

Search history

Search PN=(WO2015092332) (Results 1)

1:

Search [SP]: 1. method of producing a heating item, comprising the following steps: a) providing a support in the form of a preform with at least two opposite surfacesb) preparing a sol-gel composition consisting of at least one metal-alkoxide sol-gel precursorc) hydrolyzing said sol-gel precursor in the presence of water and an acid or base catalyst, followed by a condensation reactiond) applying onto at least one support surface of the preform at least one layer of said sol-gel composition of a thickness ranging from 5 to 120 micro m, to form a sol-gel coating layer followed bye) thermally treating to solidify said sol-gel coating layer to provide a coated preformwherein, between step d) of applying the sol-gel composition onto at least one of the preform surfaces and step e) for thermally treating for solidification, the method includes two successive steps ofd') pre-densifying the coated preform to produce a sol-gel coating layer with a pencil hardness ranging from 4b to 4h followed byd') stamping of said preform to produce a final form of the culinary item, with an interior surface intended to receive food and an exterior surface intended to come into contact with a heat source. 2. method as in claim 1, in which the densifying step comprises drying at a temperature ranging between 20 degrees centigrade and 150 degrees centigrade 3. method as in claim 1, in which the sol-gel precursor of the sol-gel composition takes the general formula (1): $(1) \text{ mm}(\text{or}')(\text{4-n})$, where: r represents an alkyl or phenyl group,r' represents an alkyl group,m represents a metal or non-metal selected from si, zr, ti, al, v, ce, or la, andn is between 0 and 3. 4. method as in claim 3, in which the sol-gel precursor of general formula (1) is an alkoxysilane. 5. method as in claim 3, in which the sol-gel composition further consists of at least one metal alkoxide with a non-hydrolyzable function. 6. method as in claim 5, in which the non-hydrolyzable function is an alkyl or phenyl group. 7. method as in claim 6, in which the alkyl group of the non-hydrolyzable function or the alkyl group r of formula (1) consists of one of an ethylenic double bond, amine function or epoxide function. 8. method as in claim 6, in which the alkyl group is a methyl group. 9. method as in claim 7, in which the alkyl group is one of a group selected from aminopropyl, methacryloxypropyl, or glycidioxypropyl. 10. method as in claim 1, in which the sol-gel composition further consists of at least one organic or inorganic load. 11. method as in claim 10, in which said load is an organic polymer load, selected from powdered ptfe, silicone beads, silicone resin, linear or tri-dimensional polysilsesquioxanes, powdered polyethylene sulfide (pes), powdered poly ether ketone (peek), powdered polyphenylene sulfide (pps), or perfluoro(propyl vinyl ether) (pfa), powdered fluorinated ethylene propylene (fep), powdered polyurethane and mixtures thereof. 12. method as in claim 10, in which said load is a lubricating inorganic charge. 13. method as in claim 12, in which said inorganic load is one of boron nitride, molybdenum sulfide, or graphite. 14. method as in claim 1, in which the support is a metal support selected from aluminum, steel, stainless steel, copper, titanium, or multiple layers of said metals. 15. method as in claim 1, in which the preform is a flat support. 16. method as in claim 15, in which the step of applying the sol-gel composition to one of the preform surfaces is carried out by one of screen printing, roller, ink jet, powder coating or curtain coating. 17. method as in claim 1, wherein the thermally treating step e) is a cooking treatment conducted at a temperature ranging between 150 degrees centigrade and 350 degrees centigrade 18. method according claim 1, which furthermore comprises, prior to step d) of applying the sol-gel composition onto at least one of the preform surfaces, a step a') of treating a surface destined to be coated. 19. heating item, obtained by the method defined in claim 1. 20. item as in claim 19, that is one of a culinary item, a heating lid, a heating mixing bowl for a food or beverage preparation item, smoothing iron soleplate, a table item such as a trivet, a radiator, a towel rack, or wood stove, barbecue grate or a barbecue grill. (Results 0)

