

Title (en)

PROCESS AND APPARATUS FOR COOLING HOT GAS CONTAINING STICKY OR MELTING PARTICLES

Publication

**EP 0341436 A3 19900321 (DE)**

Application

**EP 89106390 A 19890411**

Priority

DE 3816340 A 19880513

Abstract (en)

[origin: EP0341436A2] In this process, an annular jet of a cooling fluid is injected into the gas to be cooled in the direction of flow of the gas in a cooling zone, the jet being composed of a multiplicity of separate cooling fluid jets, whose mass and depth of penetration are adjusted to the product gas stream flowing in the individual annular spaces of the cooling zone, the injection speeds of the cooling fluid jets being selected such that the desired depths of penetration are reached. <IMAGE>

IPC 1-7

**C10K 1/04**; **C10J 3/84**; **F28C 3/02**

IPC 8 full level

**C10J 3/84** (2006.01); **C10K 1/04** (2006.01); **F28C 3/02** (2006.01)

CPC (source: EP US)

**C10J 3/84** (2013.01 - EP US); **C10K 1/04** (2013.01 - EP US); **C10K 1/08** (2013.01 - EP US); **Y10S 48/02** (2013.01 - EP US)

Citation (search report)

- [AD] DE 3524802 A1 19860116 - SHELL INT RESEARCH [NL]
- [A] DE 2526922 A1 19760102 - SHELL INT RESEARCH

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NL9401387A; TR26119A; CN114350417A; WO9606901A1; WO2015044273A1; WO2008095980A1

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DE ES GB NL SE

DOCDB simple family (publication)

**EP 0341436 A2 19891115**; **EP 0341436 A3 19900321**; **EP 0341436 B1 19920701**; CN 1020630 C 19930512; CN 1037730 A 19891206; CS 272789 A3 19920318; CS 276636 B6 19920715; DD 283860 A5 19901024; DE 3816340 A1 19891123; DE 58901759 D1 19920806; ES 2042849 T3 19931216; IN 171396 B 19921003; PL 162947 B1 19940131; PL 278412 A1 19891211; TR 24006 A 19910128; US 4954136 A 19900904; US 4973337 A 19901127; ZA 891401 B 19891129

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**EP 89106390 A 19890411**; CN 89100856 A 19890217; CS 272789 A 19890503; DD 32842289 A 19890509; DE 3816340 A 19880513; DE 58901759 T 19890411; ES 89106390 T 19890411; IN 96CA1989 A 19890131; PL 27841289 A 19890322; TR 37889 A 19890503; US 34733389 A 19890503; US 39213689 A 19890810; ZA 891401 A 19890223