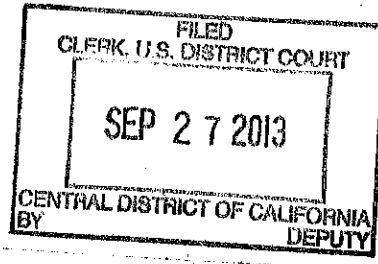


1 J. Curtis Edmondson (SBN 236105)
2 Law Offices of J. Curtis Edmondson
3 3699 NW John Olsen Place
4 Hillsboro, OR 97124
5 v: 503.336.3749
6 f: 503.482.7418
7 e: jcedmondson @edmolaw.com

8 Attorney for Plaintiff



9 IN THE UNITED STATES DISTRICT COURT

10 FOR THE CENTRAL DISTRICT OF CALIFORNIA

11 TOMAHAWK 30 IMPORTERS, LTD,

CV 13-7158 PA (PJW x)

12 a Canadian Corporation;
13 SAFEGUARD 30, LLC, an
14 Oregon Limited Liability Company;

) Civil Action No.

) **COMPLAINT**

15 Plaintiffs,

) **1. Patent Infringement**

) **2. False Marketing**

) **3. False Advertising**

16 v.

17 INTERNATIONAL INTEGRATION
18 LLC, a California Limited Liability
19 Company

) **DEMAND FOR JURY TRIAL**

20 Defendants.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

NATURE OF THIS CASE

1. This patent infringement case is brought because Defendant International Integration, LLC (“INTEGRATION”) has distributed and sold a roofing underlayment product known as *Capital 30*. This product infringes United States Patent No. 8,105,965 (“the ‘965 Patent”). (Ex 1). Plaintiff, Tomahawk 30 Importers, Ltd. (“TOMAHAWK”) is the exclusive licensee of the ‘965 Patent. TOMAHAWK is seeking damages and injunctive relief against INTEGRATION for infringement of the ‘965 Patent. Safeguard 30, LLC (“SAFEGUARD”) is a direct competitor to INTEGRATION and is seeking damages and injunctive relief for the unfair competitive acts of false marking of their product as “Patent Pending” and falsely stating on their website (www.capital30.com) that they manufacture the only synthetic roofing underlayment.

JURISDICTION

2. This action arises under the United States Patent Act, 35 U.S.C. §§ 1, et seq. This Court has subject matter jurisdiction of the claims asserted herein under 28 U.S.C. §§ 1331 and 1338(a). The court has pendent jurisdiction over all state law claims for unfair competition.

1
2 **PARTIES**

3 3. Plaintiff, Tomahawk 30 Importers, Ltd., is a Canadian corporation and
4 the exclusive licensee of the '965 patent.

5
6 4. Plaintiff, Safeguard 30, LLC is an Oregon Limited liability company
7 with a principal place of business in Beaverton, Oregon.

8 5. Defendant International Integration, LLC is a California limited
9 liability company with a principal place of business at 1970 W. Holt Ave.,
10 Pomona, CA 91768.

11
12 6. This Court has personal jurisdiction over Defendants because they are
13 physically located in this judicial district, conduct business within the State of
14 California, have infringed the '965 Patent in this District, have committed acts of
15 false marking, and have engaged in false advertising.
16

17 **VENUE**

18
19 7. A substantial part of the acts, events, and omissions giving rise to the
20 claims asserted in this action occurred within this judicial District, and venue is
21 therefore proper in this court under the provisions of 28 U.S.C. §§ 1391(b) and (c),
22 and 1400(b). Specifically, INTEGRATION has imported and sold products that
23 infringe the '965 Patent from its facilities in Pomona, California.
24
25
26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

RELEVANT FACTS

A Background on Roofing Underlayments

8. Roofing underlayment is used to provide a barrier between the roofing material (such as tile or shingles) and the supporting roof structure (such as plywood). This underlayment keeps exterior moisture from penetrating into the house. As such, almost every house has a roof with an underlayment.

9. There are two classes of underlayments: “organic” and “synthetic”. “Organic” generally refers to underlayment products made from felt materials and “synthetic” generally refers to products made from newer materials, such as polymers. (Ex. 2).

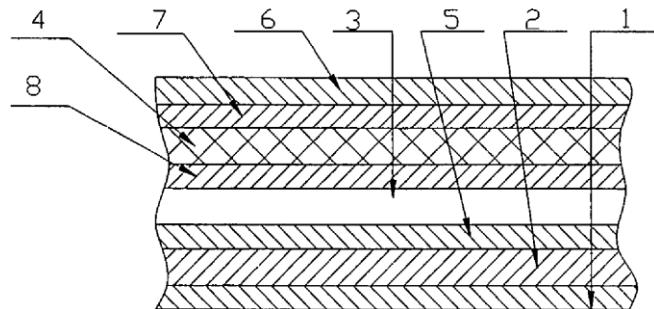
10. The market for roof underlayments is very competitive. There will be an estimated 1 million new homes built in 2013. (Ex. 3) Each of these homes will typically require an underlayment. Due to the size of this market, there are many competing products sold to large and small manufacturers.

///
///
///
///

The '965 Patent

1
2 11. In view of the large demand for synthetic underlayments,
3 inventor Zhang developed a new and novel underlayment. Mr. Zhang then applied
4 for a United States Patent, using the law firm of Ladas and Parry to prosecute this
5 patent application. Mr. Zhang then satisfied all of the statutory requirements for
6 his patent application which issued into a valid United States patent on January 31,
7 2012.
8

9
10 12. The '965 patent has four claims and several figures relating to
11 an improved roofing underlayment. (Ex. 1, Fig. 3).
12



13
14
15
16
17
18 Fig. 3

19
20 13. The owner of the '965 patent is Hangzhou Dinggang Trade Co, Ltd.
21 Hangzhou Dinggang Trade Co, Ltd. then entered into an exclusive license
22 agreement designating TOMAHAWK as the exclusive licensee of the '965 Patent.
23 (Ex. 4).
24
25
26

1
2 17. INTEGRATION also maintains a website at www.capital30.com
3 where the Capital 30 product is the sole focus of this website. (Ex. 8). The
4 website states:
5

6 *Capital 30*

7
8 *The 1st and only hybrid underlayment*

9 *Can't decide wether or not to stop using the 30lb for something new in the*
10 *market?*

11 *You like the synethics performance, but not the price?*

12 *Our Hybrid Underlayment is different.*

13 *Unlike most synethics where you're just working with a sheet of plastic. At*
14 *the same time traditional 30lb can be hard to work with.*

15 *We integrated both products into one strong and unique material. The*
16 *hybrid also feature the characteristics of both products that you will love.*

17 *Still can't make up your mind, request a free sample to try and see the*
18 *difference! (emphasis added)*

19
20 The commercial impression of this advertisement is to convince consumers that
21 only Integration sells a synthetic hybrid underlayment
22

23 ///

24 ///

25 ///
26

COUNT I

(Patent Infringement under 35 U.S.C. § 271)

1
2
3 18. TOMAHAWK and SAFEGUARD repeat and re-allege the statements
4 and allegations set forth in paragraphs 1-17 above, and incorporate them herein.

5
6 19. TOMAHAWK is the exclusive licensee of the '965 Patent.

7
8 20. INTEGRATION has imported, sold, and offered to sell Capital 30, a
9 roofing underlayment, that infringes one or more claims of the '965 Patent.

10 21. INTEGRATION has not been granted a license by TOMAHAWK or
11 the patent owner to sell any product covered by the claims of the '965 Patent.

12
13 22. INTEGRATION has willfully and intentionally imported, sold, and
14 offered to sell Capital 30 with full knowledge of the claims of the '965 Patent.

15
16 ///

17
18 ///

19
20 ///

21
22 ///

23
24 ///

25
26 ///

COUNT II

(False Marking – 35 USC §292)

1
2
3 23. TOMAHAWK and SAFEGUARD repeat and re-allege the statements
4 and allegations set forth in paragraphs 1-17 and 19-22 above and incorporate them
5
6 herein.

7 24. INTEGRATION has marked the Capital 30 product with the phrase
8 “Patent Pending”. INTEGRATION has no such patent pending where the claims
9
10 of any patent would cover the Capital 30 product.

11 25. INTEGRATION has falsely marked the Capital 30 product
12
13 intentionally, knowing that other patents were either in prosecution or issued that
14 would cover the ‘965 patent.

15 26. INTEGRATION’s false marking has caused harm to TOMAHAWK
16
17 and SAFEGUARD in that purchasers of roofing underlayment are deceptively
18 induced into buying a product that they believe would be covered by a pending
19 patent.

20
21
22 ///

23 ///

24 ///

25
26 ///

PRAYER FOR RELIEF

1
2 Wherefore, Plaintiff respectfully requests and prays that this Court enter
3 judgment in its favor against defendants, and each of them, and grant the following
4 relief:

5
6 A. A finding that INTEGRATION has infringed, induced others to
7 infringe, and/or committed acts of contributory infringement with respect to the
8 ‘965 patent;

9
10 B. A finding that INTEGRATION’s infringements of the ‘965 patent
11 have been willful;

12
13 C. A preliminary and final injunction against INTEGRATION, their
14 officers, directors, and agents against selling products that infringement of the ‘965
15 patent during the term of patent enforceability;

16 D. A finding that INTEGRATION falsely marked the Capital 30 product;

17
18 E. A preliminary and final injunction against INTEGRATION, their
19 officers, directors, and agents against selling products that are falsely marked with
20 “Patent Pending”;

21
22 F. A finding that INTEGRATION falsely advertised the Capital 30
23 product on their website [www.capital 30.com](http://www.capital30.com);

1 G. A preliminary and final injunction against INTEGRATION, their
2 officers, directors, and agents against the false advertisement of the Capital 30
3 product on their website;

4
5 H. Damages for Infringement of the '965 Patent of at least a reasonable
6 royalty or lost profits; with additional damages for willfulness as provided under
7 the patent statutes;

8
9 I. Damages for the False Marking of the Capital 30 Product;

10 J. Damages for the False Advertisement of the Capital 30 Product;

11 K. Attorney fees as provided for under the patent and trademark laws;

12
13 L. Interest and costs; and

14 M. Such other relief as this Court deems just and appropriate.
15
16

17 Respectfully Submitted,

18 /s/ J. Curtis Edmondson

19 J. Curtis Edmondson (CSB #236105)

20 Attorney for Plaintiff

21 Tomahawk 30 Importers, Ltd. and
22 Safeguard 30, LLC
23
24
25
26

EXHIBIT 1

U.S. Pat. No. 8,109,965



US008105965B2

(12) **United States Patent**
Zhang

(10) **Patent No.:** **US 8,105,965 B2**
(45) **Date of Patent:** **Jan. 31, 2012**

(54) **ROOFING UNDERLAYMENT MATERIAL AND PROCESS FOR MAKING THE SAME**

FOREIGN PATENT DOCUMENTS

(76) Inventor: **Guorong Zhang**, Hangzhou (CN)

CA	2 561 263	A1	3/2007
CN	2382550	Y	6/2000
CN	2581555	Y	10/2003
CN	1621450	A	6/2005

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 301 days.

* cited by examiner

(21) Appl. No.: **11/779,953**

Primary Examiner — Peter Y Choi

(22) Filed: **Jul. 19, 2007**

(74) *Attorney, Agent, or Firm* — Ladas & Parry LLP

(65) **Prior Publication Data**

US 2008/0026663 A1 Jan. 31, 2008

(30) **Foreign Application Priority Data**

Jul. 19, 2006 (CN) 2006 1 0052564
May 21, 2007 (CN) 2007 1 0107857

(51) **Int. Cl.**
B32B 11/10 (2006.01)

(52) **U.S. Cl.** **442/398**; 442/59; 442/327; 442/381; 442/394

(58) **Field of Classification Search** 442/398, 442/59, 258, 327, 381, 394
See application file for complete search history.

