

6 Documents

Publication numbers	Title	Current assignees
US20120019915 A1	Durable anti-reflection coatings	YAZAKI
GB201014024 D0	Optical coating comprising porous silica nanoparticles	OXFORD ENERGY TECHNOLOGIES
FR2954833 A1	Optical article comprising a temporary anti-fogging coating with improved durability	SATISLOH
US20040253369 A1	Process for replacing an initial outermost coating layer of a coated optical lens by a different coating layer	ESSILOR INTERNATIONAL
WO2006122566 A2	Membrane for filtering of water	AQUAPORIN
EP1479734 A1	Nano-structured surface coating process, nano-structured coatings and articles comprising the coating	DSM IP ASSETS

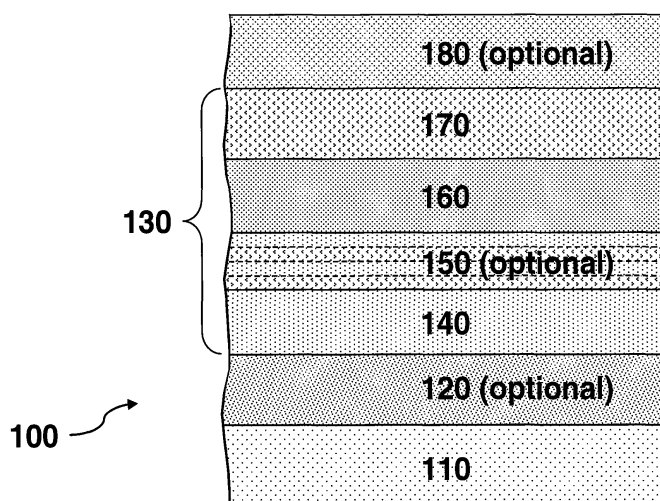
Durable anti-reflection coatings US20120019915 A1

<u>Current assignees</u> YAZAKI* <u>Inventors</u> YAN YONGAN KAYGEE ANAND RAYCHAUDHURI SATYABRATA <u>Priority data including date</u> 2009US-61250206 2009-10-09 2010WO-US52080 2010-10-08 2011US-13247334 2011-09-28	<u>IPC - International classification</u> G02B-001/10* G02B-005/28 <u>CPC - Cooperative classification</u> B32B-033/00 B32B-2307/40 B32B-2307/418 C03C-017/42 C03C-2217/73 C03C-2217/76 C08J-007/04/5 G02B-001/11/1* <u>PCL - US patent classification</u> PCLO: 359581000* PCLX: 359582000 359586000 359589000
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<u>Family</u>			
US2012019915	A1	2012-01-26	US8358467
			B2 2013-01-22

(US8358467)

An article comprising a substrate and an anti-reflection coating, and methods for depositing the coating, are disclosed. The coating comprises (a) a first coating layer having a high refractive index deposited on the substrate; (b) an epoxide-silica coating layer deposited onto the high refractive index coating layer, comprising an inorganic silica component and an organic organo-silicate component, and (c) a silica coating layer consisting essentially of silica, deposited directly onto the epoxide-silica coating layer. The anti-reflection coating optionally comprises a stack of coating layers, between the first high refractive index coating layer and the epoxide-silica coating layer, having alternating a low refractive index and a high refractive index. Individual coating layer compositions, refractive indexes, and thicknesses are carefully controlled such that reflectance is minimized through destructive interference in the visible light wavelength range of 400 to 700 nm. The resulting deposited coating provides excellent mechanical, chemical, and environmental durability.



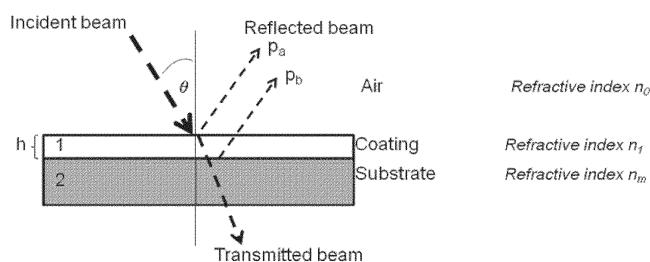
Optical coating comprising porous silica nanoparticles GB201014024 D0

