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 Database: EPODOC

[EPODOC: SS 1] glass and (aluminosilicate or (alumino and silicate)) and layer and inner

Results in EPODOC 16

[SS 2] ..li



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PN - [CN106232541](#) A 20161214
PR - WO2015US23507
20150331; US201461943758P
20140224
AP - CN2015821201 20150331
DT - I
CCI - [C03C3/091](#) ; [C03C3/093](#) ;
[C03C3/097](#) ; [C03C21/002](#) ;
[G01N3/30](#)
CCA - [Y10T428/315](#)
PA - CORNING INC
TI - Strengthened **glass** articles
having improved survivability
AB - Embodiments are directed to
strengthened **glass** articles
comprising a thickness $t \leq 1$ mm
(1000 [μ m]), an **inner** region
under a central tension CT (in
MPa), and at least one
compressive stress **layer**
adjacent the **inner** region and
extending within the

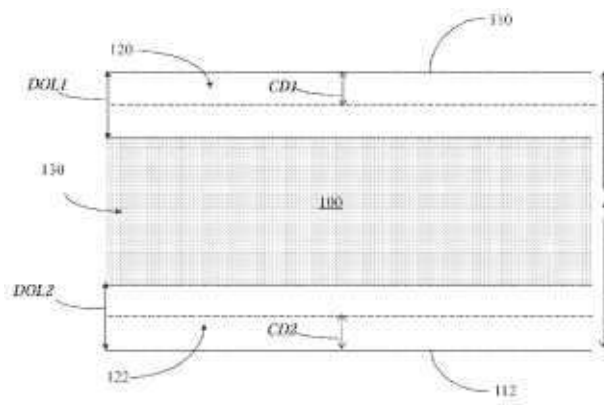


FIG. 1

strengthened **glass** article from a surface of the strengthened **glass** article to a depth of **layer** DOL (in [mu]m), wherein the strengthened **glass** article is under a compressive stress at the surface CSS (in MPa), wherein the strengthened **glass** article is an alkali **aluminosilicate glass** article comprising 0-5 mol% Li₂O, and at least 3 mol % Al₂O₃, and wherein the DOL ≥ 90 [mu]m, and a CSS/DOL ratio ≥ 2.5 MPa/[mu]m.

2/16 © EPODOC / EPO

PN - [WO2015127483](#) A2 20150827
 PNFP - WO2015127483 A3 20151203
 PR - US201461943758P 20140224
 AP - WO2015US23507 20150331
 DT - *; Rep
 CT - [EP] ISR (A3)
[WO2012126394](#) A1 20120927
 [XY] (SCHOTT GLASS TECHNOLOGIES SUZHOU CO LTD [CN], et al)
 [X] 1-6,8,10,12,13,35,36,43-49
 * p. 9, l. 16-p. 10, l. 4; p. 17, l. 20-22; p. 24, l. 24-p. 26, l. 19; p. 28, l. 20-p. 29, l. 1; p. 37, l. 19-p. 38, l. 13; p. 39, l. 11-23; table 1, 2: ex. 3, 5, 7 *
 [Y] 11,14,50
 [I] 7,9,31-34,37-42;
[US2013045375](#) A1 20130221
 [XI] (GROSS TIMOTHY MICHAEL [US])
 [X] 1
 * paragraphs [0005] , [0006] , [0023] , [0026] , [0027] , [0030] , [0034] - paragraphs [0040] , [0045] *
 [I] 30;
[US2007060465](#) A1 20070315
 [Y] (VARSHNEYA ARUN K [US], et al)
 [Y] 11,20-22,27-29

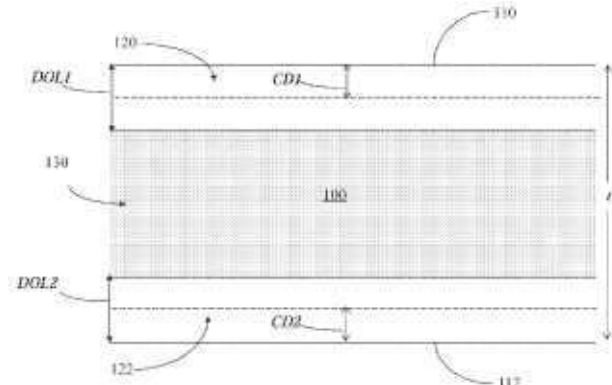


FIG. 1

* Fig. 2; [0005], [0006], [0008],
[0035], [0038], [0040] *;
[US2013224492](#) A1 20130829
[Y] (BOOKBINDER DANA CRAIG
[US], et al)
[Y] 11,14,20-22,27-29,50
* Fig. 5-8; [0004], [0005], [0007],
[0013]-[0016], [0023], [0024],
[0034]-[0041], [0044]-[0046],
[0048], [0050], [0051], [0053]
-[0056] *;
[US3433611](#) A 19690318
[A] (SAUNDERS ARNOLD E, et al)
[A] 1-14,30-50
* col. 5, l. 51-col. 6, l. 6, l. 30-col.
7, l. 53;; figures 2-4,6; claim 1 *;
[US2012052271](#) A1 20120301
[A] (GOMEZ SINUE [US], et al)
[A] 1-14,30-50
* paragraphs [0004] , [0017] ,
[0018] , [0020] -
paragraphs [0031] , [0035] ,
[0036] , [0039] - [0041]; table 3 *;
[US2010028607](#) A1 20100204
[A] (LEE CHRISTOPHER MORTON
[US], et al)
[A] 1-14,30-50
* paragraphs [0008] , [0019] -
paragraphs [0022] , [0031] ,
[0032] , [0038] *;
[US3798013](#) A 19740319
[A] (HASEGAWA J, et al)
[A] 1-14,30-50
* col. 2, l. 12-17, l. 41-62; col. 3, l.
34-50; col. 4, l. 12-48;; example 2
*;
[US2012135226](#) A1 20120531
[XY] (BOOKBINDER DANA CRAIG
[US], et al)
[X] 15-19,21,23-26,28
* [0002], [0003], [0019], [0025],
[0026; table I: sample 10, 14, 15,
18-20, 23-32, 34-36, 41, 48, 53,
54; table II: sample 10, 14, 15, 18-
20, 23-32, 34-36, 41, 48, 53, 54 *
[Y] 20,22,27,29;
[US2014050911](#) A1 20140220
[X] (MAURO JOHN CHRISTOPHER
[US], et al)

