



New connection on: : 22-08-2018 : 01:42:22 - Last disconnection on: : 21-08-2018 : 07:55:04

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 14] seal and layer and (elastom+ or plastomer) and ethylene and propylene and second and first

Results in EPODOC 8

[SS 15] ..li



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PN - [JP2016207564](#) A 20161208

PR - JP20150090263 20150427

AP - JP20150090263 20150427

DT - I

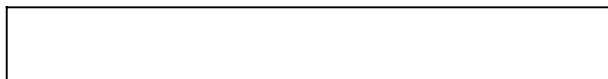
FI - B32B15/08&F; B32B27/00&H;
H01M2/02&K

FT - 4F100/AB01D; 4F100/AB33D;
4F100/AK01A; 4F100/AK41A;
4F100/AK46A; 4F100/AK64E;
4F100/AK67E; 4F100/AL03E;
4F100/AL05E; 4F100/AL09E;
4F100/AT00A; 4F100/BA04;
4F100/BA05; 4F100/CB00B;
4F100/CB00E; 4F100/CB03E;
4F100/EJ68C; 4F100/GB16;
4F100/GB41; 4F100/JB02C;
4F100/JL11B; 4F100/JL12E;
5H011/AA03; 5H011/AA17;
5H011/BB03; 5H011/CC02;
5H011/CC06; 5H011/CC10;
5H011/DD09; 5H011/DD14;
5H011/FF02; 5H011/GG09;
5H011/KK02

PA - TOPPAN PRINTING CO LTD

TI - SHEATH MATERIAL FOR POWER
STORAGE DEVICE

AB - PROBLEM TO BE SOLVED: To
provide a sheath material for



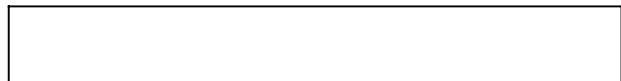
power storage device improved in insulation after molding and sealability to which an electrolyte is related, including a degassing heat **seal** strength.

SOLUTION: The sheath material for power storage device has a structure in which at least a substrate **layer**, a **first** adhesive **layer**, a metal foil **layer** with which anti-corrosive treatment layers are provided on one or both surfaces, a **second** adhesive **layer** or an adhesive resin **layer** and a sealant **layer** are laminated in this order. The sealant **layer** includes a **layer** formed from a resin composition containing (A) **propylene-ethylene** random copolymer in 60 to 95 mass%, (B) compatible **elastomer** and/or (C) incompatible **elastomer** totally in 5 to 40 mass%. In the resin composition, a mass ratio of a content of (C) incompatible **elastomer** with respect to a content of (B) compatible **elastomer** is 0 to 1, and (B) compatible **elastomer** and (C) incompatible **elastomer** have a common comonomer component.

SELECTED DRAWING:
Figure 1

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PN - [JP2016143615](#) A 20160808
 PR - JP20150020328 20150204
 AP - JP20150020328 20150204
 DT - I
 CCA - [Y02E60/13](#)
 FI - H01G11/78; H01M2/02&K
 FT - 5E078/AA12; 5E078/AB02;
 5E078/HA04; 5E078/HA12;
 5E078/HA13; 5H011/AA17;
 5H011/CC02; 5H011/CC06;
 5H011/CC10



PA - TOPPAN PRINTING CO LTD

TI - EXTERIOR MATERIAL FOR POWER STORAGE DEVICE

AB - PROBLEM TO BE SOLVED: To provide an exterior material for power storage device capable of improving the **seal** characteristics involved in an electrolyte including the degassing heat **seal** strength, while suppressing occurrence of excess **seal** part and occurrence of molding whitening. SOLUTION: In an exterior material for power storage device having a structure where at least a base material **layer**, a **first** adhesive **layer**, a metal foil **layer** where a corrosion prevention processing **layer** is provided on one or both sides, a **second** adhesive **layer** or an adhesive resin **layer**, and a sealant **layer** are laminated in this order, the sealant **layer** is a **layer** formed of a resin composition containing (A) 60-95 mass% of **propylene-ethylene** random copolymer, and (B) 5-40 mass% of polyolefin-based **elastomer** having a melting point of 150°C or less where butene-1 is a comonomer. SELECTED DRAWING: Figure 1

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PN - [CN105518897](#) A 20160420