Current assignees OXFORD ENERGY TECHNOLOGIES* Inventors WAKEFIELD GARETH GARDENER MARTIN OSTROWSKI SASHA Priority data including date 2010GB-0014024 2010-08-20 2011WO-GB51565 2011-08-19	IPC - International classification B32B-007/02 C09D-007/12 C09D-183/02 C09D-183/06 C09D-201/00 G02B-001/10 G02B-001/11* CPC - Cooperative classification G02B-001/11/1* G02B-001/11/3 G02B-2207/107 Y10T-428/24942 Y10T-428/24992 Y10T-428/249974 PCL - US patent classification PCLO: 428218000* PCLX: 106287160 427162000 428212000 428313900 523466000
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Family GB201014024 D0 2010-10-06 WO2012022983 A1 2012-02-23 TW201310055 A 2013-03-01 CN103097918 A 2013-05-08 EP2606388 A1 2013-06-26 KR20130092565 A 2013-08-20		US2013216807 A1 2013-08-22 JP2013539550 A 2013-10-24 BR112013003460 A1 2013-12-31 RU2013112006 A 2014-09-27 IN2405/DELNP/2013 A 2016-04-15	
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(EP2606388)

An optical coating comprising a binder and a plurality of porous silica nanoparticles in which the pores are randomly oriented, a solution for forming an optical coating comprising a solvent and a plurality of porous silica nanoparticles in which the pores are randomly oriented, a method for fabricating an optical coating, and the use of porous silica nanoparticles in which the pores are randomly oriented in the manufacture of an optical coating.



Optical article comprising a temporary anti-fogging coating with improved durability FR2954833 A1

Current assignees

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SATISLOH*

Inventors

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FEUILLADE MATHIEU
HENKY FRANCIS

Priority data including date

2009FR-0059685 2009-12-31
2010FR-0053269 2010-04-28
2010WO-FR52895 2010-12-22
2012TH-1003271 2010-12-22

IPC - International classification

B32B-037/00	C03C-017/30*	G02B-001/10
G02B-001/11	G02B-001/111	G02B-001/18
G02B-027/00	G02C-007/00	G02C-007/02

CPC - Cooperative classification

C03C-017/30	C03C-2217/75	C03C-2218/31
G02B-001/10/5	G02B-001/11/1	G02B-001/18
G02C-007/02*	Y10T-428/249953	

PCL - US patent classification

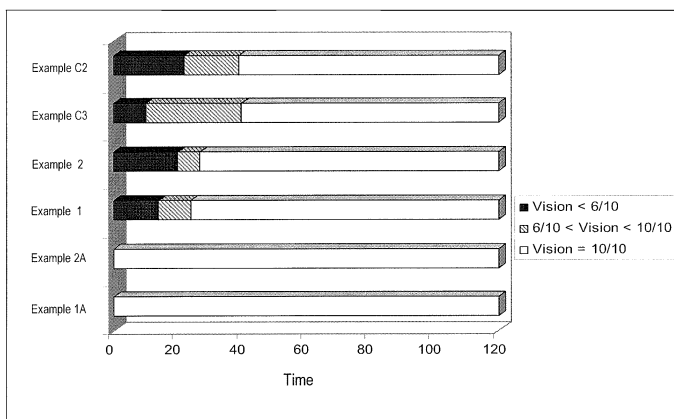
PCLO: 428304400*

Family

FR2954833	A1	2011-07-01	TH127241	A	2013-09-20
FR2954832	A1	2011-07-01	BR112012016406	A1	2013-12-31
WO2011080472	A2	2011-07-07	US8709588	B2	2014-04-29
CA2785908	A1	2011-07-07	AU2010338060	B2	2015-01-22
WO2011080472	A3	2011-08-25	EP2519474	B1	2015-04-01
US2012019767	A1	2012-01-26	ES2539711	T3	2015-07-03
AU2010338060	A1	2012-07-12	PT2519474	E	2015-07-21
CN102686527	A	2012-09-19	CN102686527	B	2015-08-05
KR20120107084	A	2012-09-28	IN5119DEN2012	A	2015-10-23
EP2519474	A2	2012-11-07	EA022678	B1	2016-02-29
EA201200976	A1	2012-12-28	JP5965321	B2	2016-08-03
FR2954833	B1	2013-03-22	KR101764280	B1	2017-08-03
JP2013516638	A	2013-05-13			