Search [SP]: [0001] the present invention relates generally to a method of producing an item comprising a support with a sol-gel coating. the present invention relates specifically to a method comprising a stamping step carried out after the sol-gel coating is applied to the support. [0002] it falls under the general domain of heating items, and in particular, the domain of culinary items.[0003] the term heating item, in the context of the present invention, refers to an item equipped with its own heating system or an item that is heated by an exterior system and that is capable of transmitting the heat energy introduced by this system to a third material or object in contact with said item, or an item intended to receive another item that has previously been heated.[0004] the term sol-gel coating, in the context of the present invention, refers to a coating synthesized through a sol-gel process from a solution of liquid phase precursors into a solid through a set of chemical reactions (hydrolysis and condensation) at low temperatures. the resulting coating may be either organo-mineral or entirely mineral.[0005] the term organo-mineral coating, in the context of the present invention, refers to a coating for which the network is essentially inorganic, but which includes organic groups, due particularly to the precursors used and the temperature at which the coating is cooked, or due to the incorporation of organic loads.[0006] the term entirely mineral coating, in the context of the present invention, refers to a coating comprised of an entirely inorganic material, free of any organic groups. such a coating may also be obtained through a sol-gel process with a cooking temperature of at least 400 degrees centigrade, or through the use of tetraethyl orthosilicate (teos) type precursors with a cooking temperature that may be less than 400 degrees centigrade [0007] for a number of years, sol-gel coatings have been gaining preference over coatings based on fluorocarbon resins such as polytetrafluoroethylene (ptfe), for the purposes of creating non-stick coatings for culinary items. however, sol-gel coatings must still be applied to formed, previously stamped items, as inorganic networks cannot be formed without cracking. this translates to a significant reduction in the adherence of the sol-gel coating to the substrate, in addition to a lower resistance to grease penetration in the case of a culinary item in use. in terms of manufacturing, sol-gel coatings are applied to items that have already been stamped. thus, they cannot be applied with many plate-coating techniques (screen printing, roller, ink jet, curtain coating, etc.), and are generally applied by powder coating with a pneumatic gun. this results in a significant loss of the product during the powder coating (depending on the item's shape, the loss may constitute 30 to 70 percent of the applied sol-gel composition), and potentially the overspray of the product onto the surface opposite the coated surface, which may be difficult to control.[0008] this is not the case for fluorocarbon coatings (having the ability to be formed, and in particular, drawn), which may be formed and stamped, and are therefore applied onto flat surfaces using plate coating methods prior to thermal treatments and stamping into the desired shape.[0009] to address these disadvantages, the applicant has developed a method of shaping an item by stamping a metallic object previously coated on at least one surface with a sol-gel coating, using a modified pre-condensation treatment of the sol-gel layer prior to stamping.[0010] more specifically, the present invention relates to a method of producing a culinary item, characterized in that it comprises the following steps: a) provision of a support in the form of a preform with at least two opposite surfacesb) preparation of a sol-gel composition consisting of at least one metal-alkoxide sol-gel precursorc) hydrolysis of said sol-gel precursor in the presence of water and an acid or base catalyst, followed by a condensation reactiond) application onto at least one support surface of at least one layer of said sol-gel composition of a thickness ranging from 5 to 120 micro m, to form a sol-gel coating layer followed bye) thermal treatment to solidify said sol-gel coating layer.[0016] the method according to the invention furthermore consists of, between the sol-gel composition application step d) and thermal treatment step e), the two following successive steps:[0017] d') pre-densification of the resulting coated preform to produce a sol-gel coating layer with a pencil hardness ranging from 4b to 4h[0018] d') stamping of said preform to produce the final form of the culinary item, with an interior surface designed to receive food and an exterior surface designed to come into contact with a heat source, the stamped surface may be either the surface equipped with the sol-gel coating layer, or its opposite.[0019] the ability to stamp (or suitability for stamping) of a preform coated with at least one layer of a sol-gel coating, as afforded by the method according to the invention, provides many advantages in terms of both the manufacturing and the aesthetics of culinary items.[0020] accordingly, the method according to the invention makes it possible to use, during the sol-gel composition application step d), plate coating techniques, which not only results in a significant reduction in the amount of the coating required for manufacturing, but also eliminates the problem of overspray. [0021] furthermore, working with plate metal before the coating is applied simplifies the surface preparation steps (sand blasting, degreasing, chemical cleaning, etc.)[0022] aesthetically, it is also highly advantageous to apply the sol-gel composition to the preform using plate coating techniques, as these techniques may be used to produce a wider variety of decorations. in fact, it is much easier to create a decoration on a flat plate (by means of flexography, a roller, ink jet, multi-layered screen printing, etc.), than with powder coating (where masking is required), or with techniques to insert decorations by pad printing on the base of the item, etc.).[0023] for the method according to the invention, the preform used has at least two opposite faces.[0024] advantageously, the preform is a metallic support. the support may advantageously be aluminum, steel, particularly stainless steel, or copper, titanium, or formed from multiple layers of the aforementioned metals.[0025] preferably, the preform, and in particular the metallic preform, may be a flat support (for example, disk-shaped).[0026] advantageously, the method according to the invention may furthermore comprise, prior to the sol-gel composition application step d) a step a') for the treatment of the surface destined to be coated. the surface treatment may consist of a chemical treatment (chemical cleaning in particular) or mechanical treatment (sanding, brushing, grinding, blasting, for example) or physical (plasma treatments in particular), to create a roughness conducive to the adherence of the sol-gel coating layer. the surface treatment may furthermore advantageously be preceded by a degreasing operation to clean the surface.[0027] the sol-gel composition of the method according to the invention is obtained through the hydrolysis of the sol-gel precursor in the presence of water and an acid or base catalyst, followed by a condensation reaction resulting in the sol-gel composition.[0028] the sol-gel composition of the method according to the invention consists of at least one metal-alkoxide sol-gel precursor.[0029] preferably, the metal alkoxide precursor used would take the general formula (1): $(1) \text{ mm}(\text{or}')(\text{4-n})$, where: r represents an alkyl or phenyl group,r' represents an alkyl group,m represents a metal or non-metal selected from si, zr, ti, al, v, ce, or la, andn is between 0 and 3.[0035] advantageously, the or' alkoxy group of the metal alkoxide of formula (1) is a methoxy or ethoxy.[0036] preferably, the metal alkoxide of the general formula (1) is an alkoxysilane, because of the greater reactivity of silanes, their reactive stability and their low cost.[0037] to improve the formability of the one or more