(56) **References Cited**

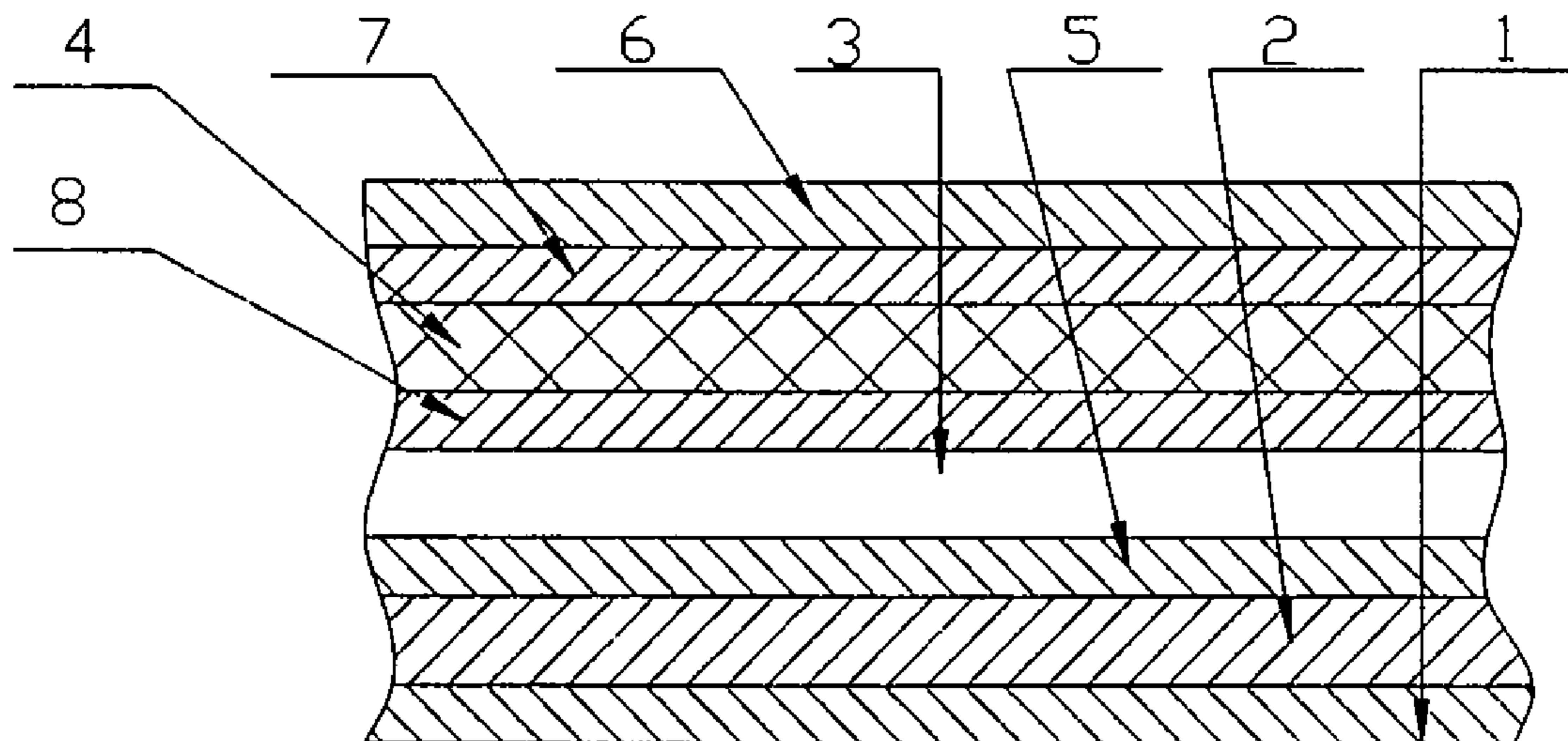
U.S. PATENT DOCUMENTS

2004/0214489 A1* 10/2004 Porter 442/36
2007/0077838 A1* 4/2007 Binkley et al. 442/286

(57) **ABSTRACT**

The present invention relates to a waterproof material, wherein film layers are set between non-woven fabric layers, an asphalt layer is set between the film layers, and a net reinforcement layer is set within the asphalt layer. The advantages of the present invention include: (1) film layers are formed by laminating it on the compositing surfaces of the upper and lower non-woven fabric layers, which overcomes the drawback of water leaking in the background art, prevents the leaking of asphalt into the non-woven fabric or out of the non-woven fabric during the compositing process, so that the environmental pollution during transportation and application is avoided; (2) a glass-fiber netlike reinforcement layer is set within the asphalt layer, so that not only the tensile strength and compressive strength of the asphalt layer, but also the tensile strength and tear strength of the roofing underlayment material are improved; (3) the thickness and number of film layers are set to ensure the temperature-resistance and puncturing-resistance of film layers.

