

Title (en)

Highly concentrated supersonic flame spray method and apparatus with improved material feed.

Title (de)

Hochkonzentrierte Überschallflammenspritzmethode und Vorrichtung mit Materialzufuhr.

Title (fr)

Procédé de pulvérisation à flamme supersonique de grande concentration et appareil à alimentation améliorée.

Publication

**EP 0163776 A2 19851211 (EN)**

Application

**EP 84116416 A 19841228**

Priority

US 57177584 A 19840118

Abstract (en)

A supersonic flame spray apparatus (1, 1 min ) utilizing an internal burner continuously feeds oxy-fuel products of combustion through an extended length nozzle (7, 37) of diminished throat area (14, 35), supersonic expansion duct (15, 44) and an extended length nozzle passage (16, 36). The expansion from the throat (14, 35) to the end of the expanding duct provides a gas velocity of well in excess of supersonic velocity. Solid material in rod or particle form is introduced axially or radially into the supersonic gas flow at the end of the expanding duct (15, 44). This permits the extended length nozzle passage (16, 36) to have a relatively large diameter which prevents the solid material (4, 29) introduced to the flow to melt, reach the nozzle passage wall, and adhere thereto or abrade the nozzle wall, while permitting low pressure material injection into the gas flow stream (G).

IPC 1-7

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IPC 8 full level

**B05B 7/20** (2006.01); **B05D 1/08** (2006.01); **C23C 4/12** (2006.01)

CPC (source: EP)

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

Cited by

EP0412355A1; DE4429142B4; FR2630752A1; CN1045636C; US4836447A; EP0734782A3; EP0567569A4; US4958767A; DE3620201A1; EP0361710A1; EP1445343A4; WO8907016A1

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