[X] 15-18,21,23-26,28
 * Fig. 4; [0016], [0017], [0019]
 -[0021], [0037], [0040], [0042];
 tabl1, 2: glass D *;
[US2012321898](#) A1 20121220
 [A] (MEINHARDT STEFAN [DE], et
 al)
 [A] 15-29
 * [0004], [0014], [0080]-[0088] *

CCI - [C03C3/091](#) ; [C03C3/093](#) ;
[C03C3/097](#) ; [C03C21/002](#) ;
[G01N3/30](#)

CCA - [Y10T428/315](#)

PA - (A2 A3)
 CORNING INC [US]

TI - (A2 A3)
 STRENGTHENED **GLASS** ARTICLES
 HAVING IMPROVED SURVIVABILITY

AB - (A2 A3)
 Embodiments are directed to
 strengthened **glass** articles
 comprising a thickness $t \leq 1$ mm
 (1000 μm), an **inner** region under
 a central tension CT (in MPa),
 and at least one compressive
 stress **layer** adjacent the **inner**
 region and extending within the
 strengthened **glass** article from a
 surface of the strengthened **glass**
 article to a depth of **layer** DOL (in
 μm), wherein the
 strengthened **glass** article is
 under a compressive stress at
 the surface CSS (in MPa),
 wherein the strengthened **glass**
 article is an
 alkali **aluminosilicate glass**
 article comprising 0-5 mol%
 Li₂O, and at least 3 mol % Al₂O₃,
 and wherein the DOL ≥ 90 μm ,
 and a CSs/DOL ratio ≥ 2.5
 MPa/ μm .

PN - [US2015030834](#) A1 20150129

PR - US201414340670
20140725; US201461943758P
20140224; US201361858882P
20130726

AP - US201414340670 20140725

DT - **

CT - || R141 (A1)
[US4726981](#) A 19880223 [
] (PIERSON JOSEPH E [US], et al);
[US2010028607](#) A1 20100204 [
] (LEE CHRISTOPHER MORTON
[US], et al);
[US2012052271](#) A1 20120301 [
] (GOMEZ SINUE [US], et al);
[US2012135226](#) A1 20120531 [
] (BOOKBINDER DANA CRAIG
[US], et al);
[GB1334828](#) A 19731024 [
] (SAINT GOBAIN);
[WO2012074983](#) A1 20120607 [
] (CORNING INC [US], et al);
[US2010035038](#) A1 20100211 [
] (BAREFOOT KRISTEN L [US], et
al);
[US2010009154](#) A1 20100114 [
] (ALLAN DOUGLAS CLIPPINGER
[US], et al)

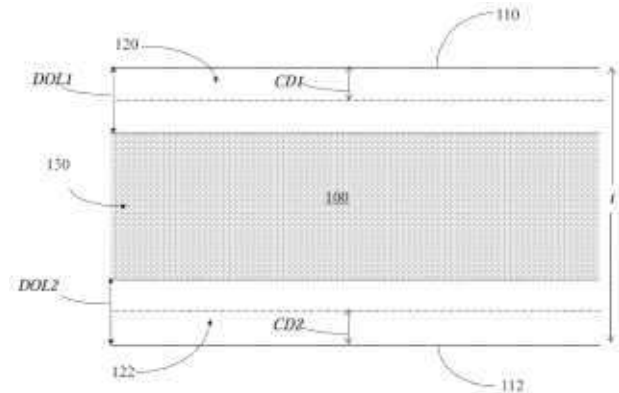
CCI - [C03C3/091](#) ; [C03C3/093](#) ;
[C03C3/097](#) ; [C03C21/002](#) ;
[G01N3/30](#)

CCA - [Y10T428/315](#)

PA - CORNING INC [US]

TI - STRENGTHENED **GLASS** ARTICLES
HAVING IMPROVED SURVIVABILITY

AB - Embodiments are directed to
strengthened **glass** articles
comprising a thickness $t \leq 1$ mm
(1000 μm), an **inner** region under
a central tension CT (in MPa),
and at least one compressive
stress **layer** adjacent the **inner**
region and extending within the
strengthened **glass** article from a
surface of the strengthened **glass**
article to a depth of **layer** DOL (in
 μm), wherein the



strengthened **glass** article is
under a compressive stress at
the surface CSs (in MPa),
wherein the strengthened **glass**
article is an
alkali **aluminosilicate glass**
article comprising 0-5 mol %
Li₂O, and at least 3 mol % Al₂O₃,
and wherein the DOL ≥ 70 μm,
and a CSs/DOL ratio ≥ 2.5
MPa/μm.

4/16 © EPODOC / EPO

PN - [US2008213626](#) A1 20080904

PR - JP20070001241 20070109

AP - US20080971373 20080109

DT - *; Rep

CT - || R141 (A1)
[US2006003170](#) A1 [];
[US5285517](#) A [];
[US2003092243](#) A1 [];
[US2002157199](#) A1 [];
[US2002193233](#) A1 [];
[US2003232173](#) A1 [];
[US2005287304](#) A1 []

CCI - [C03C3/083](#) ; [C03C15/02](#) ;
[C03C21/002](#) ; [G11B5/7315](#) ;
[G11B5/8404](#)

PA - FUJI ELEC DEVICE TECH CO LTD [JP]

TI - METHOD OF MANUFACTURE
OF **GLASS** SUBSTRATE FOR
INFORMATION RECORDING
MEDIUM, METHOD OF
MANUFACTURE OF MAGNETIC
RECORDING DISK, AND MAGNETIC
RECORDING DISK