4 Claims, 1 Drawing Sheet



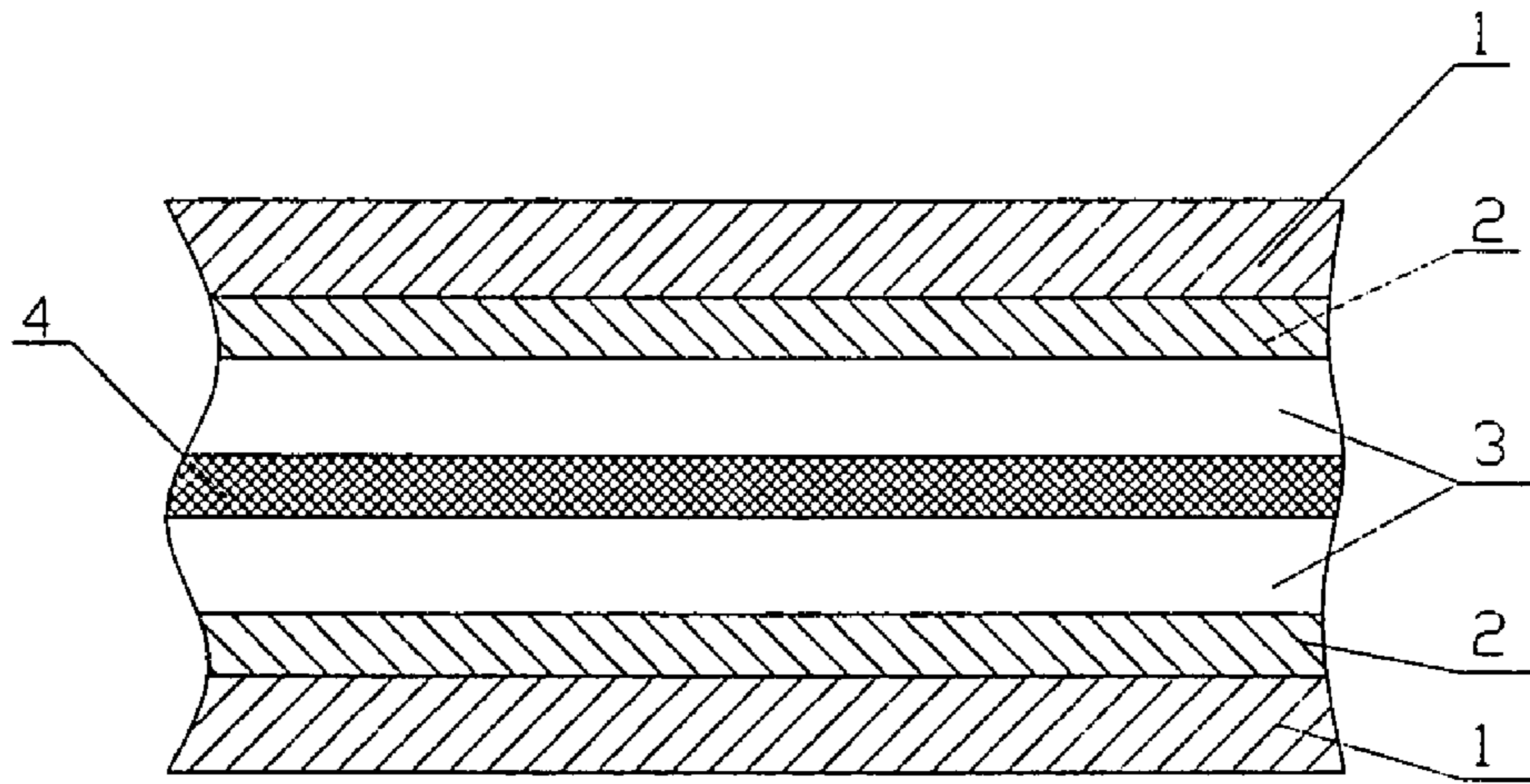


Fig. 1

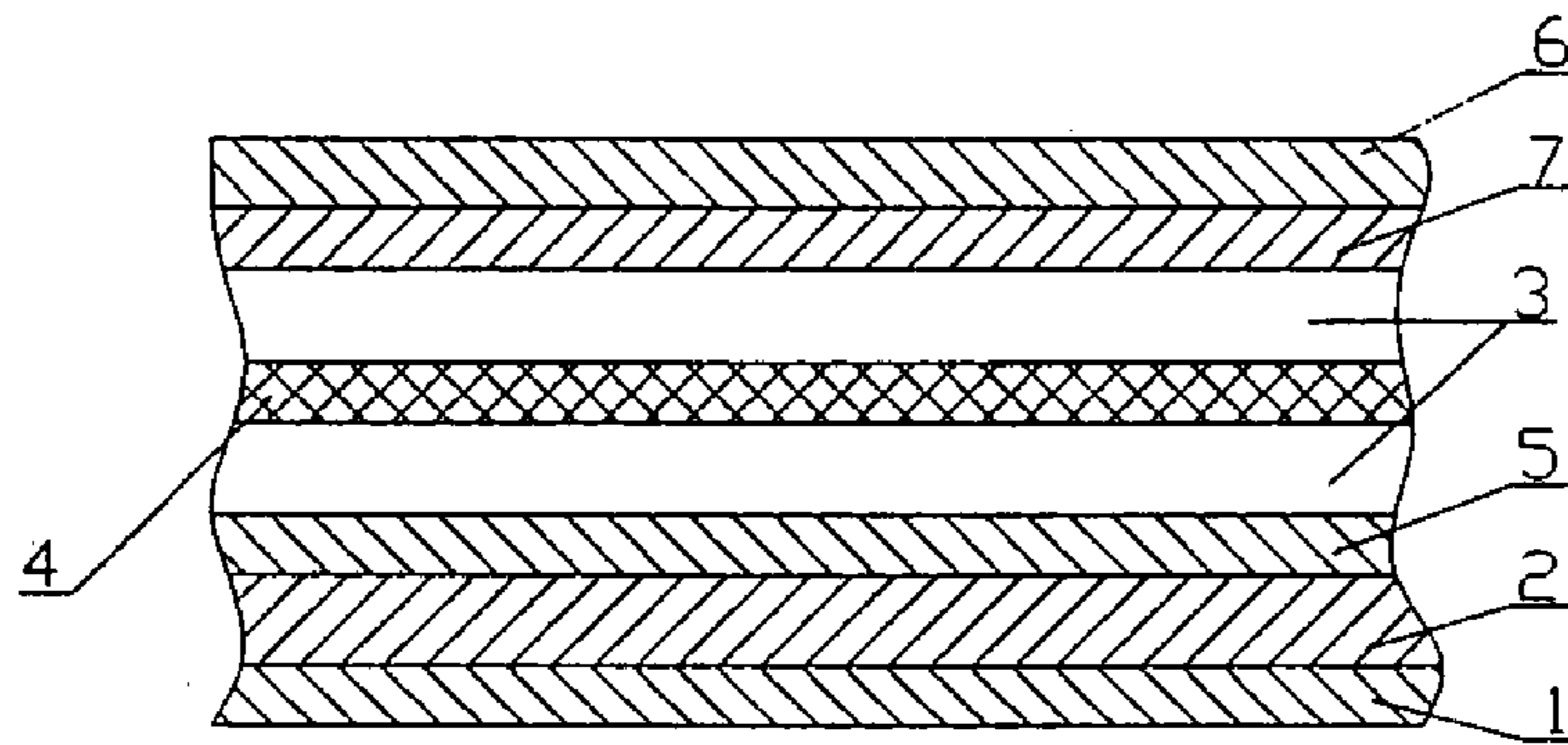


Fig. 2

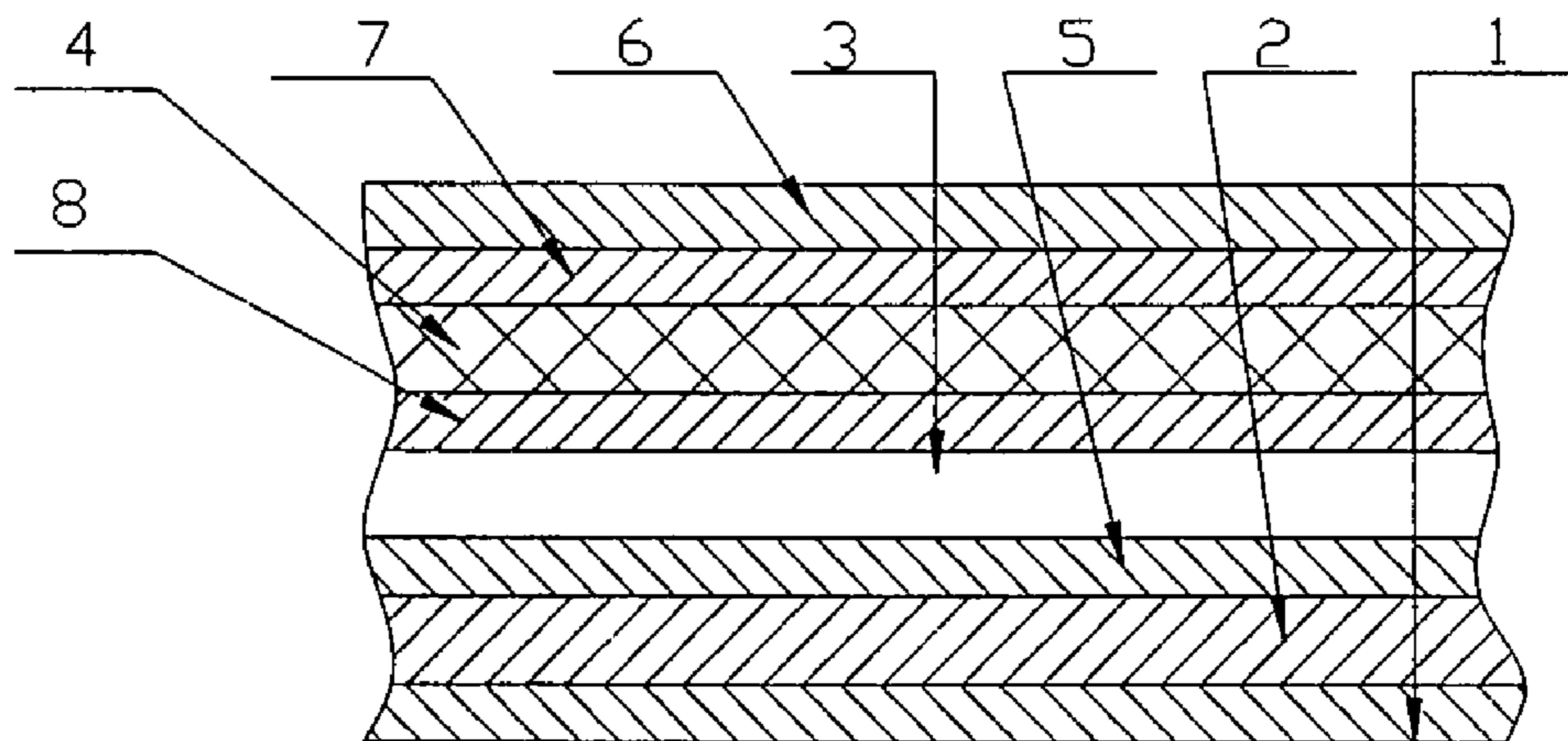


Fig. 3

US 8,105,965 B2

1

**ROOFING UNDERLAYMENT MATERIAL
AND PROCESS FOR MAKING THE SAME**

FIELD OF THE INVENTION

The present invention relates to a water-proof material, in particular to a roofing underlayment material, and to a process for making the same.

BACKGROUND OF THE INVENTION

CA2561263 entitled "Multiple layer roofing underlayment material" discloses a multiple-layered roofing underlayment material comprising an inner core providing a continuous film water barrier, a first outer layer comprising a woven or spun bond fabric and a second outer layer comprising a woven or spun bond fabric, wherein the inner core binds the first outer layer to the second outer layer.

The inner core of the underlayment acts as a binder for the outer layers and provides water resistance through the use of a thermoplastic, resinous, wax, or polymeric material. Numerous material can be used to provide a continuous film water barrier inner core, such as asphalt, polyethylene terephthalate (PET), polyvinyl chloride (PVC), pine pitch, polypropylene, polyethylene, polyamides, polyester, and nylon. In the preferred embodiment, the inner core is a thermoplastic comprising asphalt because of the advantageous features associated with its physical properties, processability, and inexpensive cost. Asphalt's low cost allows for the efficient application of a sufficient film thickness in order to provide for good quality body, or a product that has a heavy canvas feel and adequate stiffness.

An outer layer **120** of the underlayment consists of a spun bond fabric layer. The spun bond fabric layer, when combined with an inner core **110** and a woven fabric outer layer **130**, forms a three-layer underlayment material **100**. A plurality of outer layers of either non-woven, e.g., spun bond, fabric or woven fabric can be used to produce a multi-layered underlayment material. Because the spun bond layer is not needed to provide strength to the product, it can be very light-weight material, such as 43 grams/m² or less.

Either a woven fabric or spun bond fabric can be used for the upper and/or the lower layer. One of the layers is preferably woven to ensure that the underlayment has good strength characteristics, and one of the layer is preferably a spun bond or other type of non-woven fabric. When used as a lower layer, the spun bond fabric layer provides good grip to the roof deck. The thermoplastic inner core can be positioned between two or more layers of either woven fabric or spun bond fabric, or any combination thereof.

However, the above multiple-layered roofing underlayment material still has the following drawbacks during practical application.

1. Poor waterproof and leak-resistant properties: Since the multiple-layered underlayment material has a relatively higher thermal shrinkage, when the multiple-layered underlayment material is fixed with nails, the parts of multiple-layered underlayment material around nails intensively shrink after being heated by sunshine, and as a result nails are separated from the multiple-layered underlayment material and circular orifices form around nails and cannot disappear under cooling. Thus water leaking or seepage will consequently occur.
2. Poor environmental protection properties: Since the inner core as mentioned in the background art is preferably asphalt for water-proof and binding, the upper and lower woven or spun bond fabric are bonded by the asphalt to form the roofing underlayment material. However, since the fluidity of asphalt in the multiple-layered roofing underlayment material under heating is not effectively con-

2

trolled, the asphalt core between the upper and lower woven or spun bond fabric layers will inevitably flow or leak out of the upper and lower woven or spun bond fabric and cause environmental pollution.

3. Poor weathering resistance and peeling strength: the inherent properties of woven fabric lead to a non-affinity binding between the woven fabric and asphalt, such that the core of the multiple-layered roofing underlayment material formed by composite molding is prone to be peeled and separated, and will embrittle and age after being exposed to atmosphere for about 15 days and finally decomposes into powder. Thus, its weathering-resistant property and peeling strength may be poor.
4. Poor stiffness: Since the multiple-layered underlayment material does not contain a net-like reinforcement layer, when a roll of the multiple-layered underlayment material is open under hot weather, the material cannot automatically stretch so that construction efficiency and effect will be affected, and conglutination will inevitably occurs.
5. Light pollution: Since the outer layer of the multiple-layered underlayment material is white polypropylene that reflects sunshine intensively, the light pollution generated thereby is harmful to constructors. In addition, the poor anti-slip property will make the construction unsafe.
6. Poor practical applicability: Since the core of the multiple-layered underlayment material is preferably asphalt, due to the limitation of physical and chemical properties of asphalt, the asphalt layer has lower strength under cold weather and is prone to generate cracks and lose water-proof property; while the asphalt layer between the upper and lower woven or spun bond fabric layers flows out under hot weather because the fluidity of asphalt is not effectively controlled, such that water-proof and leak-resistant function cannot be implemented, at the meantime environment will be polluted.

SUMMARY OF INVENTION

The first objective of the present invention is to improve the water-proof and leak-resistant properties of a multiple-layered roofing underlayment material; the second objective is to avoid the environmental pollution caused by such a multiple-layered roofing underlayment material; the third objective is to enhance the weathering resistance and peeling strength of a multiple-layered roofing underlayment material; the fourth objective is to improve stiffness of a multiple-layered roofing underlayment material, to avoid conglutination and to increase construction efficiency; the fifth objective is to avoid light pollution and to improve the anti-slip property of a multiple-layered roofing underlayment material; and the sixth objective is to improve the practical applicability of a multiple-layered roofing underlayment material in order to achieve the purposes of water-proof, leak-resistance, anti-slip and non-pollution.

In order to fulfill the above objectives, the present invention employs the following structure design:

1. According to a characteristic of the present invention, film layers are set on the compositing surfaces between the non-woven fabric layers, which is to achieve the following purposes:
 - (1) The films (plastic film layers) on the compositing surfaces between two non-woven fabric layers are useful to improve the water-proof and leak-resistance of the roofing underlayment material, so that the drawbacks in the background art are overcome.
 - (2) Since the films (plastic film layers) on the compositing surfaces between two non-woven fabric layers can effectively bar asphalt material, the desired color of a non-woven fabric outer layer of the multiple-layered roofing

US 8,105,965 B2

3

underlayment material can be designed according to customer's requirements, so that the obtained product can meet different requirements of customers and can be used in extended fields.

2. According to another characteristic of the present invention, an asphalt layer is set between (upper and lower) film layers and a glass-fiber netlike reinforcement layer is set within the asphalt layer. This characteristic substantively overcomes drawbacks in the background art.

(1) Since upper and lower film layers are plastic film layers with good water-proof and an asphalt is set between the upper and lower film layers, the asphalt cannot leak into non-woven fabric layers, the affinity and composite effects between films are improved, the water-proof and leak-resistant properties of the multiple roofing underlayment material are enhanced, the reliability of product are increased greatly, and the environmental pollution of asphalt is avoid.

(2) When an asphalt layer is set between (upper and lower) film layers and a glass-fiber netlike reinforcement layer is set within the asphalt layer, the drawback of thermal shrinkage of the multiple-layered roofing underlayment material is substantively overcome. In particular, when the multiple-layered roofing underlayment material is fixed with nails, the multiple-layered roofing underlayment material is separated by the glass-fiber netlike reinforcement layer into grids that are not shrinkable due to the properties of glass-fiber netlike reinforcement layer, and thus the asphalt in the grids cannot flows away but still seals the nails even under directly exposure to sunshine, so that the drawback of separation between the multiple-layered roofing underlayment material and the nails in the background art is overcome, and the leaking of rain water is avoided as well.