PR - WO2014JP73189 20140903; JP20130181741 20130903; JP20130184172 20130905

AP - CN2014848357 20140903

DT - I

CT - || STSE (A)
[JP2005103955](#) A 20050421 [A] (TORAY INDUSTRIES)
 [A] 1-10
 * 全文 *;
[CN1689801](#) A 20051102 [A] (JAPAN POLYPROPYLENE CORP [JP])
 [A] 1-10
 * 全文 *;
[CN101506297](#) A 20090812 [YX] (BOREALIS TECH OY [FI])

[Y] 7-10

* 摘要、说明书第2页倒数第3段-第4页第10段，具体实施例，表1a，1b *

[X] 1-6;

[CN103155207](#) A 20130612 [Y] (TOPPAN PRINTING CO LTD)

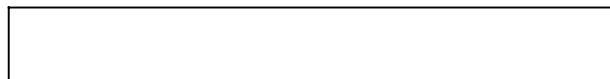
[Y] 7-10

* 摘要、第2实施方式 *

- CCI - [B32B15/085](#) ; [C08L23/14](#) ; [C08L23/16](#) ; [C08L23/20](#) ; [H01M2/0275](#) ; [H01M2/0277](#) ;
[H01M2/0285](#) ; [H01M2/0287](#)
- CUI - [C09J123/12](#) ; [C09J123/16](#) ; [C09J153/00](#) ; [H01M2/08](#)
- CCA - [C09K3/1006](#) ; [B32B2307/31](#) ; [B32B2553/00](#)
- PA - DAINIPPON PRINTING CO LTD
- TI - Resin composition for sealant **layer** of battery packaging material
- AB - The **first** invention provided by the present invention is a resin composition that is capable of imparting high insulating properties, sealing properties, and moldability to a battery packaging material. The **second** invention provided by the present invention is a resin composition that minimizes the occurrence of cracks when said resin composition is used in the sealant **layer** of a battery packaging material and a heat **seal** section of the battery packaging material is bent, and that is capable of imparting high insulating properties to the battery packaging material. The **first** invention is a resin composition for use in the sealant **layer** of a battery packaging material that contains: at least one of a **propylene-ethylene** random copolymer (A-1) that has a melting point of 156 DEG C or more and an **ethylene** content of 5 mass% or less and a **propylene-ethylene** block copolymer (A-2) that has a melting point of 158 DEG C or more and an **ethylene** content of 7 mass% or less; and a polyolefin **elastomer** (B) that has a melting point of 135 DEG C or more. The **second** invention is a resin composition for the sealing **layer** of a battery packaging material that contains a polyolefin resin having an isotactic fraction (mm) of 99% or less.

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- PN - [EP3043399](#) A1 20160713
- PNFP - EP3043399 A4 20170517
- PR - JP20130181741
20130903; JP20130184172
20130905; WO2014JP73189
20140903
- AP - EP20140843116 20140903
- DT - *; Rep
- CT - || STSE (A4)
[EP1889873](#) A1 20080220
[XYI] (BOREALIS TECH OY [FI])
[X] 1-3
* paragraphs [0065] - [0073];
tables 1a, 1b *
[Y] 11-14
[I] 4-6;
[JP2005103955](#) A 20050421



[XI] (TORAY INDUSTRIES)
 [X] 7,8,10-14
 * paragraphs [0021] , [0 62] , [0 67] - [0068] - [0 74] *
 [I] 9;
[EP2629348](#) A1 20130821
 [Y] (TOPPAN PRINTING CO LTD [JP])
 [Y] 11-14
 * paragraphs [0465] - [0469] *;
[US2005113517](#) A1 20050526
 [A] (TAYANO TAKAO [JP], et al)
 [A] 1-6,11-14
 * paragraphs [0247] - [0261] *

CCI - [B32B15/085](#) ; [C08L23/14](#) ;
[C08L23/16](#) ; [C08L23/20](#) ;
[H01M2/0275](#) ; [H01M2/0277](#) ;
[H01M2/0285](#) ; [H01M2/0287](#)

CUI - [C09J123/12](#) ; [C09J123/16](#) ;
[C09J153/00](#) ; [H01M2/08](#)

CCA - [C09K3/1006](#) ; [B32B2307/31](#) ;
[B32B2553/00](#)

PA - (A1 A4)
 DAINIPPON PRINTING CO LTD [JP]