(EP2519474)

An optical article including a substrate coated with a coating comprising, on the surface thereof, silanol groups and, in direct contact with this coating, a precursor coating of an anti-fogging coating, said precursor coating having a static contact angle with water greater than 10° and less than 50° and a thickness less than or equal to 5 nm and being obtained by the grafting of at least one organosilane compound having a polyoxyalkylene group comprising less than 80 carbon atoms and at least one silicon atom bearing at least one hydrolysable group. The anti-fogging coating precursor is converted into the actual anti-fogging coating upon application to the surface thereof of a film of a liquid



solution containing at least one surface active agent. The anti-fogging coating is immediately operational and provides long-lasting effects.

Process for replacing an initial outermost coating layer of a coated optical lens by a different coating layer **US20040253369 A1**

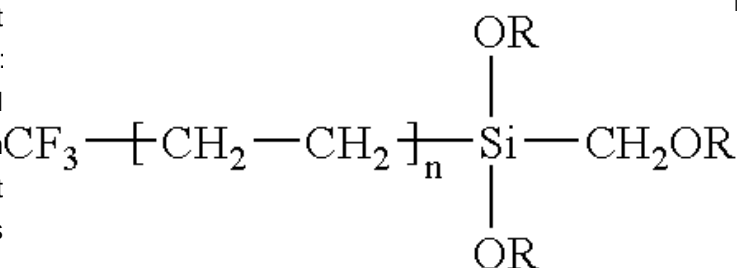
<u>Current assignees</u>	<u>IPC - International classification</u>		
ESSILOR INTERNATIONAL*	B05D-003/14*	B05D-005/06	C03C-017/00
	C03C-017/42	C08J-007/00	C08J-007/12
<u>Inventors</u>	C08J-007/18*	G02B-001/04	G02B-001/10
JALLOULI AGNÈS	G02B-001/11	G02B-001/12	G02C-007/02
FOURNAND GÉRALD			
<u>Priority data including date</u>	<u>CPC - Cooperative classification</u>		
2003US-10461091 2003-06-13	B05D-003/14/1	B05D-003/14/2	C03C-017/00/1
2004WO-EP06293 2004-06-10	C03C-017/42	C03C-2217/734	C08J-007/12/3*
	G02B-001/10/5	G02B-001/11/5	G02B-001/14
	G02B-001/18		
	<u>PCL - US patent classification</u>		
	PCLO:	427162000*	
	PCLX:	427166000	427167000 427255600
	427255700	427402000	427561000

Family					
US2004253369	A1	2004-12-16	IN5621/DELNP/2005	A	2008-01-18
WO2004111691	A1	2004-12-23	CN100514089	C	2009-07-15
CA2529321	A1	2004-12-23	CA2529321	C	2009-08-18
AU2004248264	A1	2004-12-23	AU2004248264	B2	2009-08-27
EP1636616	A1	2006-03-22	JP4820751	B2	2011-11-24
KR20060027806	A	2006-03-28	KR101234691	B1	2013-02-19
BRPI0411415	A	2006-07-25	EP1636616	B1	2014-08-27
BRPI0411415	A1	2006-07-25	ES2523847	T3	2014-12-02
CN1823282	A	2006-08-23	BRPI0411415	A2	2016-11-29
JP2006527402	A	2006-11-30	BRPI0411415	B1	2017-02-07
US7217440	B2	2007-05-15			

(EP1636616)

The invention concerns a process for replacing an initial outermost coating layer of a coated optical lens with a layer of a new final coating having surface properties different from those of said initial outermost coating which comprises:

(a) providing a coated optical lens having an initial outermost coating layer having a surface contact angle with water of at least 65°; (b) subjecting the initial outermost coating layer to a treatment with activated chemical species at about atmospheric pressure, and for less than one minute, in order there is obtained a treated surface having a contact angle with water of 10° or less; and (c) depositing on said treated surface a layer of a final coating having



surface properties different from those of said initial
outermost coating.