(3) Since a glass-fiber netlike reinforcement layer is set within asphalt layer of the multiple-layered roofing underlayment material, the fluidity of asphalt under heating is effectively controlled. Thus, even under hot weather, asphalt is fixed by the glass-fiber netlike reinforcement layer, such that the strength of the asphalt layer is enhanced, the leaking of asphalt is avoided, and the application and environmental protection of product are ensured.

(4) Since a glass-fiber netlike reinforcement layer is set within the asphalt layer of the multiple-layered roofing underlayment material, which acts like steel bars in a concrete bridge floor, the tensile strength, compressive strength and tear strength of the asphalt layer are effectively improved, such that the drawback that asphalt flows under heating and embrittles under cooling is overcome, and the strength and compressive properties of the multiple-layered roofing underlayment material as a whole are improved effectively as well.

(5) Since a glass-fiber netlike reinforcement layer is set within the core of the multiple-layered roofing underlayment material, when a roll of a stiff multiple-layered roofing underlayment material, formed with the glass-fiber netlike reinforcement layer, a plurality of non-woven fabric layers, films and asphalt layer, is opened, the roll automatically stretches under the action of glass-fiber netlike reinforcement layer, so that the construction efficiency and effect are improved, and the drawback of conglutination in the roll of the multiple-layered roofing underlayment material is avoided.

(6) Since the outer layers of the multiple-layered roofing underlayment material have a dark color and do not reflect light under sunshine, light pollution does not

4

occur and thus does not harm human eyes. In addition, the outer layers have a higher frictional coefficient and good anti-slip property, which facilitate safe construction.

3. According to another characteristic of the present invention, each film layer is one layer or two layers or multi-layers. The purposes of the design are as follows:

(1) When each film is of one layer, the film has a thickness with temperature-resistance and puncturing-resistance.

The term "temperature-resistance" used herein is meant that the film thickness is enough to resist the temperature of the molten asphalt. That is, the film does not melt at the moment when contacting with molten asphalt. The term "puncturing-resistance" used herein is meant that the minor impurities in the molten asphalt cannot puncture through the film. Thus, the water-proof of the film layer will not be affected by temperature and impurities during the compositing process.

(2) When the film is of two or multiple layers, the purpose is still to ensure that the film layer with temperature-resistance and puncturing-resistance, i.e., the film does not melt at the moment when contacting with the molten asphalt, and is not punctured during the compositing process, in order to ensure the water-proof of the roofing underlayment material.

4. According to still another characteristic of the present invention, a glass-fiber netlike reinforcement layer is set within the non-woven fabric layers. The glass-fiber netlike reinforcement layer in the non-woven fabric layers not only can improve the tensile strength and compressive strength of the non-woven fabric layers per se, but also can improve the tensile strength, compressive strength and stability of the roofing underlayment material product comprising the non-woven fabric with the inner glass-fiber netlike reinforcement layer.

5. According to still another characteristic of the present invention, film layers are set between two layers or more layers. The film layers between the two non-woven fabric layers can prevent film layers from directly contacting with molten asphalt. Namely, the molten asphalt directly contacts with the surface of the non-woven layers instead of the film layers, so that the molten asphalt cannot melt film layers, and thus the integrality and water-proof of the film layers are maintained. Moreover, the minor impurities in the molten asphalt are absorbed by the non-woven fabric layers and thus cannot puncture film layers. As a result, the water-proof of the film layers will not be affected by temperature and impurities during the compositing process.

6. According to yet another characteristic of the present invention, modified asphalt is used in the roofing underlayment material. Since the modified asphalt has swelling—self sealing properties, when the modified asphalt is used as a component of the roofing underlayment material, it can self sealing the gap between nail and nail hole because the modified asphalt around nails swells instantly after the roofing underlayment material is fixed with nails. Thus, the purposes of self sealing and leaking-proof are achieved.

Technical Solution 1: A roofing underlayment material, comprising non-woven fabric layers, wherein film layers are set between the non-woven fabric layers, an asphalt layer is set between the film layers, and a glass-fiber netlike reinforcement layer is set within the asphalt layer.

Technical Solution 2: A roofing underlayment material comprising non-woven fabric outer layers, wherein a film layer is set between one of the non-woven fabric out layers and a non-woven fabric inner layer, a film layer and an asphalt layer are set in order between the non-woven fabric inner

US 8,105,965 B2

5

layer and another non-woven fabric outer layer, and a glass-fiber netlike reinforcement layer is set within the asphalt layer.

Technical Solution 3: A roofing underlayment material comprising non-woven fabric out layers, wherein a film layer is set between the compositing surfaces of the non-woven fabric layers to form a non-woven fabric/film composite layer, a film layer is set on the compositing surfaces of the non-woven fabric layer, a glass-fiber netlike reinforcement layer is set between the non-woven fabric layer (with film layer) and a non-woven fabric layer to form a non-woven fabric/film/net composite layer, and an asphalt layer is set between the non-woven fabric/film composite layer and the non-woven fabric/film/net composite layer.

Technical Solution 4: A modified asphalt useful in roofing underlayment material, wherein its raw materials have weight proportions as follows: 10-100# asphalt 39-60%, thermoplastic rubber 1-20%, fillers 30-60%.

Technical Solution 5: A process for making roofing underlayment material, comprising: (1) placing and mixing 39-60% of 10-100# asphalt, 1-20% of thermoplastic rubber and 30-60% of fillers in a reactor, heating and keeping asphalt at a temperature between 180° C. and 240° C., transferring asphalt into an asphalt extruding mold; (2) laminating the compositing surface of a non-woven fabric with a film layer to form a non-woven fabric/film composite layer; and (3) transferring upper and lower composite layers below the asphalt extruding mold, coating asphalt between the surfaces of the upper and lower composite layers, compositing and molding.

As compared with the background art, the advantages of the present invention includes: (1) film layers are formed by laminating it on the compositing surfaces of two non-woven fabric layers, which not only overcomes the drawback of water leaking in the background art, but also prevents the leaking of asphalt into the non-woven fabric or out of the non-woven fabric during the compositing process, so that the environmental pollution during transportation and application is avoided, in the meantime, the difficult problems of environmental pollution and conglutination to rollers caused by leaked asphalt are solved and thus ensures normal operation of production apparatus; (2) a glass-fiber netlike reinforcement layer is set within asphalt layer, so that the tensile strength and tear strength of both the asphalt layer and the roofing underlayment material as a whole are improved, and the tests indicate that the tensile strength is up to 100-1000N, and the tear strength is up to 500-4000 gf; (3) the thickness and number of film layers are set to ensure the temperature-resistance and puncturing-resistance of film layers, so that the water-proof of the film layers will not be affected by temperature and impurities during the compositing process; (4) a net reinforcement layer is set within the non-woven fabric layer, which improves not only the tensile strength and compressive strength of the non-woven fabric layer per se, but also those of the roofing underlayment material, and thus ensures the stability and reliability of product; (5) two or more film layers are set between layers, which prevent the film layers from being molten by directly contacting molten asphalt, to ensure the integrality and water-proof of the film layers, in the meantime, the non-woven fabric layers absorb the minor impurities in the molten asphalt to prevent the film layers from being punctured, such that the water-proof of the film layers will not be affected by temperature and impurities during the compositing process; (6) films (plastic film layers) are set between two non-woven fabric layers, which can effectively prevent the leaking of asphalt, so that the color of the non-woven fabric outer layer of the multiple-layered roofing underlayment can be designed according to customers' requirements,

6

which not only meets the customer's requirements but also extends the application fields of the multiple-layered roofing underlayment material.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic diagram of a roofing underlayment material profile structure according to the first embodiment of the present invention.

FIG. 2 is a schematic diagram of a roofing underlayment material profile structure according to the second embodiment of the present invention.

FIG. 3 is a schematic diagram of a roofing underlayment material profile structure according to the third embodiment of the present invention.

DETAILED DESCRIPTION

Example 1

Referring to FIG. 1, a roofing underlayment material comprises non-woven fabric layers 1, in which the non-woven fabric can be classified into polypropylene fiber non-woven fabric, polyester fiber non-woven fabric and viscose fiber non-woven fabric based on material thereof, or into spun-laced non-woven fabric, calender-bonded non-woven fabric, air laid pulp non-woven fabric, wet laid non-woven fabric, spun-bond non-woven, needle-punched non-woven fabric, stitch-bonded non-woven fabric, etc. based on the process thereof, and the non-woven fabric layers are of one layer or two layers or more layers. The non-woven fabric layers 1 belong to the prior art and thus will not be described in detail here. Film layers 2 are set between the compositing surfaces of the non-woven fabric layers 1. The film layers 2 are PE film or PP film, which are plastic layers with water-proof and temperature-resistance. The technique for making the film layers belongs to the prior art and thus will not be described in detail here. An asphalt layer 3 is set between film layers 2, and a glass-fiber netlike reinforcement layer 4 is set within the asphalt layer 3. The glass-fiber netlike reinforcement layer 4 is a glass-fiber reinforcing fabric or web.

Example 2

On the basis of Example 1, each film layer 2 is one layer or two layers or multiple layers.

Example 3

Referring to FIG. 2, a roofing underlayment material comprises non-woven fabric outer layers 1 and 6, wherein a film layer 2 is set between the non-woven fabric outer layers 1 and a non-woven fabric inner layer 5, a film layer 7 and an asphalt layer 3 are set in order between the non-woven fabric inner layer 5 and the non-woven fabric outer layer 6, and a glass-fiber netlike reinforcement layer 4 is set within the asphalt layer 3.

Example 4

On the basis of Example 1 or 3, a glass-fiber netlike reinforcement layer is set within the non-woven fabric inner layers, wherein the glass-fiber netlike reinforcement layer is a glass-fiber fabric or web, etc.

Example 5

On the basis of Example 1 or 3, a process for making the roofing underlayment material comprises: (1) placing and

US 8,105,965 B2

7

mixing 39-60% of 10-100# asphalt, 1-20% of thermoplastic rubber and 30-60% of fillers in a reactor, heating and keeping asphalt at a temperature between 180° C. and 240° C., transferring asphalt into an asphalt extruding mold; (2) laminating the compositing surface of non-woven fabric with a film layer to form a non-woven fabric/film composite layer; and (3) transferring the upper and lower composite layers below the asphalt extruding mold, coating asphalt between the surfaces of the upper and lower composite layers, compositing and molding, then edge-cutting, storing, measuring and winding to rolls.

Example 6

On the basis of Example 1 and 5, the upper and lower composite layers and the glass-fiber netlike reinforcement layer between the upper and lower composite layers are respectively transferred below the asphalt extruding mold, and asphalt is extruded and coated between the surfaces of the upper and lower composite layers and the surfaces of the glass-fiber netlike reinforcement layer, and then compositing and molding.

Example 7

On the basis of Example 1, a process for making roofing underlayment material comprises: (1) placing and stirring asphalt in a reactor, heating and keeping the asphalt at a temperature between 180° C. and 240° C., transferring asphalt into an asphalt extruding mold, wherein the weight proportions of raw materials are as follows: 10-100# asphalt: any value in the range of 39-60% (including end values); thermoplastic rubber: any value in the range of 1-20% (including end values); fillers: any value in the range of 30-60% (including end values); and the sum of the components of any combination is 100%; (2) preheating the compositing surface of non-woven fabric, placing a film layer between two non-woven fabric layers and heating and compositing to form a sandwich composite layer; (3) preheating the compositing surface of non-woven fabric, heating and compositing the film layer and the non-woven fabric layer to form a composite layer; (4) transferring the sandwich composite layer and the composite layer below the asphalt extruding mold, coating asphalt between the surfaces of the sandwich composite layer and the composite layer, compositing and molding, then edge-cutting, storing, measuring and winding to form rolls.

Example 8

On the basis of Example 1 and 7, the sandwich composite layer and the composite layer are transferred below the asphalt extruding mold, and the asphalt is coated on the surfaces of the sandwich composite layer and the composite layer and the glass-fiber netlike reinforcement layer, then are compounded and shaped.