layers of the sol-gel coating, as well as adhesion to the metal substrate, in one embodiment of the invention, the sol-gel composition may furthermore consist of at least one metal alkoxide with a non-hydrolyzable function at the level of element m, for example an alkyl or phenyl group.[0038] in one variant of this embodiment, the alkyl group of the non-hydrolyzable function may be a methyl group, corresponding to the alkoxy silane mtes (methyltriethoxysilane).[0039] in a second variation of this embodiment, the method is characterized in that the sol-gel composition furthermore consists of at least one metal alkoxide of the general formula (1): (1) $m m'(or')(4-n)$, where: r' represents an alkyl group, m represents a metal or non-metal selected from si, zr, ti, al, v, ce, or la, and n is between 0 and 3 and r' represents a non-hydrolyzable function, said non-hydrolyzable function being a phenyl group or an alkyl chain terminated by an amino, vinyl, methacrylic or epoxy group.[0045] according to this second variant, the alkyl group of the non-hydrolyzable function may comprise an ethylenic double bond, amine function, methacrylic function or epoxide function. in such an embodiment, the alkyl group may advantageously be selected from aminopropyl, methacryloxy (Results 0)

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5:

Title: METHOD OF MANUFACTURING A HEATING ARTICLE PROVIDED WITH A SOL-GEL COATING

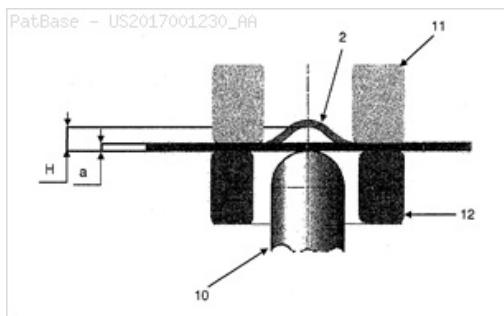
Abstract: Source: US2017001230A Provided is a method of manufacturing an item, notably a culinary item, including a support provided with a sol-gel covering, which method involves a pressing step performed after the sol-gel covering has been applied to and pre-densified on the support.