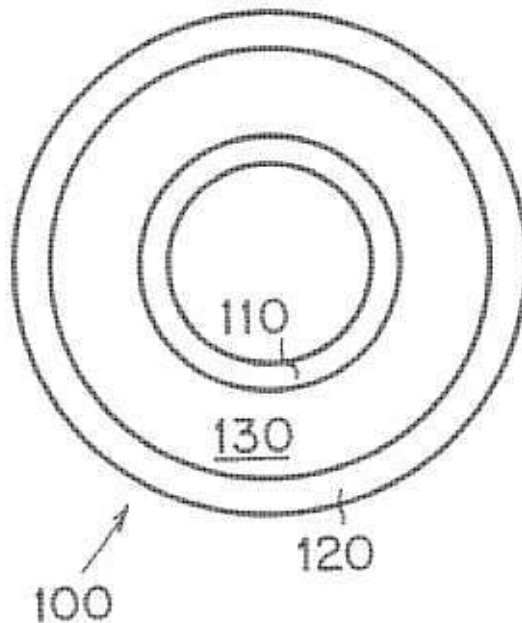
AB - A method of manufacture of
a **glass** substrate for a magnetic
recording medium, which has
both high substrate strength and
low alkaline elution, includes an
etching process of etching
the **inner**-edge face of a donut-
shaped **glass** substrate having
an **aluminosilicate** composition,
formed by removing the center
portion of a die-molded disc-



shaped **glass** substrate, and an alkali sealing process of performing alkali sealing treatment by proton substitution of alkali ions in the surface **layer** of the etched donut-shaped **glass** substrate. The process is used to manufacture a magnetic recording medium incorporating a **glass** substrate having a total alkaline elution amount of less than 3.1 mug/disk, wherein the magnetic recording medium has a transverse rupture strength greater than 132 N.

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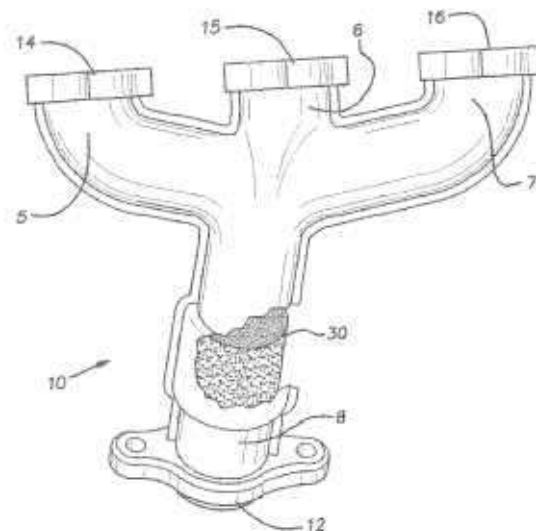
PN - [US4812344](#) A 19890314
 PR - US19880173952 19880328
 AP - US19880173952 19880328
 DT - *; Rep
 CT - || STSE (A)
[US1547715](#) A 19250728 [
] (WESTINGHOUSE LAMP CO);
[US2052269](#) A 19360825 [
] (CORNING GLASS WORKS);
[US2313296](#) A 19430309 [
] (ARMAND LAMESCH);
[US3190735](#) A 19650622 [
] (AMERICAN OPTICAL CORP);
[US3455666](#) A 19690715 [
] (AMERICAN OPTICAL CORP);
[US3960530](#) A 19760601 [
] (NORTHERN ELECTRIC CO);
[US4022603](#) A 19770510 [
] (PHILIPS CORP);
[US4023953](#) A 19770517 [
] (CORNING GLASS WORKS);
[US4368063](#) A 19830111 [] (BELL
 TELEPHONE LABOR INC);
[US4428764](#) A 19840131 [
] (UNITED TECHNOLOGIES CORP
 [US]);
[US4437727](#) A 19840320 [
] (HERAEUS SCHOTT
 QUARZSCHMELZE [DE]);
[GB496281](#) A 19381128 [
] (MARTHA FISCHER, et al)



CCI	- C03B23/047 ; G01N30/6078
CCA	- G01N30/6082 ; Y10T428/1317
PA	- SPECTRAN CORP [US]
TI	- Composite capillary tube structure and method of forming
AB	- A composite capillary tube structure made of a plurality of glass layers and methods for making same. This composite includes inner and outer layers of fused silica glass separated by an intermediate layer of a glass material having a higher coefficient of thermal expansion than the fused silica glass . The glass material of the intermediate layer also has a glass transition temperature on the same order as that of fused silica, so that the fused silica layers are maintained under compressive forces over a temperature range of up to about 400 DEG C. Preferably, the intermediate layer is a borosilicate or aluminosilicate glass .

6/16 © EPODOC / EPO

PN	- WO03050397 A2 20030619
PNFP	- WO03050397 A3 20030918
PR	- US20010008828 20011207; US20020389847P 20020619
AP	- WO2002US39211 20021205
DT	- *; Rep
CT	- [EP] ISR (A3) JPS60187712 A 00000000 [X]; JPS6081420 A 00000000 [X]; US3488723 A 19700106 [YA] (VEAZIE FOLSOM M) [Y] 1,2,4-17,33-38 * column 3, lines 21-24,32-35,41-48,71-74 * * column 4, lines 3,4,17-22,41,42,45-51,61,62,68-74; figures 1,2,5 *