Example 9

Referring to FIG. 3, a roofing underlayment material comprises non-woven fabric out layers, wherein a film layer 2 is set between the compositing surfaces of the non-woven fabric layer 1 and a non-woven fabric layer 5 to form a non-woven fabric/film composite layer, a film layer 7 is set on the compositing surfaces of the non-woven fabric layer 6, a glass-fiber netlike reinforcement layer 4 is set between the non-woven fabric layer 6 (with film layer 7) and a non-woven

8

fabric layer 8 to form a non-woven fabric/film/net composite layer, and an asphalt layer 3 is set between the non-woven fabric/film composite layer and the non-woven fabric/film/net composite layer.

The present invention is further illustrated based on the above Examples.

An apparatus for production of the roofing underlayment material mainly comprises a molding device with opposite compression rollers, an expanding device at one side of the compression rollers for transferring non-woven fabric, an expanding device at another side for transferring non-woven fabric and glass-fiber net reinforcing fabric, a device above the compression rollers for transferring asphalt, wherein the device for transferring asphalt comprises a reaction pot for stirring asphalt, an asphalt gear pump and an extruding mold, wherein the extruding mold is positioned above the compression rollers and has an outlet opening exactly direct to the middle of the opposite compression rollers, the pot connects to the extruding mold via the asphalt gear pump, and an asphalt filter is set between the asphalt gear pump and the extruding mold. A heating device is set on the extruding mold to keep asphalt at a temperature between 180° C. and 240° C. so that asphalt has a homogeneous dispersion and temperature distribution. In this production line, an edge-cutting device, a storing device, a measuring device and a winding device are connected in order followed the molding device. An infrared device for adjusting bias is further set on the device for expanding fabric. The measuring device and the winding device are used to form rolls.

It should be noted that the above examples are used for illustrating the invention but not for restricting the invention, and any invention not going beyond the substantive inventive spirit of the present invention falls within the protection scope of the present invention.

What is claimed is:

1. A roll of roofing underlayment material comprising:
a first composite layer consisting of:

a first non-woven fabric layer;
a second non-woven fabric layer; and

a film layer between the first and second non-woven fabric layers;

a second composite layer comprising:

a third non-woven fabric layer;

a glass-fiber net reinforcement layer forming a grid on the third non-woven fabric layer, wherein the glass-fiber net reinforcement layer is a glass-fiber fabric web;

a second film layer on the glass-fiber net reinforcement layer; and

a fourth non-woven fabric layer on the second film layer; and

an asphalt layer between the first composite layer and the second composite layer.

2. A roofing underlayment material according to claim 1, wherein the asphalt layer is a modified asphalt comprising:
39-60% by weight of 10-100# asphalt,
1-20% by weight of thermoplastic rubber, and
30-60% by weight fillers.

3. A roofing underlayment material according to claim 1, wherein at least one of the first or second film layers comprise a plurality of film sub-layers.

4. A roofing underlayment material according to claim 1, wherein at least one of the first or second film layers is at least one of a polyethylene (PE) film or a polypropylene (PP) film.

* * * * *

EXHIBIT 2

Chotiner, Michael. *Do Synthetic Underlayments Make for Better Roofs?* JLC 57-62, January, 2013.



Do Synthetic Underlayments Make for Better Roofs?

While some old pros are sticking with organic felts because they're low-priced and breathable, many are moving to synthetics for greater flexibility

by Michael Chotiner

The last time *JLC* treated the subject of synthetic roofing underlayments in depth (May 2006), author John Nicol acknowledged that synthetics are stronger, lighter, and faster to install than asphalt felts, but asked whether they're worth the extra cost — estimated at about 30 percent at the time. Today, with even more synthetic underlayments on the

market and their premium over felt a bit higher, the question is worth revisiting.

My own acquaintance with felt underlayment began more than 40 years ago (at the time 15# felt actually weighed 15 pounds per square), when I went up on the roof of my mother's 1952 cape to find and fix the source of a leak in the garage. I stripped away the asphalt shingles and, voilà, there was a patch of torn, buckled felt near the valley and some rotted plywood sheathing.

I replaced the spongy sheathing, nailed down some new 30# felt, flashed the valley with aluminum coil stock, and the leak was gone. Several years later when the roof was showing its age, I put a new layer of asphalt shingles over the original roof, and the house stayed dry for the 25 remaining years that Mom lived there.

Methodology

Synthetic underlayments weren't available back then, of course, but would I

Synthetic Underlayments

“We find that synthetics are much easier to use [than felts] and provide much better mid- and long-term protection for the house.”

— Lou Hale, general contractor, Massachusetts

have done anything differently if they had been? That’s what I wanted to work through as I gathered information on more than 20 underlayments — both synthetic and organic — in preparation for this article. I pored over sell sheets, spec sheets, and installation instructions, and I talked with manufacturers’ technical reps along with builders and installers who work with both types of underlayment. In addition to matters of cost, ease of installation, and durability, I found we have to wrestle with another fundamental issue: Is it better for a roofing underlayment to be permeable or impermeable?

The Permeability Debate

One of the most important data points with regard to a roofing underlayment is its permeability rating — that is, its resistance to penetration by moisture in both liquid and vapor forms (see “Vapor Permeability Classifications,” page 62). Everybody agrees that impermeability to liquid water is a good thing in an underlayment; it means the roof deck won’t get wet, even if wind-driven rain or ice dams force water under the finish roofing, or the weather turns rainy once the underlayment is down but before the finish roofing has been installed.

But impermeability to water vapor might not be such a good thing — at least in certain cases (see “Whatever Happened to 30# Felt?,” page 62). Some pros argue that if a roof deck were to get wet due to a leak at a flashed penetration or a tear in a roofing layer, or because of moisture buildup in an unventilated attic, an impermeable underlayment would trap

vapor. The potential result: mold, mildew, and rot in the wooden parts of the roof structure.

Most but not all synthetic underlayments are impermeable to both water and vapor. Asphalt felts are semi-permeable — they’re pretty good at shedding water, and they’re great at letting vapor pass through, particularly when they get wet.

The Case for Synthetic Underlayments

In addition to being impermeable to water, synthetic underlayments are more tear- and puncture-resistant than asphalt felts. Synthetics also resist expansion and contraction with temperature cycling, so they wrinkle and buckle less severely than felts, with less tearing around fasteners. Virtually all synthetics have a UV-resistant coating so they don’t degrade with prolonged sunlight exposure. That means that roofs dried-in with synthetic underlayments need not be finished for six to 12 months if they’ve been fastened with cap nails or cap staples, which are recommended by most manufacturers.

Synthetic underlayments claim significant advantages over felts for installers. Generally, rolls of synthetic material are wider, longer, and lighter than felts. This means easier handling and faster installation. Most claim to have slip-resistant coatings or textures for better traction under wet or dusty conditions. Synthetic materials also remain more flexible in cold weather and roll out without cracking or chatter. This characteristic can lengthen the work season for roofers in colder climates.

And after installation, synthetic underlayments promise better performance than felts. Since they provide an impervious secondary layer of moisture protection, a roof protected with synthetic underlayment isn’t likely to leak even if a few shingles crack or blow off. Unlike felts, synthetics don’t absorb moisture, so they can’t rot or dry out, nor do they support mold and mildew growth.

Not All Synthetic Underlayments Are Created Equal

It’s important to note that while the manufacturers of synthetics tout their most desirable general properties — water-shedding ability, strength, light weight, UV resistance, slip-resistance, and such — not all synthetic underlayments are the same. Some manufacturers make more than one synthetic underlayment, recommending each for a different application. For example, while some products are recommended for use with all common roofing types — asphalt shingles, metals, clay tile, slate, and wood shingles and shakes — others are recommended for only one or two applications, say tile and metals.

In many cases, the product brand names aren’t terribly descriptive in suggesting specific applications or indicating a product’s place in the “good-better-best” hierarchy. For that reason, I’ve tried to sort out key differences among the synthetic underlayments I found in the market, and grouped products with similar properties in each of three tables displayed throughout this article. (A fourth table listing high-temperature synthetic underlayments is available in the online version of this article.)

Products I’ve listed as “General-Purpose” (facing page) are the lightest, least-expensive materials, and carry the shortest warranties. They are typically recommended for use with one or more of the common roofing materials. “Premium” products (see table on page 61) are gener-

General-Purpose, Low-Permeability Synthetic Roofing Underlayments¹

Product Name Manufacturer	Use With ²	Lbs. per Roll	Width & Coverage (in./sq.)	Fasteners	Max. UV Exp. (days)	Vapor Permeability (perms)	Warranty	Cost per sq. ft.
NovaSeal 1 ³ Intertape Polymer Corp. intertapepolymer.com	a, m, s, t, w	25	48/10	Cap nails, cap staples	365	<0.1	Lifetime	\$0.14
Pro-Master Roof Shield UDL Berger Building Products bergerbuildingproducts.com	a, m, s, t, w	28	52/10	Cap nails	365	0.05	25	\$0.10
Protex SystemComponents Corp. systemcomponents.net/feltex	a, m, s, t	26	48/10	Roofing nails, cap nails	180	<0.1	25	\$0.12
RhinoRoof Interweave interwrap.com	a only	25	42/10	Roofing nails, cap nails	30	0.05	10	\$0.08
Surround SR Fiberweb surroundtypar.com	a, t, w	26	45 1/4/10	Roofing nails, cap nails	180	0.4	30	\$0.09
Titanium UDL 25-plus Interwrap interwrap.com	m shakes & shingles	31	48/10	Roofing nails	180	0.06	25	\$0.10
Tri-Flex Xtreme W.R. Grace & Co. graceconstruction.com	a, m, s, t, w	32	40/10	Cap nails, cap staples	180	0.04	20	\$0.16
Typar RoofWrap 30 Fiberweb typar.com	a, m, s, t	30	41 1/2/10	Cap nails	180	0.54	20	\$0.14

(1) This product list is representative of the category, but not comprehensive. (2) a-asphalt shingles; m-metal; s-slate; t-tile; w-wood

(3) Also sold under the names BP Deckguard Roof Underlayment, SF Roof Underlayment, and GreenGuard.

ally thicker, heavier, and more expensive, and carry longer warranties. While they may be recommended for use with all common roof finishes, in practice they seem to be used most frequently with metal, tile, slate, and heavyweight asphalt shingles.

“Vapor-Permeable” materials (see table on page 61) are unlike the vast majority of synthetic underlayments, which are impermeable. Doug Snyder, a technical representative for VaproShield, which makes SlopeShield (perm rating: 59) recites the mantra of die-hard fans of asphalt felt: “A building’s got to breathe!” While the common wisdom holds that impermeable underlayments don’t pose a significant risk when placed in a well-ventilated roof design, Snyder asserts that attic ventilation doesn’t carry away water vapor. SlopeShield promotes drying by allowing

water vapor to escape, Snyder says, and should be used in any application in which the roofing material is fastened to battens or has an air space underneath, such as tile, wood shakes and shingles, and some metals. Like the impermeable synthetics, SlopeShield will protect sheathing from condensation that typically forms beneath metal and tile roofing.

Who’s Using Synthetic Underlayments — and Why?

Paul Ecclestone, product manager for Intertape Polymer Corp., which manufactures Nova Seal underlayments and similar synthetics sold under a variety of brand names, says that sales are on an upswing. “We have seen an excellent rebound from the economic downturn and excellent support for our product lines. As con-

General-Purpose Underlayments.