Classifications:

International (IPC 8-9): A47J36/02 B01J13/00 B05D1/42 B05D3/02 B05D5/08 B05D7/14 B21D22/02 B21D22/20 B21D51/18 B21D51/22 B32B15/08 C08G77/00 C08K3/36 C09D183/04 C09D7/12 C23C18/00 C23C18/16 (Advanced/Invention)

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US: 72/46



Family:

Publication number	Publication date	Application number	Application date
CN105992655 A	20161005	CN201480069671	20141219
CO16157101 A2	20161216	CO20160157101	20160615
EP3083082 A1	20161026	EP20140830845	20141219
FR3015314 A1	20150626	FR20130063221	20131220
JP2017512073 T2	20170518	JP20160541621T	20141219
KR20160102461 A	20160830	KR20167019132	20141219
US2017001230 AA	20170105	US20140105645	20141219
WO15092332 A1	20150625	WO2014FR53476	20141219

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FR20130063221 20131220 WO2014FR53476 20141219

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ARTICLE IN CAST IRON COMPRISING A VITREOUS COATING AND METHOD OF MANUFACTURING SUCH AN ARTICLE

Abstract: Source: US2014134360A Provided is an article, particularly culinary, comprising a cast iron support having two opposite sides. The article comprises a vitreous coating in the form of at least a continuous layer of a sol-gel material comprising a matrix formed from at least a metal polyalkoxylate and at least a reactive or unreactive silicone oil, the layer of sol-gel material being deposited directly on one at least of the sides of said support, and the side provided with a vitreous coating has a surface roughness Ra ranging between 3 and 15 micro m with a peak count per centimeter R_{Pc} ranging between 50 and 200. A method for manufacturing such an article is also provided.

Classifications:

International (IPC 8-9): A47J36/02 A47L15/42 B05B3/02 B05B3/12 B05B7/14 B05D5/00 B32B15/04 B32B15/18 B32B33/00 C03C17/36 C09D183/04 C23C18/04 C23C18/12 C23C24/08 C23C26/00 C23C28/00 C23C28/04 C23D5/02 (Advanced/Invention)

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US: 427/330 428/141 428/142 428/34.1

Family:

Publication number	Publication date	Application number	Application date
BR102013029259 A2	20141029	BR20131029259	20131113
CA2833361 AA	20140513	CA20132833361	20131113
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CO13265847 A1	20170420	CO20130265847	20131112
CO7270140 A1	20150519	CO20130265847	20131112
EP2730678 A1	20140514	EP20130191586	20131105
FR2997966 A1	20140516	FR20120060766	20121113
ID201606049 A	20161111	ID2013P0004539	20131113
JP2014097388 A2	20140529	JP20130234079	20131112
KR20140061267 A	20140521	KR20130136669	20131112
US2014134360 AA	20140515	US20130077614	20131112

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FR20120060766 20121113

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Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: SCRATCH-PROOF CULINARY ITEM AND METHOD FOR PRODUCING SUCH AN ITEM

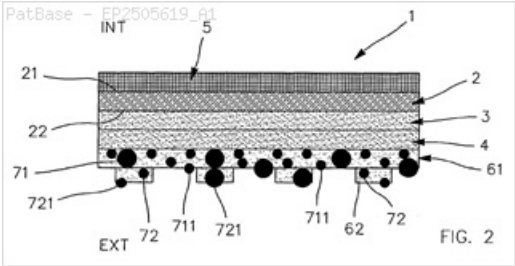
Abstract: The culinary article (1) comprises a base (2) with an inner face (21) adapted to receive food product and an outer face (22) adapted to be disposed on a side of a heat source, and a metal support. The outer face is coated with a sol-gel outer coating (3), which comprises rounded fillers (5-30 weight percent) and is present in the form of a film made of a material comprising a matrix of metal polyalkoxylate. The rounded fillers are metal fillers of which a portion protrudes on the sol-gel outer coating, which is homogeneously distributed on a surface of the outer coating. The culinary article (1) comprises a base (2) with an inner face (21) adapted to receive food product and an outer face (22) adapted to be disposed on a side of a heat source, and a metal support. The outer face is coated with a sol-gel outer coating (3), which comprises rounded fillers (5-30 weight percent) and is present in the form of a film made of a material comprising a matrix of metal polyalkoxylate. The rounded fillers are metal fillers of which a portion protrudes on the sol-gel outer coating, which is homogeneously distributed on a surface of the outer coating. The outer coating comprises: a first layer, which is free of rounded fillers and covers the outer face of the base; and a second layer, which includes rounded fillers and covers the first layer. The second layer is partially covered by a third layer of sol-gel coating, where the layer is a screen-printing layer and comprises rounded fillers. The rounded fillers have a surface density of 100-250 charges/mm² and a diameter of 5-40 μm. A thickness of the layers is 15-30 μm. An independent claim is included for a process for manufacturing a culinary article.