TI - (A1 A4)
 RESIN COMPOSITION FOR
 SEALANT **LAYER** OF BATTERY
 PACKAGING MATERIAL

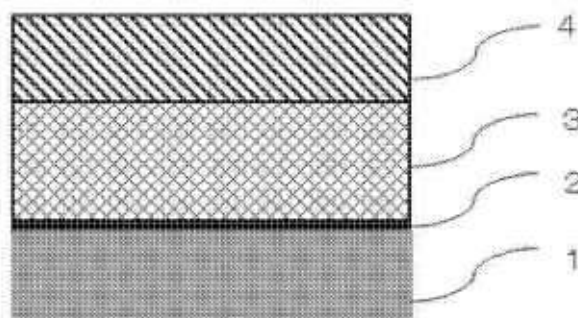
AB - (A1)
 [Problem] The **first** invention
 provided by the present
 invention is a resin composition
 that is capable of imparting high
 insulating properties, sealing
 properties, and moldability to a
 battery packaging material.
 The **second** invention provided
 by the present invention is a
 resin composition that
 minimizes the occurrence of
 cracks when said resin
 composition is used in the
 sealant **layer** of a battery
 packaging material and a
 heat **seal** section of the battery
 packaging material is bent, and
 that is capable of imparting high
 insulating properties to the

battery packaging material.
 [Solution] The **first** invention is a resin composition for use in the sealant **layer** of a battery packaging material that contains: at least one of a **propylene-ethylene** random copolymer (A-1) that has a melting point of 156°C or more and an **ethylene** content of 5 mass% or less and a **propylene-ethylene** block copolymer (A-2) that has a melting point of 158°C or more and an **ethylene** content of 7 mass% or less; and a polyolefin **elastomer** (B) that has a melting point of 135°C or more. The **second** invention is a resin composition for the sealing **layer** of a battery packaging material that contains a polyolefin resin having an isotactic fraction (mm) of 99% or less.

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PN - [WO2015033958](#) A1 20150312
 PR - JP20130181741
 20130903; JP20130184172
 20130905
 AP - WO2014JP73189 20140903
 DT - **
 CT - |JP| ISR (A1)
[JP2013101778](#) A 20130523
 [A] (SHOWA DENKO PACKAGING CO LTD);
[JP2009176647](#) A 20090806
 [A] (SUMITOMO CHEMICAL CO);
[WO2010100979](#) A1 20100910
 [A] (NISSAN MOTOR [JP], et al);
[JP2002220503](#) A 20020809
 [A] (IDEMITSU PETROCHEMICAL CO);
[JP2005103955](#) A 20050421
 [A] (TORAY INDUSTRIES);
[JP2002234124](#) A 20020820
 [A] (TORAY INDUSTRIES);
[JP2007105893](#) A 20070426
 [A] (TORAY INDUSTRIES)

[図1]



CCI	- B32B15/085 ; C08L23/14 ; C08L23/16 ; C08L23/20 ; H01M2/0275 ; H01M2/0277 ; H01M2/0285 ; H01M2/0287
CUI	- C09J123/12 ; C09J123/16 ; C09J153/00 ; H01M2/08
CCA	- C09K3/1006 ; B32B2307/31 ; B32B2553/00
PA	- DAINIPPON PRINTING CO LTD [JP]
TI	- RESIN COMPOSITION FOR SEALANT LAYER OF BATTERY PACKAGING MATERIAL
AB	- [Problem] The first invention provided by the present invention is a resin composition that is capable of imparting high insulating properties, sealing properties, and moldability to a battery packaging material. The second invention provided by the present invention is a resin composition that minimizes the occurrence of cracks when said resin composition is used in the sealant layer of a battery packaging material and a heat seal section of the battery packaging material is bent, and that is capable of imparting high insulating properties to the battery packaging material. [Solution] The first invention is a resin composition for use in the sealant layer of a battery packaging material that contains: at least one of a propylene-ethylene random copolymer (A-1) that has a melting point of 156 °C or more and an ethylene content of 5 mass% or less and a propylene- ethylene block copolymer (A-2) that has a melting point of 158 ° C or more and an ethylene content of 7 mass% or less; and a polyolefin elastomer (B) that has a melting point of 135 °C or

more. The **second** invention is a resin composition for the sealing **layer** of a battery packaging material that contains a polyolefin resin having an isotactic fraction (mm) of 99% or less.