These materials are typically recommended for use with one or more of the common roofing types. Generally they are the lightest weight, least expensive products, and carry shorter warranties.

tractors become more and more familiar with the benefits of our synthetic roofing underlayment, we’re seeing higher adoption rates.” Ecclestone also attributes at least part of the sales growth to the recent incidence of destructive hurricanes and other storms. “On weather-damaged homes,” he says, “emergency crews can use synthetic underlayments for temporary roofing that’ll keep the houses dry until the finish roofing can be put on.”

Lou Hale, a general contractor from

Synthetic Underlayments

“A majority of my homes are clay tile or slate. We use Grace Ice & Water Shield as the initial underlayment, then apply [a synthetic underlayment] over it. It’s bulletproof.”

— Allan Edwards, custom-home builder, Houston

western Massachusetts, says his experience supports most manufacturers’ claims about the benefits of synthetics. “When my crew and I are drying-in an addition ourselves, we mostly use synthetics because it’ll generally be a couple of weeks before our roofer puts the finish on,” Hale says. “We find that the synthetics are much easier to use [than felts] and provide much better mid- and long-term protection for the house.”

Convenience also plays a part in Hale’s decision on which brand to use. “My underlayment choice is usually based on my choice of supplier — it’s not worth paying a \$20 hot-shot charge to have another supplier bring out a particular brand of underlayment,” he says. “We use Grace Tri-Flex 30 or RoofTopGuard II, depending on where the material is coming from. My preferred lumberyard keeps Tri-Flex in stock, so if they are making the drop, that’s what we use. But I have also used a good bit of the RoofTopGuard II, and it’s just as good a product.”

Hale finds that the wider, longer, lighter rolls really do make a difference in the speed of installation. This speed advantage seems to depend, however, on fastening with staples rather than the nails or cap nails most manufacturers recommend. “We frequently use staple hammers or plain old roofing guns. While that may not be a manufacturer-approved method, I can tell you it will hold through a New England summer thunderstorm just fine, and it’s at least twice as fast as using a pneumatic cap stapler. You can literally tack a synthetic roll down on one

end, have a guy roll out 30 to 40 feet while another guy just walks along the roof and nails it down — even on windy days.”

For Hale, tear resistance is also a big advantage, especially on reroofs, where the surface might not be perfectly flat and smooth. With #30 felt, one missed nail during tear off can lead to a hole and a potential leak.

“We recently put this to the test on an 1840s cape we’re remodeling,” Hale says. “We needed to temporarily dry-in the house over widely spaced sheathing boards that were peppered with jagged nails. We were able to walk up and down that 8-pitch roof without causing a single hole or tear. Thirty-pound felt would’ve fallen apart under our feet.”

When I ask Hale if the labor savings with a synthetic compensate for the higher cost, he says, “The short answer is no, the labor savings are significant but don’t equal the increased material cost. However, the peace of mind that comes from all the other benefits, combined with the labor savings, more than justifies the premium for me.”

Randy Bush of Great Falls, Mont., uses synthetic underlayment because he installs mainly steel roofs. “One reason for using synthetic is I don’t like the black footprints you get from felt when stepping on it, then onto the metal,” he says. Another reason is that an impermeable synthetic more effectively protects the roof deck from dripping condensate that tends to form on the underside of metal roofing.

Joe Adams, a Houston builder whose

Premium Underlayments (facing page). These materials are generally thicker, heavier, and tend to carry longer warranties. They are also more expensive: The products listed here are almost 50% more expensive on average than the general-purpose materials. Premium underlayments are used most frequently with metal, tile, slate, and heavyweight asphalt shingles.

Vapor-permeable underlayments. These materials are recommended for use on unventilated roofs and with finish roofing materials that are installed with an air space between the roof deck and the underside of the finish roofing, such as wood shingles and shakes, some metals, and tiles.

homes have either copper or “comp” (premium asphalt shingle) roofs, tells me, “My roofer prefers a synthetic underlayment — Berger Pro-Master UDL-Plus. He supplements this with Grace Ice & Water Shield [a modified bituminous, self-adhering flashing material] at the valleys and roof-wall intersections.”

Allan Edwards, another Houston builder of high-end custom homes, uses synthetic underlayment in an unexpected way. “A majority of my homes are clay tile or slate; a few are metal. We use Grace Ice & Water Shield as the initial underlayment, then apply Titanium UDL-30 Plus over it. It’s bulletproof.”

When I ask if this isn’t overkill, Edwards sends me to his roofer, Robert Coreale, owner of Tile Roofs of Texas, for an explanation. Robert says, “For most roofers, Ice & Water or Titanium only would be okay, but here’s why we go that extra step: Ice & Water should not be exposed to UV for extended periods of time, so you need a layer to protect it. You could use #30 felt or any other type of underlayment for this ply, but we use Titanium because it is very durable and easy to walk on — it provides very good traction. The synthetic layer also protects the Ice & Water from

Premium Synthetic Roofing Underlayments¹

Product Name Manufacturer	Use With ²	Lbs. per Roll	Width & Coverage (in./sq.)	Fasteners	Max. UV Exp. (days)	Vapor Permeability (perms)	Warranty	Cost per sq. ft.
Feltex SystemComponents Corp. systemcomponents.net/feltex	a, m, s, t	31	48/10	Roofing nails, cap nails	180	<1	35	\$0.13
NovaSeal Generation II ³ Intertape Polymer Corp. intertapepolymer.com	a, m, s, t, w	33	48/10	Per local code	365	<1	Lifetime	\$0.24
Pro-Master Roof Shield UDL-Plus Berger Building Products bergerbuildingproducts.com	a, m, s, t, w	30.3	52/10		365	0.05	25	\$0.15
RoofTopGuard II Drexel Metals Corp. drexmet.com	All common roofing materials	43	60/10		180	< 0.1	30	\$0.19
Sharkskin Comp Kirsch Building Products sharkskin.us	a, m	38	48/10	Roofing nails, cap nails	180	<0.1	50	\$0.25
Sharkskin Ultra Kirsch Building Products sharkskin.us	a, m, s, t	45	48/10	Cap nails, cap staples	365	<0.1	50	N/A
Titanium UDL 50 Interwrap interwrap.com	a, m, s, t	48	48/10	Roofing nails	180	0.05	50	\$0.17
Titanium UDL 30-plus Interwrap interwrap.com	All materials on sloped roofs	40	48/10	Cap nails, cap staples	180	0.06	30	\$0.12
Triflex-30 W.R. Grace & Co. graceconstruction.com	All common roofing materials	28	48/10	Cap nails, cap staples	180	0.05	25	\$0.13

(1) This product list is representative of the category, but not comprehensive. (2) a-asphalt shingles; m-metal; s-slate; t-tile; w-wood

(3) Also sold as Xmark, Permafelt, NovaSeal II, WaterBlock RU-200, RoofGuard XB, SF Pro Underlayment.

Vapor-Permeable Synthetic Roofing Underlayments¹

Product Name Manufacturer	Use With ²	Lbs. per Roll	Width & Coverage (in./sq.)	Fasteners	Max. UV Exp. (days)	Vapor Permeability (perms)	Warranty	Cost per sq. ft.
Deck-Armor GAF gaf.com	a, m, s, t, w	37	54/10	Cap nails cap staples	180	16	Lifetime	\$0.22
SlopeShield VaproShield vaproshield.com	Any roofing with air space underneath	29	59/8	Screws with plastic caps	120	59	20	\$0.40

(1) This product list is representative of the category, but not comprehensive. (2) a-asphalt shingles; m-metal; s-slate; t-tile; w-wood

Synthetic Underlayments

construction traffic. Stucco and brick layers are not easy on the peel-and-stick.”

Better or Just Different?

With all of the underlayment products I’ve studied here, and all the testimony I’ve reviewed from the pros that use them, I’m convinced that there are enough good alternatives to address virtually any roofing job nicely. I’m also convinced that you’ve got to understand the issues and goals of any given job to choose an underlayment wisely. One guy wants to deliver a workmanlike job at the lowest price possible and still make a profit; another wants a bulletproof 100-year roof and has a customer willing to pay for it.

I’m convinced that synthetic underlayments are more durable and faster to install than felt, but at publication, #15 felt goes for only about 4½ cents a square foot; #30, about 9 cents. If you’re going to cover the felt right away and you can flash vulnerable spots of the roof adequately, why not keep the cost down? On the other hand, even though synthetic materials are more costly, faster installation means lower labor cost, as does the resistance to collateral damage from foot traffic during construction.

About the only claim many manufacturers make about synthetic underlayments that’s suspect in my mind is that they’re safer underfoot. More than one guy told me a story about expecting to stride up a slope on slip-resistant underlayment only to end up on his butt. The comment in my notes reads, “They’re not less slippery; they’re just different.”

That comment applies to synthetics in many ways. While I probably wouldn’t have done anything different when reroofing my mother’s house 40 years ago even if I had known about synthetics, I would do it all differently today.

Michael Chotiner is a former contractor who has written extensively on building and home-improvement in print and on the Web.

Whatever Happened to 30# Felt?

Asphalt-impregnated felt — aka tar paper — enjoyed a 100-year run as the pre-eminent roofing and siding underlayment. First made by soaking rag fibers in tar, the basis later became wood fibers mixed with asbestos and fiberglass for greater strength and economy. In response to oil scarcity in the 1970s, the oil content changed — and so did product names. By shifting the pound symbol, 15# felt became #15 felt, which may actually weigh 7.5 to 12.5 pounds per square; #30 felt can weigh between 16 and 27 pounds per square.

Today, some smart people still prefer asphalt felts to synthetic alternatives. Chad Fabry, moderator of *JLC’s* Building Science Forum and owner-operator of Rochester, N.Y.-based StructureSmart, says, “I use #30 felt each time, every time. As far as I’m concerned, there isn’t yet a purposefully designed product that sports a variable perm rate and water shedding properties that sur-

Vapor Permeability Classifications

Value	Classification
Less than 0.1 perm	Impermeable
0.1 to 1.0 perm	Semi-impermeable
1.0 to 10 perms	Semi-permeable
Above 10 perms	Permeable

Source: “Insulations, Sheathings and Vapor Retarders” (Research Report 0412), Joseph Lstiburek, Building Science Corporation

Impermeable membranes effectively keep out wind-driven rain and water backed up behind ice dams, but also trap moisture that’s trying to escape from unvented attic spaces. Apply semi-permeable underlayments on inadequately vented roofs or provide ventilation before drying-in the roof.

passes the serendipitous invention of felt.”

Felt’s perm rating varies. Dry, #15 felt is rated at 6 perms, #30 felt at 5 perms. When wet, however, felt’s permeability increases to between 20 and 60 perms, according to Martin Holladay of *TheEnergyNerd.com*. A permeable underlayment may be a good thing, then, for applications such as a roof over an unvented attic or cathedral ceiling, for traditional installations of cedar shake and shingle roofs — or for a leaky roof.

Whether a permeable underlayment offers a benefit for the most com-

mon home roof assemblies is questionable, however, according to a white paper sponsored by Owens-Corning, co-authored by Joseph Lstiburek of Building Science Corporation. Its title, “Vapor Permeability Provides No Performance Benefit for Roofing Underlayments in Ventilated Attics,” tells the other side of the story. Test results provided in the paper indicate that layers of asphalt shingles built up in a typical installation form an impermeable barrier that won’t allow moisture to escape even if the underlayment can breathe. — *M.C.*

EXHIBIT 3

U.S. Census Bureau News, “New Residential Construction in August 2013”, September 18, 2013.

U.S. Census Bureau News

Joint Release

U.S. Department of Housing and Urban Development

U.S. Department of Commerce • Washington, D.C. 20233

FOR IMMEDIATE RELEASE WEDNESDAY, SEPTEMBER 18, 2013 AT 8:30 A.M. EDT

CB13-166

Raemeka Mayo or Stephen Cooper
Manufacturing and Construction Division
(301) 763-5160

NEW RESIDENTIAL CONSTRUCTION IN AUGUST 2013

The U.S. Census Bureau and the Department of Housing and Urban Development jointly announced the following new residential construction statistics for August 2013:

BUILDING PERMITS

Privately-owned housing units authorized by building permits in August were at a seasonally adjusted annual rate of 918,000. This is 3.8 percent ($\pm 1.3\%$) below the revised July rate of 954,000, but is 11.0 percent ($\pm 1.8\%$) above the August 2012 estimate of 827,000.