Classifications:

International (IPC 8-9): A47J27/00 A47J27/22 A47J36/02 A47J36/04 A47J37/10 B05D5/08 B32B15/08 B32B27/06 C03C8/16 C03C8/18 C08K7/18 C09D183/04 C09D185/00 C09D4/00 C09D5/28 C09D7/12 C09D7/14 C23D5/02 C23D5/06 (Advanced/Invention)

CPC: C09D183/04 C09D1/02 C09D7/1283 C09D11/037 B05D5/02 C09D7/1216 A47J36/02 C09D4/00 C09D7/1291 C23C18/06 C23C18/1216 C23C18/122 C23C18/1225 C23C18/1254 C23C18/127 C23C18/1295

European: A47J36/02 C09D7/12D2 C09D7/12S



Family:

Publication number	Publication date	Application number	Application date
BR102012007498 A2	20130604	BR20121007498	20120402
CN102727068 A	20121017	CN201210094003	20120401
CN102727068 B	20150805	CN201210094003	20120401
CO6760202 A1	20130930	CO20120054189	20120330
EP2505619 A1	20121003	EP20120161481	20120327
FR2973390 A1	20121005	FR20110052833	20110401
FR2973390 B1	20150102	FR20110052833	20110401
JP2013013710 A2	20130124	JP20120083855	20120402
JP5965701 B2	20160810	JP20120083855	20120402

Priority:

FR20110052833 20110401

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Agent(s): MARGARITA CASTELLANOS ABONDANO ; NOVAGRAAF TECHNOLOGIES; TANI AND ABE PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: SOL-GEL COATING COMPRISING ANISOTROPIC PARTICLES AND CULINARY ARTICLE PROVIDED WITH SUCH A COATING

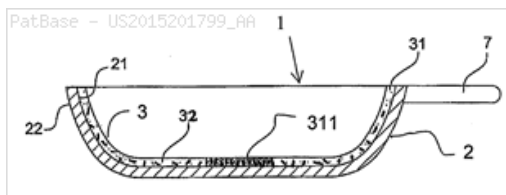
Abstract: Source: US2015201799A Provided is a vitreous coating comprising at least one layer embodied in the form of a continuous film of sol-gel material comprising a matrix formed from at least one metal polyalkoxylate and wherein anisotropically-shaped particles are dispersed, said layer comprising at least one area wherein the particles are particles predominantly inclined by an angle (α) of between 20 degrees and 90 degrees relative to the median plane of the film. The subject matter of the present invention also comprises a method of manufacturing such a coating, and a culinary article one of the surfaces of which is coated with such a coating.

Classifications:

International (IPC 8-9): A47J36/02 A47J36/04 B05D3/00 B05D5/08 B05D7/24 B32B15/00 B32B27/00 B32B27/20 B32B27/28 B32B3/10 B32B5/00 B32B5/02 B32B5/08 B32B5/14 B32B5/16 B32B7/00 B32B7/02 B32B9/00 C09D183/02 C09D183/04 C09D183/06 C09D7/12 H01F1/01 (Advanced/Invention)

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US: 252/62.54 427/375 427/598 428/172 428/429 428/447



Family:

Publication number	Publication date	Application number	Application date
AU2013213466 AA	20130801	AU20130213466	20130118
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CA2863143 AA	20140709	CA20132863143	20130118
CA2863143 C	20161220	CA20132863143	20130118
CN104135902 A	20141105	CN201380006546	20130118
CN104135902 B	20161123	CN201380006546	20130118
EP2806776 A1	20141203	EP20130704623	20130118
FR2985942 A1	20130726	FR20120000226	20120125
FR2985942 B1	20150313	FR20120000226	20120125
ID201600727 A	20160226	ID2014P0004993	20130118
JP2015508106 T2	20150316	JP20140553782T	20130118
JP5911974 B2	20160427	JP20140553782T	20130118
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KR20140123960 A	20141023	KR20147023217	20130118
RU2573681 C1	20160127	RU20140133874	20130118
US2015201799 AA	20150723	US20130373789	20130118
WO13110882 A1	20130801	WO2013FR50115	20130118

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FR20120000226 20120125 WO2013FR50115 20130118

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Agent(s): SPRUSON AND FERGUSON; GOUDREAU GAGE DUBUC; RIVIERE SOPHIE; NOVAGRAAF TECHNOLOGIES; TANI AND ABE PC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ARTICLE INCLUDING A SOL-GEL COATING EQUIPPED WITH A FUNCTIONAL DESIGN AND PROCESS FOR PRODUCING SUCH AN ARTICLE

Abstract: Source: US2012018433A This invention relates to an article (1) including a substrate (2) including two opposite faces (21, 22), and a sol-gel coating (3) covering at least one of the faces (21, 22) of said substrate (2), in which said sol-gel coating (3) is in the form of a continuous film of a material including a matrix formed by at least one metal polyalkoxylate and at least 5 percent by weight with respect to the total weight of the coating (3) of at least one metal oxide dispersed in said matrix. According to the invention, the sol-gel coating (3) is coated with a functional design (4) including at least one optically non-transparent chemical substance. This invention also relates to a process for producing an article.