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- PN - [GB2533274](#) A 20160622
- PR - GB20140021768 20141208
- AP - GB20140021768 20141208
- DT - **
- CT - || STSE (A)
[GB674007](#) A 19520618 [
] (DOWTY EQUIPMENT LTD, et al);
[WO9100887](#) A1 19910124 [
] (MATHER SEAL CO [US]);
[US4243235](#) A 19810106 [
] (REPELLA JAMES A)
- CCI - [F16J15/108](#) ; [F16J15/328](#)
- CNOI - [B32B25/08](#) ; [F16J15/328](#)
- CNOA - [B32B2581/00](#)
- PA - AB SKF [SE]
- TI - Method of manufacturing a **seal**
- AB - A method of manufacturing a **seal** 500, the method comprising: (i) providing an intermediate 10 having a **layer** of **elastomeric first** material 100, e.g. fluoroelastomer (FKM), perfluoroelastomer (FFKM), nitrile butadiene rubber (NBR), hydrogenated nitrile butadiene rubber (HNBR), carboxylated nitrile butadiene rubber (XNBR), silicone (VMQ), polyurethane (PU), neoprene (chloroprene), **ethylene-propylene**-diene (EPDM), **ethylene-propylene** (EPM), styrene-butadiene (SBR), isobutene-isoprene thermoplastic polyurethane (TPU), thermoplastic **elastomers** (TPE) and e.g. shaped as annulus

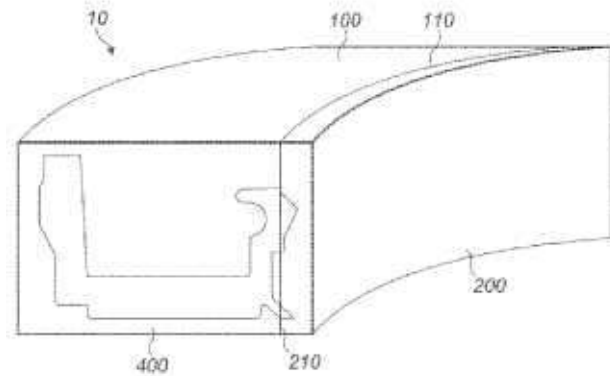


FIG. 1

or tube, and a **second** material 200, the latter having e.g. a lower friction coefficient, higher heat resistance, wear resistance, chemical resistance, or stiffness; and (ii) machining the intermediate 10 to form a **seal** 500. The **second** material 200 may comprise polymer with graphite, Polytetrafluoroethylene (PTFE), MoS₂, nano- or fullerene fillers, or waxes. The intermediate 10 may also have a third material (300, Fig. 3) comprising polymer and filler, stiffer than the **first** material 100. The third material (300, Fig. 3) may be bonded to the **first** 100 by gluing, co-extrusion, fusion bonding, or moulding. The **seal** may be a U shaped bearing or shaft **seal** and may contain a triangular lip 4 for contacting a shaft.

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- PN - [WO2009043004](#) A1 20090402
- PR - US20070976203P 20070928
- AP - WO2008US78119 20080929
- DT - **
- CT - |US| ISR (A1)
[US6303233](#) B1 20011016 [X] (AMON MORIS [US], et al);
[US2003207137](#) A1 20031106 [A] (KONG DAN-CHENG [US], et al);
[US2006199907](#) A1 20060907 [A] (CHANG ANDY C [US], et al)
- CCI - [B32B15/085](#) ; [B32B27/08](#) ; [B32B27/16](#) ; [B32B27/32](#) ; [B32B27/327](#)
- CCA - [B29C47/0021](#) ; [B29C47/06](#) ; [B29K2021/00](#) ; [B29K2023/06](#) ; [B29K2023/12](#) ;
[B32B37/153](#) ; [B32B38/0008](#) ; [B29K2105/256](#) ; [B32B2038/0028](#) ; [B32B2038/0092](#) ;
[B32B2270/00](#) ; [B32B2274/00](#) ; [B32B2307/518](#) ; [B32B2310/14](#) ; [B32B2553/00](#) ;
[Y10T428/265](#) ; [Y10T428/2826](#)
- PA - TORAY PLASTICS AMERICA INC [US]; LEE MARK S [US]
- TI - BIAXIALLY ORIENTED POLYPROPYLENE FILM WITH HIGH HEAT **SEAL** STRENGTH
- AB - A laminate film including a **first** polyolefin heat sealable resin **layer** and a **second** core **layer** including of a blend of 5-15 wt% of a metallocene-catalyzed butene-**propylene** or **ethylene-propylene** thermoplastic **elastomer** or **ethylene-propylene plastomer** or blends thereof which exhibit an isothermal crystallization temperature of 600C or less and 95-85 wt% of a crystalline **propylene** homopolymer is disclosed. The laminate film may include additional layers such as a third polyolefin resin-

containing **layer** disposed on the side of the core **layer** opposite the heat sealable **layer**, a metal **layer**, or combinations thereof.

