gun contains an indirect plasmatron for generating a long arc, having a plasma channel (4) between the cathode arrangement (1, 20) and the anode ring (3). The cathode arrangement has a central insulation body (21) which projects into the cavity (22) of an inlet nozzle (5) of the plasma channel (4). The plasma gas is introduced into the inlet nozzle (5) through an annular channel (23) between the insulation body (21) and the nozzle wall. A plurality of rod-shaped cathodes (1) which are embedded in the insulation body (21) run parallel to one another and are arranged distributed in the circle around a central axis (2) whose active ends (63) project out of the insulation body (21) into the nozzle cavity. The spray material (SM) is supplied to the cathode-side end of the plasma channel (4) through a tube (24) which extends along the central axis (2) through the insulation body (21) and opens into the nozzle cavity, the cathode ends (20) projecting beyond the mouth (25) of the tube. By means of a high energy concentration in the nozzle cavity, energy is supplied to the spray material in this region and through the long arc along the entire plasma channel, so that the spray material emerges from the gun in the fused state with high acceleration. The anode ring has no nozzle function and can therefore be wide enough for the spray material not to impinge on it. <IMAGE>

IPC 1-7

H05H 1/34; **H05H 1/42**; **H05H 1/44**

IPC 8 full level

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CPC (source: EP US)

H05H 1/34 (2013.01 - EP US); **H05H 1/3452** (2021.05 - EP); **H05H 1/3468** (2021.05 - EP); **H05H 1/3484** (2021.05 - EP);
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H05H 1/3484 (2021.05 - US)

Citation (examination)

- WO 9015516 A1 19901213 - SUENNEN JEAN [BE]
- Rutscher/Deutsch: Plasmatechnik. München, Wien 1984. Seiten 244, 262, 263.

Cited by

CN114059024A; CN112647037A; EP0596830A1; DE9215133U1; WO9535647A1; WO9612390A1; WO2018035619A1; EP1801256B2

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US 5332885 A 19940726

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