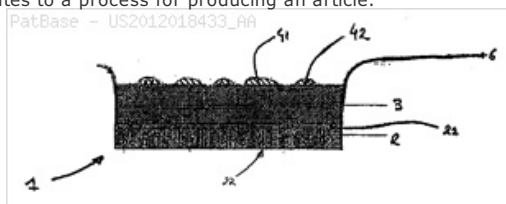
Classifications:

International (IPC 8-9): A47J27/00 A47J36/02 A47J36/04 A47J37/10 B05D1/36 B05D5/00 B05D5/06 B05D5/08 B32B27/06 B32B3/14 B32B3/18 B32B5/16 B44C3/02 C03C1/00 C08K3/22 C08K5/5419 C09D1/00 C09D183/04 C09D5/26 C23C18/12 D21H21/46 G01K11/12 (Advanced/Invention)

CPC: C09D183/04 A47J36/02 A47J36/025 B05D5/06 B05D5/08 B05D7/14 C08K3/22 C08K5/5419 C23C18/1216 C23C18/122 C23C18/1241 C23C18/1254 G01K11/12 Y10T428/24802 Y10T428/24835 Y10T428/24851 Y10T428/24893 Y10T428/24917 Y10T428/24926

European: A47J36/02 A47J36/02F C09D183/04 C23C18/12C2D C23C18/12C4 C23C18/12G4 C23C18/12J2 G01K11/12 L05D5/06 L05D5/08 L05D7/14 M08K3/22 M08K5/5419

US: 220/573.1 220/573.100P 427/258 427/258S 427/261 427/261S 428/195.1 428/195.100S 428/199 428/201 428/201S 428/206 428/206S 428/209 428/209S 428/210 428/210S



Family:

Publication number	Publication date	Application number	Application date
CN102407638 A	20120411	CN201110210192	20110726
CN102407638 B	20150422	CN201110210192	20110726
EP2412846 A1	20120201	EP20110174922	20110721
FR2962937 A1	20120127	FR20100056092	20100726
US2012018433 AA	20120126	US20110190345	20110725
US8227072 BB	20120724	US20110190345	20110725

Priority:

FR20100056092 20100726

Probable Assignee: SEB SA

Assignee(s): (std): DUBANCHET AURELIEN ; JOUTANG ISABELLE ; LE BRIS STEPHANIE ; PERILLON JEAN LUC ; SEB SA ; SEB AB

Assignee(s): SEB S A

Inventor(s): (std): AURELIEN DUBANCHET ; DUBANCHET AURELIEN ; ISABELLE JOUTANG ; JEAN LUC PERILLON ; JOUTANG ISABELLE ; LE BRIS STEPHANIE ; PERILLON JEAN LUC ; STEPHANIE LE BRIS

Agent(s): NOVAGRAAF TECHNOLOGIES; LOEB AND LOEB LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: NON-STICK COATING WITH IMPROVED HYDROPHOBIC PROPERTIES

Abstract: Source: US2010181322A The present invention generally relates to anti-stick coatings for cooking utensils, which exhibit improved properties of hydrophobicity and resistance to high temperature. The present invention also relates to a culinary article comprising a support coated in said coating, and a process for applying on the support such a coating according to the invention.