Membrane for filtering of water WO2006122566 A2

<u>Current assignees</u>	<u>IPC - International classification</u>			
AQUAPORIN*	B01D	B01D-061/00	B01D-061/02	
ARE AQUAPORIN* S	B01D-061/06	B01D-061/08	B01D-061/24	
EPI ES AQUAPORIN*	B01D-061/38	B01D-065/00	B01D-069/00	
	B01D-069/02	B01D-069/10	B01D-069/12	
	B01D-069/14*	B01D-071/02	B01D-071/06	
	B01D-071/10	B01D-071/36	B01D-071/68	
	B01D-071/74	B01D-071/80	C02F	
	C02F-001/44	C08J-009/40	F03B-013/00	
	F03B-017/02	F03G	F03G-007/00	
	<u>CPC - Cooperative classification</u>			
	B01D-061/00/2*	B01D-069/02	B01D-069/10*	
	B01D-069/14/1	B01D-069/14/2	B01D-071/06	
	B01D-071/74*	B01D-071/80	C02F-001/44	
	C02F-001/44/1	C02F-001/44/2	C07K-014/705	
	F03G-007/00/5	Y02A-020/131	Y02E-010/36	
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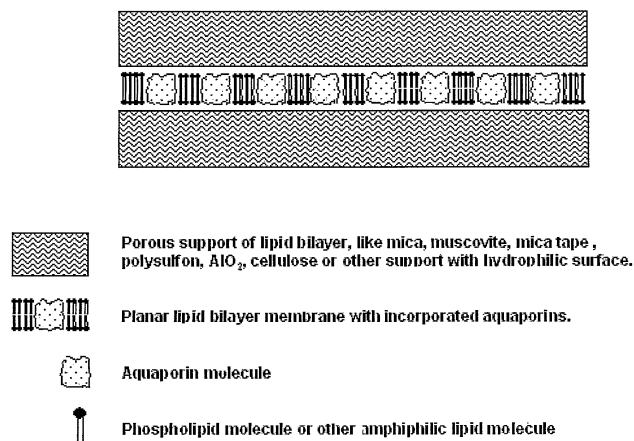
<u>Family</u> WO2006122566 A2 2006-11-23 CA2607371 A1 2006-11-23 AU2006246841 A1 2006-11-23 WO2007033675 A1 2007-03-29 CA2621807 A1 2007-03-29 AU2006294205 A1 2007-03-29 WO2006122566 A3 2007-04-12 IL187164 A 2008-02-09 NO20075674 L 2008-02-12 EP1885477 A2 2008-02-13 NO20081182 L 2008-06-06 CN101198398 A 2008-06-11 IN4455/KOLNP/2007 A 2008-06-20 EP1937395 A1 2008-07-02 IL190074 A 2008-08-07 CN101267875 A 2008-09-17 JP2008540108 A 2008-11-20 IN1345/KOLNP/2008 A 2008-12-26	IL187164 B 2011-01-31 AU2006246841 C1 2011-07-21 CN102145259 A 2011-08-10 EP1937395 B1 2011-11-09 AT532576 T 2011-11-15 DK1937395 T3 2012-02-06 US8123948 B2 2012-02-28 JP2012052552 A 2012-03-15 ES2377234 T3 2012-03-23 JP2012192408 A 2012-10-11 EP2179780 B1 2012-10-17 CN101198398 B 2012-10-31 DK2179780 T3 2013-01-02 ES2394467 T3 2013-02-01 CN101267875 B 2013-02-06 HK1139890 A1 2013-03-01 EP2179780 B9 2013-04-03 DK2179780 T5 2013-05-27
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US2009007555	A1	2009-01-08	CA2621807	C	2013-08-06
JP2009510301	A	2009-03-12	IN258338	B	2014-01-03
US2009120874	A1	2009-05-14	JP5394466	B2	2014-01-22
EP1885477	B1	2010-02-17	JP2014029153	A	2014-02-13
AT457823	T	2010-03-15	JP2014030823	A	2014-02-20
DE602006012307	D1	2010-04-01	JP5468253	B2	2014-04-09
EP2179780	A1	2010-04-28	JP2014094378	A	2014-05-22
HK1109357	A1	2010-05-28	IL190074	B	2014-05-28
ES2340314	T3	2010-06-01	IL209514	B	2014-07-31
DK1885477	T3	2010-06-07	JP5616396	B2	2014-10-29
AU2006294205	B2	2010-12-16	JP5627749	B2	2014-11-19
AU2006246841	B2	2010-12-23	CA2607371	C	2016-04-26
US7857978	B2	2010-12-28	NO341122	B1	2017-08-28
IL209514	A	2011-01-31	NO341148	B1	2017-09-04