Single-family authorizations in August were at a rate of 627,000; this is 3.0 percent ($\pm 0.9\%$) above the revised July figure of 609,000. Authorizations of units in buildings with five units or more were at a rate of 268,000 in August.

HOUSING STARTS

Privately-owned housing starts in August were at a seasonally adjusted annual rate of 891,000. This is 0.9 percent ($\pm 13.0\%$)* above the revised July estimate of 883,000 and is 19.0 percent ($\pm 11.1\%$) above the August 2012 rate of 749,000.

Single-family housing starts in August were at a rate of 628,000; this is 7.0 percent ($\pm 13.9\%$)* above the revised July figure of 587,000. The August rate for units in buildings with five units or more was 252,000.

HOUSING COMPLETIONS

Privately-owned housing completions in August were at a seasonally adjusted annual rate of 769,000. This is 0.3 percent ($\pm 15.6\%$)* above the revised July estimate of 767,000 and is 12.1 percent ($\pm 15.1\%$)* above the August 2012 rate of 686,000.

Single-family housing completions in August were at a rate of 573,000; this is 0.5 percent ($\pm 12.8\%$)* above the revised July rate of 570,000. The August rate for units in buildings with five units or more was 191,000.

New Residential Construction data for September 2013 will be released on Thursday, October 17, 2013, at 8:30 A.M. EDT.

Our Internet site is: <http://www.census.gov/starts>

To learn more about this release and the other indicators the U.S. Census Bureau publishes, join us for the 2013 Economic Indicator Webinar Series. For more information go to www.census.gov/econ/webinar.

To receive the latest updates on the Nation's key economic indicators, download the America's Economy app for Apple and Android smartphones and tablets.

EXPLANATORY NOTES

In interpreting changes in the statistics in this release, note that month-to-month changes in seasonally adjusted statistics often show movements which may be irregular. It may take 2 months to establish an underlying trend for building permit authorizations, 4 months for total starts, and 6 months for total completions. The statistics in this release are estimated from sample surveys and are subject to sampling variability as well as nonsampling error including bias and variance from response, nonreporting, and undercoverage. Estimated relative standard errors of the most recent data are shown in the tables. Whenever a statement such as "2.5 percent ($\pm 3.2\%$) above" appears in the text, this indicates the range (-0.7 to +5.7 percent) in which the actual percent change is likely to have occurred. All ranges given for percent changes are 90-percent confidence intervals and account only for sampling variability. If a range does not contain zero, the change is statistically significant. If it does contain zero, the change is not statistically significant; that is, it is uncertain whether there was an increase or decrease. The same policies apply to the confidence intervals for percent changes shown in the tables. On average, the preliminary seasonally adjusted estimates of total building permits, housing starts and housing completions are revised about two percent or less. Explanations of confidence intervals and sampling variability can be found on our web site listed above.

* 90% confidence interval includes zero. The Census Bureau does not have sufficient statistical evidence to conclude that the actual change is different from zero.

Table 1. New Privately-Owned Housing Units Authorized in Permit-Issuing Places

[Thousands of units. Detail may not add to total because of rounding]

Period	United States				Northeast		Midwest		South		West	
	Total	In structures with --			Total	1 unit	Total	1 unit	Total	1 unit	Total	1 unit
		1 unit	2 to 4 units	5 units or more								
Seasonally adjusted annual rate												
2012: August	827	520	28	279	82	41	128	89	430	275	187	115
September	921	559	29	333	88	45	150	94	475	296	208	124
October	908	570	26	312	82	46	156	98	479	306	191	120
November	933	574	29	330	78	44	164	94	488	309	203	127
December	943	584	30	329	100	49	146	101	471	310	226	124
2013: January	915	588	26	301	100	45	147	101	448	309	220	133
February	952	600	31	321	83	50	148	93	488	319	233	138
March	890	599	25	266	100	49	139	93	450	322	201	135
April	1,005	614	25	366	99	52	165	98	515	332	226	132
May	985	620	27	338	101	52	153	101	510	333	221	134
June	918	625	26	267	105	52	145	102	458	331	210	140
July (r)	954	609	27	318	113	50	154	104	459	322	228	133
August (p)	918	627	23	268	125	50	161	107	413	330	219	140
Average RSE (%) ¹	1	1	4	1	3	3	2	2	1	1	1	1
<i>Percent Change:</i>												
<i>August 2013 from July 2013</i>	<i>-3.8%</i>	<i>3.0%</i>	<i>-14.8%</i>	<i>-15.7%</i>	<i>10.6%</i>	<i>0.0%</i>	<i>4.5%</i>	<i>2.9%</i>	<i>-10.0%</i>	<i>2.5%</i>	<i>-3.9%</i>	<i>5.3%</i>
<i>90% Confidence Interval³</i>	<i>± 1.3</i>	<i>± 0.9</i>	<i>± 4.9</i>	<i>± 3.9</i>	<i>± 7.0</i>	<i>± 10.9</i>	<i>± 3.5</i>	<i>± 4.3</i>	<i>± 0.9</i>	<i>± 1.0</i>	<i>± 2.5</i>	<i>± 3.2</i>
<i>August 2013 from August 2012</i>	<i>11.0%</i>	<i>20.6%</i>	<i>-17.9%</i>	<i>-3.9%</i>	<i>52.4%</i>	<i>22.0%</i>	<i>25.8%</i>	<i>20.2%</i>	<i>-4.0%</i>	<i>20.0%</i>	<i>17.1%</i>	<i>21.7%</i>
<i>90% Confidence Interval³</i>	<i>± 1.8</i>	<i>± 0.8</i>	<i>± 11.8</i>	<i>± 4.8</i>	<i>± 12.7</i>	<i>± 19.8</i>	<i>± 3.3</i>	<i>± 4.0</i>	<i>± 1.2</i>	<i>± 1.3</i>	<i>± 4.0</i>	<i>± 5.1</i>
Not seasonally adjusted												
2011:	624.1	418.5	21.6	184.0	68.5	39.0	102.7	70.5	320.7	227.1	132.2	81.9
2012:	829.7	518.7	25.9	285.1	84.7	44.2	133.0	87.3	427.8	276.0	184.2	111.2
RSE (%)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
2012: Year to Date ²	537.0	345.9	16.1	175.0	55.1	29.0	80.9	57.4	279.1	183.9	121.9	75.6
2013: Year to Date ²	650.8	428.8	17.5	204.5	71.9	34.2	101.4	69.8	324.2	229.3	153.3	95.6
RSE (%)	(Z)	1	3	(Z)	3	2	1	1	(Z)	(Z)	1	1
Year to Date Percent Change⁴	21.2%	24.0%	8.7%	16.9%	30.5%	17.8%	25.3%	21.6%	16.2%	24.7%	25.8%	26.4%
<i>90% Confidence Interval³</i>	<i>± 0.9</i>	<i>± 1.0</i>	<i>± 5.6</i>	<i>± 1.1</i>	<i>± 5.2</i>	<i>± 7.5</i>	<i>± 1.7</i>	<i>± 2.0</i>	<i>± 0.6</i>	<i>± 0.7</i>	<i>± 1.9</i>	<i>± 2.4</i>
2012: August	80.0	49.8	2.7	27.5	7.7	3.9	12.9	9.0	40.8	26.0	18.5	11.0
September	73.7	43.3	2.3	28.1	7.3	3.8	13.4	8.0	36.9	22.0	16.1	9.5
October	77.5	49.6	2.4	25.5	7.6	4.3	16.2	9.9	38.0	25.2	15.7	10.2
November	68.7	40.4	2.3	26.0	6.0	3.3	13.2	6.8	35.3	21.6	14.2	8.6
December	67.2	36.3	2.2	28.7	7.7	3.2	9.1	5.3	34.2	20.0	16.3	7.8
2013: January	63.7	40.5	1.8	21.5	6.6	2.8	7.2	4.8	34.8	23.8	15.1	9.1
February	66.0	42.0	2.2	21.7	4.9	2.8	7.6	5.1	37.0	24.6	16.5	9.5
March	75.8	51.4	2.0	22.4	7.2	3.8	10.9	7.6	40.4	28.4	17.4	11.6
April	90.5	59.7	2.3	28.5	8.7	5.0	16.2	10.4	45.6	31.6	20.0	12.7
May	94.9	62.4	2.4	30.1	9.7	5.4	15.4	11.0	47.4	32.3	22.3	13.7
June	83.9	57.0	2.3	24.6	11.2	4.8	13.2	9.7	40.0	29.2	19.5	13.3
July (r)	88.1	58.3	2.6	27.2	10.8	5.0	15.0	10.5	41.2	29.9	21.1	13.0
August (p)	84.3	57.5	2.1	24.6	11.2	4.6	15.7	10.5	36.9	29.7	20.5	12.7
Average RSE (%) ¹	1	1	4	1	3	3	2	2	1	1	1	1

(p) Preliminary. (r) Revised. RSE Relative standard error. S Does not meet publication standards because tests for identifiable and stable seasonality do not meet reliability standards. X Not applicable. Z Relative standard error is less than 0.5 percent.

¹Average RSE for the latest 6-month period.

²Reflects revisions not distributed to months.

³See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals.

⁴Computed using unrounded data.

Table 2. New Privately-Owned Housing Units Authorized, but Not Started, at End of Period

[Thousands of units. Detail may not add to total because of rounding]

Period	United States				Northeast		Midwest		South		West	
	Total	In structures with --			Total	1 unit	Total	1 unit	Total	1 unit	Total	1 unit
		1 unit	2 to 4 units	5 units or more								
Not seasonally adjusted												
2012: August	94.5	46.4	1.8	46.4	9.1	5.4	8.7	5.2	53.2	24.8	23.6	10.9
September	93.3	42.4	2.2	48.7	8.4	4.9	8.3	5.3	53.0	21.6	23.5	10.6
October	89.9	42.6	2.0	45.3	8.0	5.3	8.5	5.0	52.3	22.7	21.0	9.7
November	90.1	43.9	2.6	43.6	8.4	5.0	8.6	4.5	51.2	24.8	21.9	9.5
December	92.5	43.0	2.8	46.7	8.2	4.6	6.5	4.6	54.3	24.7	23.5	9.1
2013: January	92.7	43.8	2.6	46.3	7.9	4.4	8.6	5.1	54.4	25.5	21.8	8.9
February	93.4	43.9	2.4	47.1	7.2	4.5	8.8	5.5	54.7	25.0	22.6	9.0
March	86.2	44.5	2.5	39.3	6.7	4.6	10.5	6.3	49.1	25.7	20.0	7.9
April	94.6	48.6	1.9	44.2	6.5	4.2	12.6	6.7	55.3	29.1	20.2	8.5
May	102.1	53.1	1.7	47.3	9.3	5.0	14.2	7.9	55.1	30.4	23.5	9.9
June (r)	102.7	51.6	2.0	49.2	9.7	4.9	14.6	7.6	54.8	29.3	23.6	9.7
July (r)	101.7	53.3	1.7	46.8	7.9	4.8	14.8	8.3	57.5	29.9	21.6	10.2
August (p)	101.6	53.9	2.1	45.6	9.9	4.6	15.2	8.2	55.2	31.6	21.3	9.4
Average RSE (%) ¹	6	7	23	11	16	19	10	13	10	11	12	13
Percent Change:²												
<i>August 2013 from July 2013</i>	<i>-0.1%</i>	<i>1.2%</i>	<i>27.3%</i>	<i>-2.5%</i>	<i>26.0%</i>	<i>-4.6%</i>	<i>2.8%</i>	<i>-1.0%</i>	<i>-4.0%</i>	<i>5.8%</i>	<i>-1.2%</i>	<i>-7.7%</i>
<i>90% Confidence Interval³</i>	<i>± 4.8</i>	<i>± 6.0</i>	<i>± 28.4</i>	<i>± 7.3</i>	<i>± 22.9</i>	<i>± 14.3</i>	<i>± 13.4</i>	<i>± 9.3</i>	<i>± 5.8</i>	<i>± 8.7</i>	<i>± 12.1</i>	<i>± 13.0</i>
<i>August 2013 from August 2012</i>	<i>7.5%</i>	<i>16.2%</i>	<i>18.3%</i>	<i>-1.7%</i>	<i>9.1%</i>	<i>-15.6%</i>	<i>75.3%</i>	<i>57.6%</i>	<i>3.7%</i>	<i>27.5%</i>	<i>-9.6%</i>	<i>-13.4%</i>
<i>90% Confidence Interval³</i>	<i>± 10.3</i>	<i>± 12.2</i>	<i>± 53.2</i>	<i>± 17.0</i>	<i>± 35.4</i>	<i>± 17.1</i>	<i>± 34.8</i>	<i>± 26.6</i>	<i>± 15.4</i>	<i>± 17.7</i>	<i>± 19.3</i>	<i>± 43.2</i>

(p) Preliminary. (r) Revised. RSE Relative standard error. S Does not meet publication standards because tests for identifiable and stable seasonality do not meet reliability standards.