Classifications:

International (IPC 8-9): A47J27/00 A47J36/00 A47J36/02 A47J36/04 B05D3/02 B05D5/08 B32B27/00 B82B3/00 B82Y30/00 C01F7/02 C08G77/58 C08K3/22 C08K3/36 C09D183/04 C09D183/06 C09D183/10 C09D185/00 C09D5/00 C09D5/16 C09D7/12 C09K3/18 (Advanced/Invention); A47J27/00 A47J36/00 A47J36/02 B05D3/02 B05D5/08 B32B27/00 C01F7/00 C08G77/00 C08K3/00 C09D183/04 C09D183/06 C09D183/10 C09D185/00 C09D5/00 C09D5/16 C09D7/12 C09K3/18 (Core/Invention)

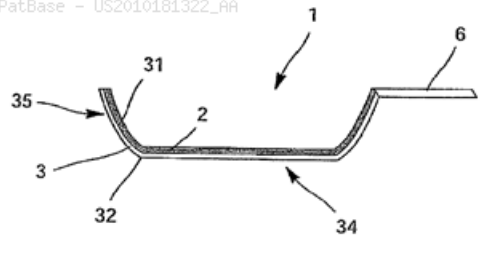
CPC: A47J36/02 A47J36/025 C09D183/04

European: A47J36/02 A47J36/02F C09D183/04

US: 220/573.2 220/573.200P 427/385.5 427/385.500S 427/388.1

427/388.100S 427/389.7 427/389.700S 427/393.5 427/393.500S 427/393.6 427/393.600S 428/220 428/220S

PatBase - US2010181322_AA



Family:

Publication number	Publication date	Application number	Application date
CN101663368 A	20100303	CN200880012640	20080410
CN104877561 A	20150902	CN201510221444	20080410
EP2139964 A2	20100106	EP20080788152	20080410
FR2915205 A1	20081024	FR20070002811	20070418
FR2915205 B1	20091120	FR20070002811	20070418
JP2010525095 T2	20100722	JP20100503556T	20080410
KR101157753 B1	20120625	KR20097023962	20080410
KR20100016632 A	20100212	KR20097023962	20080410
US2010181322 AA	20100722	US20080595868	20080410
WO08142327 A2	20081127	WO2008FR50630	20080410
WO08142327 A3	20090820	WO2008FR50630	20080410

Priority:

CN200880012640 20080410 FR20070002811 20070418 WO2008FR50630 20080410

Probable Assignee: SEB SA

Assignee(s): (std): DUBANCHET AURELIEN ; PERILLON JEAN LUC ; SEB AB ; SEB SA

Assignee(s): SEB SOC ANONYME SA ; SEB SA SOCIETE ANONYME ; SEB S A

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Agent(s): LEMOINE JEAN SEBASTIEN; NOVAGRAAF TECHNOLOGIES; HARNESS DICKEY AND PIERCE PLC; PICHAT THIERRY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SOL-GEL COATING COMPRISING A FLUORINATED FILLER AND CULINARY ARTICLE EQUIPPED WITH SUCH A COATING

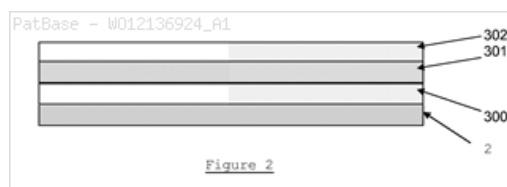
Abstract: The present invention relates to a sol-gel coating (2) taking the form of a continuous film of a material comprising a matrix formed using at least one metal polyalcoxylate. According to the invention, the sol-gel coating (2) comprises at least one fluorinated filler taking the form of particles of fluorocarbon resin coated with a polyethylene wax or a fluorinated polyether. The present invention also relates to a culinary article equipped with such a coating and a process for applying at least one coating to a face of a support.

Classifications:

International (IPC 8-9): A47J36/02 B05D1/02 B05D5/08
C09D127/12 C09D183/04 C09D4/00 C09D7/12
C09D7/14 (Advanced/Invention)

CPC: B05D5/08 C09D183/04 C23C18/122 C23C18/1254
C23C18/127 B05D5/083 C09D7/125 A47J36/025 C09D4/00
C09D7/12 A47J36/02

European: A47J36/02F C09D4/00 C09D7/12M



Family:

Publication number	Publication date	Application number	Application date
CN103562324 A	20140205	CN201280026022	20120403
CN103562324 B	20160817	CN201280026022	20120403
EP2694601 A1	20140212	EP20120717432	20120403
FR2973804 A1	20121012	FR20110053094	20110408
FR2973804 B1	20140613	FR20110053094	20110408
KR20140025439 A	20140304	KR20137029264	20120403
WO12136924 A1	20121011	WO2012FR50715	20120403

Priority:

