

Title (en)

SPINNING METHOD

Title (de)

SPINNVERFAHREN

Title (fr)

PROCEDE DE FILATURE

Publication

**EP 1521869 B1 20111005 (DE)**

Application

**EP 03762524 A 20030626**

Priority

- EP 03762524 A 20030626
- EP 0306786 W 20030626
- EP 02015058 A 20020705

Abstract (en)

[origin: WO2004005594A1] Disclosed is a method for spinning a multi-filament yarn made of a thermoplastic material, according to which the melted material is extruded through a plurality of holes of a spinning nozzle so as to form a filament bundle comprising many filaments and is coiled as a yarn once said material has solidified. The filament bundle is cooled below the spinning nozzle, a process which is characterized by the fact that the cooling takes place in two steps: a gaseous cooling medium flows against the filament bundle in a first cooling zone such that said gaseous cooling medium flows across the filament bundle in a transverse direction and is almost entirely evacuated from the filament bundle on the side of the bundle, which lies opposite the side on which the gaseous cooling medium flows against the filament bundle, whereupon the filament bundle is further cooled essentially by independently taking in a gaseous cooling medium which is supplied in the surroundings of the filament bundle in a second cooling zone located below the first cooling zone.

IPC 8 full level

**D01D 5/088** (2006.01); **D01D 5/092** (2006.01); **D01F 6/62** (2006.01); **D02G 3/36** (2006.01)

CPC (source: EP KR US)

**D01D 5/088** (2013.01 - EP KR US); **D01D 5/092** (2013.01 - EP KR US); **D01F 6/62** (2013.01 - EP KR US); **Y10T 428/2913** (2015.01 - EP US);  
**Y10T 428/2969** (2015.01 - EP US)

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 RO SE SI SK TR

Designated extension state (EPC)

AL LT LV MK

DOCDB simple family (publication)

**WO 2004005594 A1 20040115**; AT E527402 T1 20111015; AU 2003249886 A1 20040123; BR 0312457 A 20050419; BR 0312457 B1 20130319;  
CA 2491647 A1 20040115; CA 2491647 C 20110927; CN 100390334 C 20080528; CN 1665970 A 20050907; CZ 20056 A3 20050518;  
EP 1521869 A1 20050413; EP 1521869 B1 20111005; ES 2373379 T3 20120202; JP 2005535793 A 20051124; JP 4523409 B2 20100811;  
KR 101143536 B1 20120509; KR 20050099493 A 20051013; MX PA05000325 A 20050819; PT 1521869 E 20120103;  
RU 2005101741 A 20060120; RU 2318930 C2 20080310; SI 1521869 T1 20120330; UA 77098 C2 20061016; US 2005147814 A1 20050707;  
US 2010175361 A1 20100715; US 7731876 B2 20100608; US 8182915 B2 20120522; ZA 200500069 B 20060726

DOCDB simple family (application)

**EP 0306786 W 20030626**; AT 03762524 T 20030626; AU 2003249886 A 20030626; BR 0312457 A 20030626; CA 2491647 A 20030626;  
CN 03815925 A 20030626; CZ 20056 A 20030626; EP 03762524 A 20030626; ES 03762524 T 20030626; JP 2004518590 A 20030626;  
KR 20057000221 A 20030626; MX PA05000325 A 20030626; PT 03762524 T 20030626; RU 2005101741 A 20030626;  
SI 200332081 T 20030626; UA 2005000709 A 20030626; US 52006405 A 20050309; US 73257310 A 20100326; ZA 200500069 A 20050104