(EP2179780)

Membranes and devices incorporating them are useful in water filtration and purification. Disclosed are water membranes comprising aquaporin water transport proteins that have been reconstituted in lipid vesicles and transformed into a supported layer. Also disclosed are water purification devices/systems, including reverse osmosis filtering devices that include the membranes, methods of preparing the membranes and devices, and their use in methods of water purification.

Supported lipid bilayer with incorporated Aquaporin molecules



Nano-structured surface coating process, nano-structured coatings and articles comprising the coating

EP1479734 A1

Current assignees

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CURRIE EDWIN
TRONCHE CHRISTOPHER FREDERIC
SOUTHWELL JOHN EDMOND

Priority data including date

2003EP-0076510 2003-05-20
2003EP-0765101 2003-05-20
2003US-60471746 2003-05-20
2004EP-0075534 2004-02-20
2004EP-0732852 2004-05-13
2004EP-0755340 2004-02-20
2004US-10958657 2004-10-06
2004WO-NL00329 2004-05-13
2005US-10557243 2005-11-16
2007US-11724252 2007-03-15
2008US-12182955 2008-07-30
US604714746 2003-05-20

IPC - International classification

B05D-001/12	B05D-001/38	B05D-005/06
B05D-007/24	B32B-003/00	B32B-003/26
B32B-005/16	B82B-003/00	C03C-017/00
C04B-041/45	C04B-041/81	C08F-002/46
C08F-002/48	C09D-001/00	C09D-004/00*
C09D-005/00	C09D-007/12	C09D-183/04
G02B-001/11		

CPC - Cooperative classification

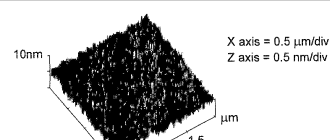
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C09D-007/62	G02B-001/11	

PCL - US patent classification

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PCLX:	427162000	427164000	427180000
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	427508000	428315500	

Family

EP1479734	A1	2004-11-24	AT422525	T	2009-02-15
WO2004104113	A1	2004-12-02	DE60326121	D1	2009-03-26
TW200505810	A	2005-02-16	DK1479734	T3	2009-05-11
US2006019114	A1	2006-01-26	IN234070	B	2009-05-29
EP1625182	A1	2006-02-15	ES2321390	T3	2009-06-05
MXPA05012488	A	2006-02-22	EP1625182	B1	2009-07-08
KR20060017610	A	2006-02-24	AT435890	T	2009-07-15
CN1791646	A	2006-06-21	DE602004021919	D1	2009-08-20
US2006275595	A1	2006-12-07	DK1625182	T3	2009-09-07
JP2007507342	A	2007-03-29	ES2327927	T3	2009-11-05
IN3073/CHENP/2005	A	2007-07-27	US7704608	B2	2010-04-27
CN100379828	C	2008-04-09	US7892606	B2	2011-02-22
US2008248312	A1	2008-10-09	TWI357403	B	2012-02-01
US2009029145	A1	2009-01-29	KR101114798	B1	2012-03-05
EP1479734	B1	2009-02-11			



(EP1625182)

The invention relates to a new process for the preparation of nano-structured and/or nano-porous surfaces, coatings having a nano-structured and/or nano-porous surface and articles comprising said coatings. The invention also relates to the use of coatings according to the invention, in particular as anti-reflective coatings. The process for the preparation of the surface nano-structured and/or nano-porous coatings is a process comprising the steps of:

a) applying a mixture to a substrate which mixture comprises: i) reactive nano-particles; ii) at least one solvent; iii) optionally a compound having at least one polymerisable group, in an amount that results in an increase in the transmission of at least 0.5%, for at least part of the electromagnetic spectrum between 400 and 800 nm, after the mixture has been applied and cured on a transparent substrate, in comparison with the same substrate without a coating; b) inducing crosslinking and/or polymerisation in the mixture applied to the substrate.