

Title (en)

OPTICAL ARTICLE WITH ANTI-REFLECTING COATING, CORRESPONDING COATING MATERIAL AND COATING METHOD

Title (de)

OPTISCHER ARTIKEL MIT REFLEXFREIER BESCHICHTUNG, ENTSPRECHENDES BESCHICHTUNGSMATERIAL UND BESCHICHTUNGSVERFAHREN

Title (fr)

ARTICLE OPTIQUE TRAITE ANTI-REFLET, MATERIAU ET PROCEDE CORRESPONDANTS

Publication

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Application

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Priority

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- US 9806234 W 19980330
- US 5398697 P 19970728

Abstract (en)

[origin: WO9845113A1] The invention relates to an optical article which comprises a mineral substrate and an anti-reflecting coating on at least one surface of said mineral substrate. In a characteristic way, said mineral substrate has a refractive index between 1.5 and 1.9 and said anti-reflecting coating is a single layer, nanoporous/nanograin structured coating, obtained by heat-treating a sol-gel film, constituted of strongly interconnected, inorganic polymers, also linked with inorganic particles, said polymers forming a tri-dimensional network which has the general formula M-OH/M-O-M, in which M represents a metal or a metalloid, advantageously selected from silicon, aluminium, zirconium, titanium and mixtures thereof. The invention also relates to a sol-gel material which is precursor of said anti-reflecting coating, and to a coating method for obtaining said optical article. Said device is advantageously an ophthalmic lens.

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G02B 1/11; **C03C 17/25**

IPC 8 full level

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Citation (search report)

- [X] EP 0597490 A1 19940518 - CENTRAL GLASS CO LTD [JP]
- [X] US 4816333 A 19890328 - LANGE ROGER W [US], et al
- [X] US 4271210 A 19810602 - YOLDAS BULENT E
- [A] EP 0193269 A2 19860903 - MINNESOTA MINING & MFG [US]
- [A] US 4535026 A 19850813 - YOLDAS BULENT E [US], et al
- [X] PATENT ABSTRACTS OF JAPAN vol. 011, no. 193 (C - 430) 20 June 1987 (1987-06-20)
- [A] PATENT ABSTRACTS OF JAPAN vol. 012, no. 096 (C - 484) 29 March 1988 (1988-03-29)
- See also references of WO 9845113A1

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