FR20110053094 20110408 WO2012FR50715 20120403

Probable Assignee: SEB SA

Assignee(s): (std): BARCIKOWSKI GAELE ; BERRUX AURELIEN ; SEB AB ; SEB SA

Inventor(s): (std): BERRUX AURELIEN ; BARCIKOWSKI GAELE

Inventor(s): AURELIEN BERRUX

Agent(s): NOVAGRAAF TECHNOLOGIES

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ANTI-CORROSIVE HYBRID SOL-GEL FILM ON METALLIC SUBSTRATES AND METHOD OF PRODUCING THE SAME

Abstract: Source: US2011091654A This invention relates to a method of preparing anti-corrosive hybrid sol-gel film coating on zinc or zinc alloy coated metallic substrates comprising the steps of preparing a mixture of sol-gel from hydrolyzable silicon alkoxides, sodium vanadate solution combined with colloidal silica in a beaker and vigorously stirred; adding within 20 seconds of two separated phase formation between silica precursors and colloidal silica acetic acid or dilute nitric acid as a catalizer to initiate hydrolysis reaction of silicon alkoxides and condensation reaction in the **sol gel composition**, continuously stirring the mixture for about 24 hours to form a single phase solution, applying the solution on cleaned zinc or zinc alloy coated metal substrates to form a transparent sol-gel coating film and drying the coated substrates at 50 degrees to 200 degrees centigrade for 10 to 60 minutes.

Classifications:

International (IPC 8-9): B05D3/02 C08L83/04 C09D1/02 C09D5/08 C09D7/12 C23C18/12 C23C22/53 C23C22/74

C23C28/00 C23F11/18 (Advanced/Invention);

C08K3/18 C08K5/057 (Advanced/Non-invention);

C23F11/08 (Core/Invention)

CPC: C23C22/53 C08K3/18 C08K5/057 C09D1/02 C09D5/084 C09D7/1216 C09D7/1233 C23C18/1212 C23C18/1216

C23C18/122 C23C18/1241 C23C18/1254 C23C18/127 C23C22/74 C23C222/20 C23F11/185 B01J20/3272 B01J20/3285

European: C09D1/02 C09D5/08B2 C09D7/12D2 C09D7/12D4 C23C18/12C2B C23C18/12C2D C23C18/12C4 C23C18/12G4

C23C18/12J2 C23C18/12J6D C23C22/53 C23C22/74 C23F11/18E M08K3/18 M08K5/057 M23C222/20

US: 427/387 427/387P 427/388.1 524/858 524/858S 524/869 524/869S

Family:

Publication number	Publication date	Application number	Application date
CN101688316 A	20100331	CN200880006744	20080523
CN101688316 B	20130717	CN200880006744	20080523
DE602008019835 D1	20121227	DE200860019835T	20080523
EP2294250 A1	20110316	EP20080789882	20080523
EP2294250 A4	20110803	EP20080789882	20080523
EP2294250 B1	20121031	EP20080789882	20080523
JP2011521108 T2	20110721	JP20110510086T	20080523
JP5231635 B2	20130710	JP20110510086T	20080523
US2011091654 AA	20110421	US20080594309	20080523
US8900670 BB	20141202	US20080594309	20080523
WO09141830 A1	20091126	WO2008IN00327	20080523

Priority:

EP20080789882 20080523 WO2008IN00327 20080523

Probable Assignee: TATA STEEL LTD

Assignee(s): (std): BANDYOPADHYAY N ; BANDYOPADHYAY NIKHILES ; NARAYAN RAMANUJ ; RANI NITU ; ROUT TAPAN K ; ROUT TAPAN KUMAR ; VERMA ANIL KUMAR ; SINGH A K ; TATA STEEL LTD ; SINGH ARUN KUMAR ; VERMA ANIL K

Assignee(s): SINGH AK ; TATA STEEL LIMITED

Inventor(s): (std): VERMA ANIL KUMAR ; VERMA ANIL K ; SINGH ARUN KUMAR ; ROUT TAPAN K ; RAMANUJ NARAYAN ; NITU RANI ; KUMAR VERMA ANIL ; KUMAR ROUT TAPAN ; BANDYOPADHYAY NIKHILES ; BANDYOPADHYAY N ; NARAYAN RAMANUJ ; RANI NITU ; ROUT TAPAN KUMAR ; SINGH A K

Inventor(s): SINGH AK

Agent(s): WEICKMANN AND WEICKMANN; GREEN MARK CHARLES; ASAMURA PATENT OFFICE PC; ASAMURA KIYOSHI; ASAMURA HAJIME; VENABLE LLP; JEFFRI A; DAVAR G S ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW