

Title (en)
Improvements in or relating to optical fibres and glasses.

Title (de)
Verbesserung von optischen Fasern und Gläsern.

Title (fr)
Perfectionnement apporté aux fibres et verres optiques.

Publication
EP 0000282 A1 19790110 (EN)

Application
EP 78300096 A 19780628

Priority
GB 2692477 A 19770628

Abstract (en)
[origin: US4275951A] A range of alkali metal borosilicate glass compositions modified by the addition of alkaline earth metal oxides has been found to be especially suitable for the production of graded index optical fibre by thermal diffusion using the double crucible method. A core glass chosen from this range may be paired with a suitable cladding glass so that, in the nozzle of the double crucible, alkaline earth metal exchange occurs to give a composition gradient of alkaline earth metal oxide and hence a gradation of refractive index. Using these glasses, fibres have been produced having refractive index profiles that approximate closely to the ideal parabolic distribution, numerical apertures of up to 0.21, and best loss values as low as 6.4 dB/km at 850 nm.

IPC 1-7
C03C 3/08; **C03C 13/00**; **G02B 5/14**

IPC 8 full level
C03C 3/089 (2006.01); **C03C 13/04** (2006.01); **G02B 6/028** (2006.01)

CPC (source: EP US)
C03C 3/089 (2013.01 - EP US); **C03C 13/046** (2013.01 - EP US); **G02B 6/0281** (2013.01 - EP US); **G02B 6/03627** (2013.01 - EP US)

Citation (search report)

- GB 1301409 A 19721229
- GB 954836 A 19640408 - OWENS CORNING FIBERGLASS CORP
- [AD] US 3957342 A 19760518 - NEWNS GEORGE REGINALD, et al
- [A] GB 1319670 A 19730606 - NIPPON SELFOC CO LTD
- [A] US 3859103 A 19750107 - YOSHIYAGAWA MITSUGI, et al
- [A] PROCEEDINGS OF THE INSTITUTION OF ELECTRICAL ENGINEERS, vol. 123, nr. 6, june 1976, London, T. INOUE et al. "Low-loss light focusing fibres manufactured by a continuous process", pages 577-580.

Cited by
DE3016116A1; EP0081928A1; US4552850A

Designated contracting state (EPC)
DE FR GB NL SE

DOCDB simple family (publication)
EP 0000282 A1 19790110; **EP 0000282 B1 19810826**; **EP 0000282 B2 19900516**; CA 1109083 A 19810915; DE 2860976 D1 19811119; US 4275951 A 19810630

DOCDB simple family (application)
EP 78300096 A 19780628; CA 306242 A 19780626; DE 2860976 T 19780628; US 10565279 A 19791220