

Title (en)  
TANTALA DOPED OPTICAL WAVEGUIDE AND METHOD OF MANUFACTURE

Title (de)  
OPTISCHER WELLENLEITER, DOTIERT MIT TANTALUMOXID UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)  
GUIDE D'ONDE DOPE AU TANTALE ET SON PROCEDE DE FABRICATION

Publication  
**EP 1144324 A2 20011017 (EN)**

Application  
**EP 99972023 A 19991209**

Priority  
• US 9929225 W 19991209  
• US 11436998 P 19981230

Abstract (en)  
[origin: WO0039039A2] The present invention is directed to low loss optical waveguides doped with tantala and methods for manufacturing such waveguides. SiO<sub>2</sub> soot is doped with Ta<sub>2</sub>O<sub>5</sub> to form a soot blank which is consolidated under conditions suitable to prevent the crystallization within the Ta<sub>2</sub>O<sub>5</sub>-SiO<sub>2</sub> containing waveguides. The resulting cane is then either drawn into an optical fiber or overclad and subsequently drawn into an optical fiber. High temperature consolidation in either a gaseous atmosphere or vacuum atmosphere is used to sinter and vitrify the soot blank prior to drawing to produce a low loss optical waveguide fiber.  
[origin: WO0039039A2] The present invention is directed to low loss optical waveguides doped with tantala and methods of manufacturing such waveguides. SiO<sub>2</sub> soot is doped with Ta<sub>2</sub>O<sub>5</sub> to form a soot blank which is consolidated under conditions suitable to prevent the crystallization within the Ta<sub>2</sub>O<sub>5</sub>-SiO<sub>2</sub> containing waveguides. The resulting rod is then either drawn into an optical fiber or overclad and subsequently drawn into an optical fiber. High temperature consolidation in either a gaseous atmosphere or vacuum atmosphere is used to sinter and vitrify the soot blank prior to drawing to produce a low loss optical waveguide fiber.

IPC 1-7  
**C03B 37/014**; **C03B 13/04**; **C03C 3/06**; **C03C 13/04**

IPC 8 full level  
**G02B 6/00** (2006.01); **C03B 20/00** (2006.01); **C03B 37/014** (2006.01); **C03B 37/018** (2006.01); **C03C 3/06** (2006.01); **C03C 13/04** (2006.01); **G02B 6/02** (2006.01)

CPC (source: EP)  
**C03B 37/01413** (2013.01); **C03B 37/01446** (2013.01); **C03C 3/06** (2013.01); **C03C 13/045** (2013.01); **G02B 6/02** (2013.01); **C03B 2201/40** (2013.01); **C03B 2207/90** (2013.01); **C03C 2201/40** (2013.01); **C03C 2203/40** (2013.01)

Citation (search report)  
See references of WO 0039039A2

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**WO 0039039 A2 20000706**; **WO 0039039 A3 20001109**; AU 3996700 A 20000731; CA 2357777 A1 20000706; CN 1332703 A 20020123; EP 1144324 A2 20011017; JP 2002533295 A 20021008; TW 421724 B 20010211

DOCDB simple family (application)  
**US 9929225 W 19991209**; AU 3996700 A 19991209; CA 2357777 A 19991209; CN 99815207 A 19991209; EP 99972023 A 19991209; JP 2000590956 A 19991209; TW 88122962 A 19991220