[A] 25,27;
[DE3907048](#) A1 19891026
[Y] (FELDMUEHLE AG [DE])
[Y] 1,2,4-17,25,27,28,32-38,40
* column 1, lines 9,10,29-35,43,44 *
* column 2, lines 6-23 *
* column 3, lines 1-3,25,26,45 *
* column 4, lines 6-8; claim 1 *;
[US5632320](#) A 19970527
[YA] (ATMUR STEVEN D [US], et al)
[Y] 40
* column 1, lines 12-17,30-40,44,48-50 *
* column 2, lines 31-37,57,58 *
* column 3, lines 14,15,43,44 *
* column 4, lines 8-10,18,19,46,47,52,53,57-60 *
* column 5, lines 60-63 *
* column 6, lines 35-37,50-52,65 *
* column 7, lines 37-41,66,67 *
* column 8, lines 23-25 *
* column 9, lines 52-54 *
* column 12, lines 39,40;
figures 8,9,13,16 *
[A] 25,27;
[US5937643](#) A 19990817
[YA] (WANG YUCONG [US])
[Y] 25,27
* column 1, lines 35-46,64-66 *
* column 2, lines 47-50,56-60 *
* column 3, lines 13-15,41-48,60 *
* column 4, lines 38-40,48-56 *
[A] 1,28,32;
[US5525374](#) A 19960611
[YA] (RITLAND MARCUS A [US], et al)
[Y] 28,32
* column 4, lines 10-25 *
* column 5, lines 23-26,43-45,56-60 *
* column 6, lines 7-10 *
* column 12, lines 54-64; figure 1 *
[A] 32;
[DE2630247](#) A1 19780119
[A] (DAIMLER BENZ AG)

[A] 1,25
* abstract *;
[JPH0255823](#) A 00000000 [A];
[US4890663](#) A 19900102
[A] (YARAHMADI MOHAMED [DE])
[A] 1,18-22
* column 1, lines 34-40,43-53,59 *
* column 2, lines 6-12,31-37;
figure 1 *;
[US3709772](#) A 19730109
[A] (RICE H)
[A] 1
* column 1, lines 57-64 *
* column 3, lines 54,55 *
* column 4, lines 40-45; figure 1 *;
[US5419127](#) A 19950530
[DA] (MOORE III DAN T [US])
[DA] 1,25
* abstract *;
[DE3926429](#) A1 19910214
[XY] (AUDI AG [DE])
[X] 1
* column 1, lines 29-40,47-61 *
* column 2, lines 18-30,33-52;
figures 1,2; claims 1,6 *
[Y] 48-53;
[WO9850687](#) A1 19981112
[Y] (REGLERINDVERTRETUNGEN GMBH [DE], et al)
[Y] 48-51,53
* page 3, paragraph 2 *
* page 10, paragraph 3; figures 1,2; claims 1,4 *;
[US5425236](#) A 19950620
[Y] (HAERLE HANS A [DE])
[Y] 52
* column 4, lines 34,35,50-66 *
* column 5, lines 1-25,54-68;
figures 1,4 *;
[EP0939208](#) A2 19990901
[A] (ZEUNA STAERKER KG [DE])
[A] 48
* abstract *;
[EP0928885](#) A2 19990714
[A] (SCAMBIA IND DEV AG [LI])
[A] 48
* abstract *;

[DE19953826](#) A1 20000621
[A] (SUZUKI MOTOR CO [JP], et al)
[A] 48
* abstract *;
[EP0885650](#) A2 19981223
[A] (DEGUSSA [DE])
[A] 52
* abstract *

CTNP - |EP| ISR (A3)
[X] - PATENT ABSTRACTS OF
JAPAN, (19860208), vol. 010, no.
033, Database accession no. (M -
452),
[X] 1
* abstract *
[X] - PATENT ABSTRACTS OF
JAPAN, (19850910), vol. 009, no.
223, Database accession no. (M -
411),
[X] 1
* abstract *
[A] - PATENT ABSTRACTS OF
JAPAN, (19900511), vol. 014, no.
224, Database accession no. (M -
0972),
[A] 1,25
* abstract *

CCI - [B01D53/945](#) ; [B01D53/9454](#) ;
[C03C14/002](#) ; [C04B35/10](#) ;
[C04B35/565](#) ; [C04B35/5805](#) ;
[C04B35/803](#) ; [C04B35/806](#) ;
[C04B35/82](#) ; [F01N3/2853](#) ;
[F01N3/2864](#) ; [F01N3/2882](#) ;
[F01N13/102](#) ; [F01N13/16](#) ;
[F01N13/1888](#)

CCA - [F01N13/148](#) ; [C03C2214/02](#) ;
[C03C2214/30](#) ; [C04B2235/3418](#) ;
[C04B2235/3804](#) ;
[C04B2235/5224](#) ;
[C04B2235/5228](#) ;
[C04B2235/5232](#) ;
[C04B2235/5236](#) ;
[C04B2235/526](#) ;
[C04B2235/5264](#) ; [C04B2235/77](#) ;
[F01N2260/10](#) ; [F01N2310/00](#) ;
[F01N2310/06](#) ; [F01N2330/06](#) ;
[F01N2510/00](#) ; [F01N2510/02](#) ;
[F01N2510/06](#) ; [F01N2530/06](#) ;

- PA - (A2 A3)
SOUNDWICH INC [US]; MOORE
DAN T III [US]; SANE AJIT Y [US]
- TI - (A2 A3)
INSULATED EXHAUST MANIFOLD
HAVING INTERNAL CATALYST
SUPPORT BODY
- AB - (A2 A3)
An exhaust manifold is provided
having ceramic **inner** and
insulation layers. The manifold
preferably has a metal outer
structural **layer** to impart
strength to the manifold. The
ceramic layers are made of
ceramic fibers with the
interstitial spaces between the
fibers being filled with ceramic
filler material. The preferred
ceramic fibers
are **aluminosilicate** fibers. The
preferred ceramic filler material
is alumina, silica, **glass**-ceramic
or other metal oxide. In a
preferred embodiment, a
catalyst-coated support body is
provided in the exhaust
manifold. As exhaust gases pass
through the manifold, noxious
components of the exhaust gases
begin to convert to
environmentally benign species
from the catalyst present in the
exhaust manifold prior to
reaching the catalytic converter
located downstream from the
manifold. A method of making an
exhaust manifold having
ceramic **inner** and insulation
layers is also provided.

PN - [US2003106311](#) A1 20030612

PNFP - US6725656 B2 20040427

PR - US20010008828 20011207

AP - US20010008828 20011207

DT - *; Rep

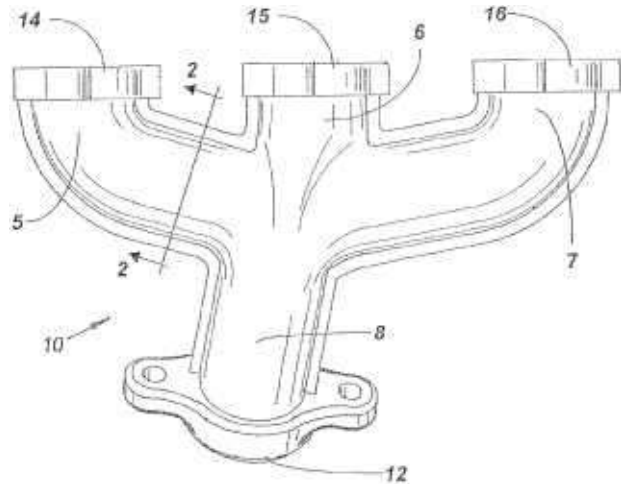
CT - || STSE (B2)
[US5031401](#) A 19910716 [] (HINDERKS M V [GB]);
[US5052463](#) A 19911001 [] (MESSERSCHMITT BOELKOW BLOHM [DE]);
[US5404716](#) A 19950411 [] (CATERPILLAR INC [US]);
[US5687787](#) A 19971118 [] (NORTHROP GRUMMAN CORP [US]);
[US5816043](#) A 19981006 [] (ACOUST A FIBER RESEARCH AND DE [US]);
[US5937643](#) A 19990817 [] (GEN MOTORS CORP [US]);
[US6134881](#) A 20001024 [] (NORTHROP GRUMMAN CORP [US]);
[US6161379](#) A 20001219 [] (CATERPILLAR INC [US])

CCI - [B01D53/945](#) ; [B01D53/9454](#) ;
[C03C14/002](#) ; [C04B35/10](#) ;
[C04B35/565](#) ; [C04B35/803](#) ;
[C04B35/806](#) ; [F01N3/2853](#) ;
[F01N3/2864](#) ; [F01N13/102](#) ;
[F01N13/16](#) ; [F01N13/1888](#)

CCA - [C03C2214/02](#) ; [C03C2214/30](#) ;
[C04B2235/3418](#) ;
[C04B2235/5224](#) ;
[C04B2235/5228](#) ;
[C04B2235/5232](#) ;
[C04B2235/5236](#) ; [F01N2260/10](#) ;
[F01N2310/00](#) ; [F01N2310/06](#) ;
[F01N2330/06](#) ; [F01N2510/00](#) ;
[F01N2510/02](#) ; [F01N2510/06](#) ;
[F01N2530/06](#) ; [F01N2530/26](#) ;
[Y02T10/22](#) ; [Y10T428/24132](#)

PA - (B2)
DAN T MOORE COMPANY [US]

TI - (A1 B2)
Insulated exhaust manifold



AB - (A1 B2)
 An exhaust manifold is provided having substantially ceramic **inner** and insulation layers. The manifold preferably has a metal outer structural **layer** to impart strength to the manifold. The ceramic layers are made of ceramic fibers with the interstitial spaces between the fibers being filled with ceramic filler material. The preferred ceramic fibers are **aluminosilicate** fibers. The preferred ceramic filler material is alumina, silica, **glass**-ceramic or other metal oxide. A method of making an exhaust manifold having a substantially ceramic **inner** and insulation **layer** is also provided.

8/16 © EPODOC / EPO

PN - [JP2008171472](#) A 20080724
 PR - JP20070001241 20070109
 AP - JP20070001241 20070109
 DT - I
 CCI - [C03C3/083](#) ; [C03C15/02](#) ; [C03C21/002](#) ; [G11B5/7315](#) ; [G11B5/8404](#)
 FI - C03C15/02; C03C3/083; G11B5/84&Z
 FT - 4G059/AA09; 4G059/AB03; 4G059/AC03; 4G059/AC18; 4G059/BB04; 4G059/BB14; 4G062/AA01; 4G062/BB01; 4G062/DA06; 4G062/DA07; 4G062/DB03; 4G062/DB04; 4G062/DC01; 4G062/DD01; 4G062/DE01; 4G062/DF01; 4G062/EA03; 4G062/EB03; 4G062/EC01; 4G062/EC02; 4G062/EC03; 4G062/ED01; 4G062/EE01; 4G062/EF01; 4G062/EG01; 4G062/FA01; 4G062/FB01; 4G062/FC03; 4G062/FC04; 4G062/FD01; 4G062/FE01; 4G062/FF01; 4G062/FG01; 4G062/FH01; 4G062/FJ01; 4G062/FK01; 4G062/FL01; 4G062/GA01; 4G062/GA10; 4G062/GB01; 4G062/GC01; 4G062/GD01; 4G062/GE01; 4G062/HH01; 4G062/HH03; 4G062/HH05; 4G062/HH07; 4G062/HH09; 4G062/HH11; 4G062/HH13; 4G062/HH15; 4G062/HH17; 4G062/HH20; 4G062/JJ01; 4G062/JJ03; 4G062/JJ05; 4G062/JJ07; 4G062/JJ10; 4G062/KK01; 4G062/KK03; 4G062/KK05; 4G062/KK07; 4G062/KK10; 4G062/MM27; 5D112/AA24; 5D112/BA03; 5D112/GA26; 5D112/GA28; 5D112/GA30
 PA - FUJI ELEC DEVICE TECH CO LTD
 TI - METHOD OF MANUFACTURING **GLASS** SUBSTRATE FOR INFORMATION RECORDING MEDIUM, METHOD OF MANUFACTURING MAGNETIC RECORDING DISK, AND MAGNETIC RECORDING DISK
 AB - PROBLEM TO BE SOLVED: To provide a method of manufacturing a **glass** substrate for a

magnetic recording medium having a high substrate strength and a low alkali elution quantity.

- SOLUTION: The method of manufacturing the **glass** substrate for the information recording medium having an **aluminosilicate** composition comprises: an etching treatment step for etching an **inner** peripheral end surface of a doughnut type **glass** substrate formed by hollowing a center part of a disk like **glass** substrate molded by using a metal die; and an alkali sealing treatment step for applying alkali sealing treatment by proton exchange with alkali ions on the surface **layer** of the doughnut type **glass** substrate subjected to etching treatment. In the method of manufacturing the magnetic recording disk, at least a magnetic **layer** is formed on the **glass** substrate for the information recording medium thus manufactured. The magnetic recording disk is also provided.
- COPYRIGHT: (C)2008,JPO&INPIT

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- PN - [JPS62145776](#) A 19870629
- PR - JP19850286941 19851220
- AP - JP19850286941 19851220
- DT - I
- CCI - [H01L29/66606](#)
- FI - H01L29/78&301L
- FT - 5F040/DA18; 5F040/DC01; 5F040/EC07; 5F040/EC09; 5F040/EC19; 5F040/EF02; 5F040/EK01; 5F040/FB01; 5F040/FB06; 5F040/FB08; 5F040/FB09; 5F040/FC28
- PA - TOSHIBA CORP
- TI - MANUFACTURE OF SEMICONDUCTOR DEVICE
- AB - PURPOSE:To provide a semiconductor device which can be microminiaturized in a gate width by removing a mask material by a PEP method only at a portion to become a gate, etching and forming a gate in the opened portion. CONSTITUTION:After a first **aluminosilicate glass** ASG film 23 is formed, an opened portion 23a is formed by etching by a PEP method at the film 23 corresponding to a portion to be formed with a gate. Then, after a phosphorus-doped polycrystalline silicon **layer** is deposited on the entire surface, it remains only on the upper portion of a gate insulating film 25 by a PEP method as a gate electrode 26. After the portion 23a is formed at the film 23, the film 23 is formed on the entire surface and the film 23 remains only on the **inner** wall of the hole 23a by etching by RIE. Accordingly, a gate width L2 can be reduced as compared with the conventional one to provide a fine gate.

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- PN - [JPH03116810](#) A 19910517
- PNFP - JPH0756850B B2 19950614
- PR - JP19890252269 19890929
- AP - JP19890252269 19890929
- DT - I
- FI - H01G4/12&361; H01G4/12&364; H01G4/12&397
- FT - 5E001/AB03; 5E001/AC04; 5E001/AC09; 5E001/AE04; 5E001/AH01; 5E001/AH09;

5E001/AJ01; 5E001/AJ02

PA - (A)
TAIYO YUDEN KK

TI - (A)
MULTILAYER CERAMIC CAPACITOR AND MANUFACTURE THEREOF

AB - (A)
PURPOSE:To suppress the generation of delamination in a sintering process, and to contrive improvement in various characteristics such as a moistureproof property and the like by a method wherein, in a multilayer ceramic capacitor formed by connecting an Ni internal electrode and a basic material through a bonding **layer**, the bonding **layer** is formed by **aluminosilicate**. CONSTITUTION:The title multilayer ceramic capacitor is formed by laminating a plurality of dielectrics, i.e., element bodies 2, in each of which an internal electrode 1 is formed by Ni. A junction **layer** 3, having an **aluminosilicate** phase is formed between the internal electrode 1 and the element body 2, and the internal electrode 1 and the element body 1 are firmly joined together with a junction **layer** 3. It is considered that Si or Al, which forms a solid solution or is partially located in the Ni electrode at high temperature during a firing process is deposited from the Ni electrode during the cooling course of the firing process, causing an epitaxial growth as the **aluminosilicate** phase. Accordingly, the **inner** electrode and the element body the tightly compled without wing a **glass** component, the occurrence of delamination is supposed, and it is possible to improve the moisture-proof property.

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PN - [JPH01237312](#) A 19890921

PR - JP19880061702 19880314

AP - JP19880061702 19880314

DT - I

FI - F01N13/14; F01N13/16; F01N7/14; F01N7/16; F16L59/14

FT - 3G004/BA07; 3G004/DA14; 3G004/DA15; 3G004/EA05; 3G004/FA01; 3G004/FA04; 3G004/FA07; 3G004/GA03; 3G004/GA07; 3H036/AA01; 3H036/AA09; 3H036/AB12; 3H036/AB13; 3H036/AB15; 3H036/AB24; 3H036/AC01; 3H036/AD09; 3H036/AE01; 3H036/AE13

PA - TOYOTA CENTRAL RES & DEV

TI - HEATINSULATINGSTRUCTURE

AB - PURPOSE:To improve wind velocity resistance and thermal shock resistance by providing the first **layer** which is composed of textile, etc., that consists of heat resisting substance of lint, the second **layer** which consists of metal, and an intermediate **layer** which is interposed between these layers and which is made by molding heat resisting substance of staple. CONSTITUTION:A heat insulating structure, which is suitably applied to an engine exhaust pipe, etc., of an automobile, is constructed with an **inner layer** 1 which is composed of at least one of textiles or knitted goods that consists of lint, an intermediate **layer** 2 which is made by molding staple, and an outer **layer** 3 which consists of such metal as aluminum, iron, and formed into, for example, a cylindrical body. The staple of the intermediate **layer** 2 is provided to fill space of at least one of textiles or knitted goods of the **inner layer** 1. Such lint as carbon, SiC, Al₂O₃, is used as heat resisting substance of lint for the **inner layer** 1 and contributes

to improve wind velocity resistance. Such staple as **aluminosilicate glass**, rock fiber, is used as heat resisting substance of staple for the intermediate **layer 2**.

12/16 © EPODOC / EPO

PN - [GB1225941](#) A 19710324

PR - US19680703072 19680205

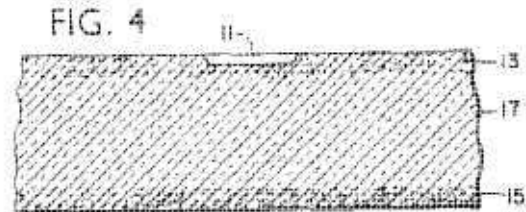
AP - GBD1225941 19690204

DT - **

CCI - [B32B17/10036](#) ; [B60J1/02](#) ;
[C03B27/00](#)

CCA - [Y10T428/24612](#) ; [Y10T428/315](#)

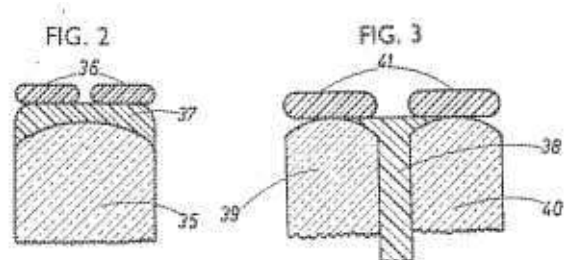
AB - 1,225,941. Laminated **glass**.
CORNING **GLASS** WORKS. 4 Feb.,
1969 [5 Feb., 1968], No. 5874/69.
Heading B5N. [Also in Division
C1] A laminated **glass** windshield
includes an outer **glass** ply,
an **inner glass** ply spaced
therefrom and a plastics
interlayer, e.g. of polyvinyl
butyral between the **glass** plies
adherently bonded to at least
one of the **glass** plies, the **inner**
ply being provided with a
compressively stressed
surface **layer 13, 15** so that
said **inner** ply has a greater
resistance to fracture by a blunt
object than the outer ply, greater
flexibility than the outer ply and
the ability when fractured to dice
rather than forming large pieces
of **glass** as does the outer ply and
wherein the **inner** ply has at
least one stress control zone 11
in the surface portion adjacent
the plastics interlayer of such
magnitude that the **inner** ply
fractures after a predetermined
stress level has been exceeded. A
stress control zone is defined as
a zone at the surface of a
compressively stressed ply that
has a level or degree of
compressive stress that is lower
than the level elsewhere over the
surface of the ply. The **inner** ply



is preferably an alkali metal **aluminosilicate glass** stressed by contact with a source of alkali metal ions having a larger ionic radius than the primary alkali metal ions in the **glass**, said contact being effected at an elevated temperature below the stress point of the **glass**, the stress control zone being formed preferably at the periphery of the ply by the application of an abrasive air blast to cut a depression in the sheet, or by scratching the **glass** with diamond.

13/16 © EPODOC / EPO

- PN - [GB1359167](#) A 19740710
- PR - GB19710016284 19710521
- AP - GB19710016284 19710521
- DT - **
- CCI - [B32B17/10155](#) ; [B32B17/10036](#) ;
[B32B17/10302](#) ; [B32B17/10761](#)
- CUI - [B32B27/306](#)
- CUA - [B32B2329/06](#)
- PA - GLAVERBEL
- TI - **GLASS** ARTICLES HAVING
PROTECTED EDGE PORTIONS
- AB - 1359167 Protecting edges
of **glass** laminates GLAVERBEL 21
May 1971 16284/71 Heading
B5N [Also in Division C1] An
article having an edge portion
of **glass** or **glass**-ceramic
containing compressive surface
stresses due to chemical
tempering has a protective
covering or coverings adhered
thereto and comprising fibre
reinforced plastics material or
one or more plastics coated or
plastics impregnated filaments
or rovings. The articles may be
plane or curved **glass**
sheets, **glass** laminated panels,



plane or curved, or containers such as flower bowls. As shown, a sheet 35, Fig. 2, is provided with two rovings 36 of fibres of E type **glass** impregnated with phenoxyl resin and secured to the edge by a neoprene-based adhesive **layer** 37. In Fig. 3, two sheets 39, 40 joined by a sheet 38 of polyvinylbutyral have two **glass**-fibre plastics impregnated rovings 41 secured direct to the edges of the sheets by fusing to the **layer** 38. A **layer**, similar to **layer** 37 may also be used. In addition to the chemical tempering, which may be effected only on the edges by protecting the remaining areas with paraffin wax, the article edges may be abraded, particularly to give the edge a flat bevelled profile, and the **glass** edges may be treated to reduce the impairment of the surface, as by a fluorine-containing agent such as an aqueous solution of hydrofluoric acid alone or with sulphuric acid. The sheets may also be thermally tempered. Chemical tempering is preferably by molten salt contacting medium, but a gas, a paste or a vapour may be used and, for sodium containing **glass**, the sodium ion may be replaced by larger ions, as potassium, or smaller, lithium, ions. In examples, for a lithium containing **glass**, a mixture of NaCl and MgCl₂ or of NaCl and AlCl₃, the latter being followed by a bath of KNO₃ with acid treatment both before and after. For an **alumino-silicate glass** a bath of LiNO₃ + NaCl; for soda-lime **glass** a bath of KNO₃ alone; with K₂CO₃ or with CO₂ gas passed through. Alternatively, a

sheet in KNO 3 was removed immediately to leave a coating film which was then irradiated with infra-red irradiation to heat the **inner** layers of the sheet, the surface layers being maintained below 490 C. by blowing air, the sheet then being rapidly cooled and washed to effect both chemical and thermal tempering. In addition to **glass** fibres or rovings, nylon fibres may be used. A larger variety of suitable plastics material is given including polyesters, phenol formaldehyde and elastomer plastics such as silicone or elastomers vulcanized in situ. Thermoplastics suggested include cellulose propionate, polyvinyl chloroacetate, polyvinyl acetate or polyethylene or elastomers such as acrylonitrile styrene copolymers. Combinations of polymers such as acrylonitrile-butadienestyrene/polyvinyl chloride. Phenoxy resins may be used. A continuous process is disclosed for plastics impregnated or coated threads or rovings in which the roving is passed through a solution of the thermoplastic and dried by heating. The coated roving is then applied to the edge by a hot air welding gun (46) having a guide ring (51) for the roving (43) and guide sheath (49) which has a pressing shoe (45) to press the roving (43) on to the edge of a **glass** panel (44). Specifications referred to are 1,274,731, 1,359,165 and 1,358,061.

