

Title (en)  
METHOD AND APPARATUS FOR HEAT TREATMENT

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR WÜRMEBEHANDLUNG

Title (fr)  
PROCEDE ET APPAREIL DE TRAITEMENT THERMIQUE

Publication  
**EP 1543271 A1 20050622 (EN)**

Application  
**EP 03798637 A 20030925**

Priority  
• SE 0301492 W 20030925  
• SE 0202836 A 20020925

Abstract (en)  
[origin: WO2004029511A1] A method and an apparatus for heat-treatment of materials, preferably metals, are provided. The method comprises the following steps: providing and maintaining a flame by supplying a burner with fuel and gas containing at least 80 percent by volume oxygen; creating an oxygen-hot exhaust mixture by recirculating exhausts from the flame to the gas containing oxygen by means of an ejector effect; mixing the oxygen-exhaust mixture and the fuel; and providing a secondary recirculation by recirculating exhausts from the flame to the oxygen-exhaust-fuel mixture. The method and apparatus allow for extremely low NOx emissions and high efficiency, resulting in an environmentally friendly and at the same time cost effective process.

IPC 1-7  
**F23D 14/32**; **F23C 3/00**; **F23C 9/00**

IPC 8 full level  
**F23C 9/00** (2006.01); **F23D 14/22** (2006.01); **F23D 14/32** (2006.01)

CPC (source: EP KR US)  
**F23C 1/00** (2013.01 - KR); **F23C 9/006** (2013.01 - EP US); **F23C 15/00** (2013.01 - KR); **F23D 14/22** (2013.01 - EP US);  
**F23D 14/32** (2013.01 - EP KR US); **F23C 2202/30** (2013.01 - EP US)

Citation (search report)  
See references of WO 2004029511A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT

DOCDB simple family (publication)  
**WO 2004029511 A1 20040408**; AU 2003263721 A1 20040419; BR 0314741 A 20050726; CA 2501062 A1 20040408; EP 1543271 A1 20050622; JP 2006500543 A 20060105; KR 20050062556 A 20050623; MX PA05003198 A 20050912; NO 20051955 D0 20050421; NO 20051955 L 20050624; PL 374499 A1 20051031; RU 2005109915 A 20051010; SE 0202836 D0 20020925; US 2005239005 A1 20051027; ZA 200502379 B 20051130

DOCDB simple family (application)  
**SE 0301492 W 20030925**; AU 2003263721 A 20030925; BR 0314741 A 20030925; CA 2501062 A 20030925; EP 03798637 A 20030925; JP 2004539712 A 20030925; KR 20057004970 A 20050323; MX PA05003198 A 20030925; NO 20051955 A 20050421; PL 37449903 A 20030925; RU 2005109915 A 20030925; SE 0202836 A 20020925; US 52854605 A 20050609; ZA 200502379 A 20050322