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- PN - [US2009087648](#) A1 20090402
- PNFP - US9120294 B2 20150901
- PR - US20080240350 20080929; US20070976203P 20070928
- AP - US20080240350 20080929
- DT - *; Rep
- CT - || STSE (B2)
[US4533509](#) A 19850806 [] (GUST LAWRENCE J [US], et al)
[US5152946](#) A 19921006 [] (GILLETTE PAUL C [US])
[US6033786](#) A 20000307 [] (FATICA MICHAEL G [US], et al)
[US6514625](#) B1 20030204 [] (DEMEUSE MARK T [US])
[US2002187326](#) A1 20021212 [] (KONG DAN-CHENG [US])
[US2003148119](#) A1 20030807 [] (SU TIEN-KUEI [US], et al)
[US2003207137](#) A1 20031106 [] (KONG DAN-CHENG [US], et al)
[US2005147835](#) A1 20050707 [] (CHANG KEUNSUK P [US], et al)
[US2007287348](#) A1 20071213 [] (AUTRAN JEAN-PHILIPPE MARIE [US], et al)
[US2008064805](#) A1 20080313 [] (UOSAKI HIROTAKA [JP], et al)
[US2009068486](#) A1 20090312 [] (BLACKWELL CHRISTOPHER J [US], et al)
[US2009081474](#) A1 20090326 [] (KEUNG JAY K [US])
[US2009166911](#) A1 20090702 [] (UOSAKI HIROTAKA [JP], et al)
[WO2006071826](#) A1 20060706 [] (BLACKWELL CHRISTOPHER J [US], et al)
- || R141 (A1)
[US2005147835](#) A1 [];
[US2008064805](#) A1 [];
[US2003207137](#) A1 [];
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[US2007287348](#) A1 [];
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[US5527608](#) A [];
[US2009166911](#) A1 [];
[US2003148119](#) A1 [];
[US2006199907](#) A1 [];
[US5817412](#) A [];
[US6303233](#) B1 [];
[US2002164470](#) A1 [];
[US5376437](#) A [];
[US6326068](#) B1 [];
[US5152946](#) A [];
[US6033786](#) A [];
[US4533509](#) A []
- CTNP - || STSE (B2)

- [] <http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh-00b4/0901b803800b4d93.pdf?filepath=verify/pdfs/noreg/746-03001.pdf&fromPage=GetDoc>, Feb. 2007
- [] <http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh-004e/0901b8038004e348.pdf?filepath=verify/pdfs/noreg/746-05501.pdf&fromPage=GetDoc>, Feb. 2007
- [] <http://catalog.ides.com/docselect.aspx?l=68651&E=84310&DOC=DOWTDS&DS=123&DK=STD&DC=en>
- || R141 (A1)
- [] <http://catalog.ides.com/docselect.aspx?l=68651&E=84310&DOC=DOWTDS&DS=123&DK=STD&DC=en>
- CCI - [B32B15/085](#) ; [B32B27/08](#) ; [B32B27/16](#) ; [B32B27/32](#) ; [B32B27/327](#)
- CCA - [B29C47/0021](#) ; [B29C47/06](#) ; [B29K2021/00](#) ; [B29K2023/06](#) ; [B29K2023/12](#) ; [B32B37/153](#) ; [B32B38/0008](#) ; [B29K2105/256](#) ; [B32B2038/0028](#) ; [B32B2038/0092](#) ; [B32B2270/00](#) ; [B32B2274/00](#) ; [B32B2307/518](#) ; [B32B2310/14](#) ; [B32B2553/00](#) ; [Y10T428/265](#) ; [Y10T428/2826](#)
- PA - (A1)
TORAY PLASTICS AMERICA INC [US]
- (B2)
LEE MARK S [US]; TORAY PLASTICS AMERICA INC [US]
- TI - (A1 B2)
BIAXIALLY ORIENTED POLYPROPYLENE FILM WITH HIGH HEAT **SEAL** STRENGTH
- AB - (A1 B2)
A laminate film including a **first** polyolefin heat sealable resin **layer** and a **second** core **layer** including of a blend of 5-15 wt % of a metallocene-catalyzed butene-**propylene** or **ethylene-propylene** thermoplastic **elastomer** or **ethylene-propylene plastomer** or blends thereof which exhibit an isothermal crystallization temperature of 60 DEG C. or less and 95-85 wt % of a crystalline **propylene** homopolymer is disclosed. The laminate film may include additional layers such as a third polyolefin resin-containing **layer** disposed on the side of the core **layer** opposite the heat sealable **layer**, a metal **layer**, or combinations thereof.