AP - EP19960307636 19961022

DT - *; Rep

CT - || STSE (A1)
[EP0743289](#) A1 19961120 [E] (AT & T CORP [US])
 [E] 1-7
 * the whole document *;
[US5410567](#) A 19950425 [A] (BRUNDAGE KEVIN R [US], et al)
 [A] 1,7
 * the whole document *

CCI - [C03B37/029](#) ; [H05B6/22](#)

CCA - [C03B2205/64](#) ; [C03B2205/70](#)

PA - AT & T CORP [US]

TI - Zirconia induction furnace having magnesia insulation for drawing **glass** optical fibers

AB - Disclosed is an apparatus for heating **glass** rod, in particular an apparatus comprising an induction furnace for drawing **glass** optical fibers from a preform. The induction furnace comprises an **inner** zirconia susceptor tube (12) surrounded by a radially-spaced annular insulating region of magnesia refractory grog (13), i.e. grain, within a silica beaker (11), i.e. containment vessel. While the magnesia grog has a melting point similar to that of commonly used zirconia grog, and thus can also be used up to temperatures of ca. 2300 DEG C, the electrical conductivity of magnesia is substantially lower, enabling it to withstand higher RF power from the induction coil. Moreover magnesia is more soluble than zirconia in silica, reducing the likelihood of particulate contamination of the silica-based **glass** fiber compared with that which occurs when using the standard zirconia grog insulation of the prior art. The magnesia grog (13) may be radially confined by an **inner** magnesia tube (14), spaced from the susceptor tube (12), and by an optional outer **layer** of **aluminosilicate** insulation (17) within the silica beaker (12) and may further comprise refractory felt discs (19) for upper and lower confinement.

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PN - [EP0743289](#) A1 19961120

PNFP - EP0743289 B1 19990310

PR - US19950443510 19950518

AP - EP19960303208 19960508

DT - *; Rep

CT - || STSE (A1)
[US5410567](#) A 19950425 [A] (BRUNDAGE KEVIN R [US], et al)
 [A] 1-7
 * the whole document *;
[GB2121028](#) A 19831214 [A] (WESTERN ELECTRIC CO)
 [A] 1,7
 * abstract *;
[EP0553989](#) A1 19930804 [A] (AMERICAN TELEPHONE & TELEGRAPH [US])
 [A] 1,7
 * abstract *;
[XP002010261](#) A[A];

	XP002010262 A[A]; XP000576993 A[DA]; US4547644 A 19851015 [DA] (BAIR WALLACE C [US], et al) [DA] 1,7 * column 6, line 9 - line 27; figure 4; claims 1,2 *
CTNP	- STSE (A1) [A] D.P.JABLONOWSKI ET AL., "Optical fiber manufacturing techniques", AT&T TECHNICAL JOURNAL, SHORT HILLS, NJ, US, (198701), vol. 66, no. 1, pages 33 - 44, XP002010261 [A] 1,7 * page 35 - page 36 * [A] S.KEGUANG ET AL., "Improved Insulation for an Induction-Heated ZrO2 Furnace", AMERICAN CERAMIC SOCIETY BULLETIN, COLUMBUS, OHIO, US, (198612), vol. 65, no. 12, pages 1604 - 1605, XP002010262 [A] 1,7 * the whole document * [DA] R.B.BUNK, "A zirconia induction furnace for drawing precision silica wave guides", OPTICAL FIBER TRANSMISSION II, WILLIAMSBURG, VA, US, (19770222), pages TuB5-1 - TuB5-4, XP000576993 [DA] 1,7 * pages TUB5-2; figure 1 *
CCI	- C03B37/029 ; H05B6/22
CCA	- C03B2205/64 ; C03B2205/70
PA	- (A1 B1)
	AT & T CORP [US]
TI	- (A1 B1)
	Zirconia induction furnace having magnesia insulation for drawing glass optical fibers
AB	- (A1) Disclosed is an apparatus for heating glass rod, in particular an apparatus comprising an induction furnace for drawing glass optical fibers from a preform. The induction furnace comprises an inner zirconia susceptor tube (12) surrounded by a radially-spaced annular insulating region magnesia refractory grog (13), i.e. grain, within a silica beaker (11), i.e. containment vessel. While the magnesia grog has a melting point similar to that of commonly used zirconia grog, and thus can also be used up to temperatures of ca. 2300 DEG C, the electrical conductivity of magnesia is substantially lower, enabling it to withstand higher RF power from the induction coil. Moreover magnesia is more soluble than zirconia in silica, reducing the likelihood of particulate contamination of the silica-based glass fiber compared with that which occurs when using the standard zirconia grog insulation of the prior art. The magnesia grog (13) may be radially confined by an inner magnesia tube (14), spaced from the susceptor tube (12), and by an optional outer layer of aluminosilicate insulation (17) within the silica beaker (12) and may further comprise refractory felt discs (19) for upper and lower confinement.
16/16	© EPODOC / EPO
PN	- CN2472040Y Y 20020116
PR	- CN2000221781U 20000915

AP	- CN2000221781U 20000915
DT	- I
PA	- XINZHUANG IND CONSTRUCTION MAT [CN]
TI	- Improved composite thermal insulating material
AB	- The utility model relates to an improvement for the external application heat insulation thermal insulation material such as thermal pipelines or containers, which is characterized in comprising the composition of an inner insulation layer and an outer insulation layer . The inner insulation layer comprises at least one layer of rock wool, slag wool, or aluminosilicate fiber. The insulation outer layer is made of glass fiber. The utility model makes full use of the advantages of the two materials, enables the complement of each other, and improves the comprehensive performance of the insulation products greatly.

[SS 2]