¹Average RSE for the latest 6-month period.² Computed using unrounded data.³ See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals.

Note: These data represent the number of housing units authorized in all months up to and including the last day of the reporting period and not started as of that date without regard to the months of original permit issuance. Cancelled, abandoned, expired, and revoked permits are excluded.

Table 3. New Privately-Owned Housing Units Started

[Thousands of units. Detail may not add to total because of rounding]

Period	United States				Northeast		Midwest		South		West	
	Total	In structures with --			Total	1 unit	Total	1 unit	Total	1 unit	Total	1 unit
		1 unit	2 to 4 units	5 units or more								
Seasonally adjusted annual rate												
2012: August	749	537	(S)	205	75	48	128	87	376	293	170	109
September	854	591	(S)	254	79	49	147	105	424	308	204	129
October	864	595	(S)	252	75	42	151	109	425	291	213	153
November	842	576	(S)	256	68	49	154	97	449	298	171	132
December	983	620	(S)	345	115	55	190	108	465	322	213	135
2013: January	898	614	(S)	273	87	49	95	94	483	331	233	140
February	969	652	(S)	307	106	67	135	94	505	350	223	141
March	1,005	623	(S)	356	94	45	140	105	554	339	217	134
April	852	593	(S)	244	79	60	154	108	412	291	207	134
May	919	597	(S)	311	101	48	135	92	482	332	201	125
June (r)	835	605	(S)	219	85	50	126	93	419	325	205	137
July (r)	883	587	(S)	278	110	52	152	99	392	310	229	126
August (p)	891	628	(S)	252	101	57	147	106	439	317	204	148
Average RSE (%) ¹	5	4	(X)	13	16	10	11	9	7	7	9	8
<i>Percent Change:</i>												
<i>August 2013 from July 2013</i>	<i>0.9%</i>	<i>7.0%</i>	<i>(S)</i>	<i>-9.4%</i>	<i>-8.2%</i>	<i>9.6%</i>	<i>-3.3%</i>	<i>7.1%</i>	<i>12.0%</i>	<i>2.3%</i>	<i>-10.9%</i>	<i>17.5%</i>
<i>90% Confidence Interval</i> ²	<i>± 13.0</i>	<i>± 13.9</i>	<i>(X)</i>	<i>± 27.2</i>	<i>± 38.6</i>	<i>± 18.3</i>	<i>± 20.9</i>	<i>± 17.1</i>	<i>± 19.7</i>	<i>± 19.2</i>	<i>± 24.2</i>	<i>± 27.3</i>
<i>August 2013 from August 2012</i>	<i>19.0%</i>	<i>16.9%</i>	<i>(S)</i>	<i>22.9%</i>	<i>34.7%</i>	<i>18.8%</i>	<i>14.8%</i>	<i>21.8%</i>	<i>16.8%</i>	<i>8.2%</i>	<i>20.0%</i>	<i>35.8%</i>
<i>90% Confidence Interval</i> ²	<i>± 11.1</i>	<i>± 10.1</i>	<i>(X)</i>	<i>± 31.0</i>	<i>± 31.5</i>	<i>± 23.8</i>	<i>± 21.3</i>	<i>± 15.8</i>	<i>± 16.1</i>	<i>± 16.8</i>	<i>± 24.0</i>	<i>± 22.0</i>
Not seasonally adjusted												
2011:	608.8	430.6	10.9	167.3	67.7	41.2	100.9	74.3	307.8	229.3	132.5	85.7
2012:	780.6	535.3	11.4	233.9	79.7	46.5	127.9	92.1	397.8	282.6	175.1	114.1
RSE (%)	1	1	14	3	3	5	2	4	2	2	2	2
2012: Year to Date	502.3	355.3	7.0	140.1	52.6	31.2	76.2	58.8	259.4	190.6	114.2	74.6
2013: Year to Date	615.8	423.8	9.2	182.8	63.9	36.2	91.9	67.4	313.2	224.9	146.9	95.4
RSE (%)	2	1	22	5	6	2	3	1	3	2	3	4
Year to Date Percent Change ³	22.6%	19.3%	32.9%	30.5%	21.4%	15.8%	20.7%	14.6%	20.7%	18.0%	28.7%	27.8%
<i>90% Confidence Interval</i> ²	<i>± 3.8</i>	<i>± 3.2</i>	<i>± 43.2</i>	<i>± 11.6</i>	<i>± 10.6</i>	<i>± 10.1</i>	<i>± 7.3</i>	<i>± 6.3</i>	<i>± 6.2</i>	<i>± 5.2</i>	<i>± 10.1</i>	<i>± 8.3</i>
2012: August	69.0	49.3	0.7	19.0	6.9	4.4	12.9	9.1	33.3	25.6	15.8	10.2
September	75.8	51.4	0.8	23.6	6.9	4.1	13.6	9.8	37.5	26.7	17.8	10.8
October	77.0	50.3	1.7	25.1	7.1	3.8	15.0	10.8	37.3	24.0	17.7	11.7
November	62.2	40.1	0.8	21.3	5.1	3.5	12.1	7.4	33.0	20.5	11.9	8.7
December	63.2	38.2	1.2	23.8	7.9	3.8	11.0	5.4	30.6	20.8	13.6	8.2
2013: January	58.7	39.4	0.7	18.6	5.4	2.8	4.2	4.1	33.8	23.4	15.4	9.0
February	66.1	44.2	0.7	21.1	6.3	3.6	7.2	4.4	36.8	26.1	15.8	10.1
March	83.3	52.5	2.1	28.7	7.5	3.6	10.2	7.4	47.4	30.0	18.2	11.5
April	76.3	55.3	1.2	19.8	7.4	5.9	14.0	10.2	36.6	26.8	18.3	12.4
May	87.2	57.9	1.0	28.3	9.5	4.7	14.0	10.0	44.3	30.7	19.4	12.5
June (r)	80.7	60.9	1.0	18.8	8.1	5.1	12.7	9.9	39.8	31.7	20.2	14.3
July (r)	82.4	56.5	1.6	24.3	10.3	5.2	15.0	10.3	36.2	29.0	21.0	12.0
August (p)	81.2	57.1	1.0	23.2	9.3	5.3	14.8	11.0	38.4	27.2	18.7	13.6
Average RSE (%) ¹	5	4	38	13	16	10	11	9	7	7	9	8

(p) Preliminary. (r) Revised. RSE Relative standard error. S Does not meet publication standards because tests for identifiable and stable seasonality do not meet reliability standards.

X Not applicable.

¹ Average RSE for the latest 6-month period.

² See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals.

³ Computed using unrounded data.

Table 4. New Privately-Owned Housing Units Under Construction at End of Period

[Thousands of units. Detail may not add to total because of rounding]

Period	United States				Northeast		Midwest		South		West	
	Total	In structures with --			Total	1 unit	Total	1 unit	Total	1 unit	Total	1 unit
		1 unit	2 to 4 units	5 units or more								
Seasonally adjusted												
2012: August	496	266	(S)	222	91	36	69	49	215	123	121	58
September	511	271	(S)	232	91	36	72	49	222	126	126	60
October	520	275	(S)	236	90	34	76	51	225	128	129	62
November	534	280	(S)	245	90	34	81	53	233	130	130	63
December	551	284	(S)	258	93	35	85	52	240	133	133	64
2013: January	563	288	(S)	266	94	35	86	53	246	135	137	65
February	581	292	(S)	280	97	36	87	53	257	138	140	65
March	594	293	(S)	290	98	35	89	54	268	141	139	63
April	607	302	(S)	294	99	37	91	55	275	145	142	65
May	621	307	(S)	303	101	37	93	56	281	148	146	66
June (r)	628	313	(S)	305	96	38	93	56	288	151	151	68
July (r)	640	316	(S)	313	98	38	97	57	293	155	152	66
August (p)	654	321	(S)	322	102	39	99	58	299	156	154	68
Average RSE (%) ¹	2	2	(X)	5	6	5	5	7	3	3	4	5
Percent Change:												
<i>August 2013 from July 2013</i>	<i>2.2%</i>	<i>1.6%</i>	<i>(S)</i>	<i>2.9%</i>	<i>4.1%</i>	<i>2.6%</i>	<i>2.1%</i>	<i>1.8%</i>	<i>2.0%</i>	<i>0.6%</i>	<i>1.3%</i>	<i>3.0%</i>
<i>90% Confidence Interval²</i>	<i>± 1.4</i>	<i>± 1.4</i>	<i>(X)</i>	<i>± 2.1</i>	<i>± 4.1</i>	<i>± 3.0</i>	<i>± 2.1</i>	<i>± 2.4</i>	<i>± 1.8</i>	<i>± 1.8</i>	<i>± 3.0</i>	<i>± 4.4</i>
<i>August 2013 from August 2012</i>	<i>31.9%</i>	<i>20.7%</i>	<i>(S)</i>	<i>45.0%</i>	<i>12.1%</i>	<i>8.3%</i>	<i>43.5%</i>	<i>18.4%</i>	<i>39.1%</i>	<i>26.8%</i>	<i>27.3%</i>	<i>17.2%</i>
<i>90% Confidence Interval²</i>	<i>± 5.2</i>	<i>± 4.8</i>	<i>(X)</i>	<i>± 10.4</i>	<i>± 9.4</i>	<i>± 12.5</i>	<i>± 9.3</i>	<i>± 8.0</i>	<i>± 7.3</i>	<i>± 8.4</i>	<i>± 13.4</i>	<i>± 6.6</i>
Not seasonally adjusted												
2012: August	508.6	279.8	7.8	221.0	92.0	37.3	72.1	51.9	219.9	128.7	124.5	61.9
September	523.5	283.8	8.1	231.5	91.6	36.6	75.6	52.7	227.6	131.7	128.8	62.9
October	528.8	282.7	9.1	237.0	91.2	34.8	79.0	54.2	227.3	129.9	131.3	63.8
November	535.2	278.6	9.0	247.7	90.4	34.2	82.3	54.1	232.8	128.3	129.8	62.1
December	532.5	267.7	9.2	255.7	91.3	33.6	83.4	50.6	229.3	123.4	128.6	60.0
2013: January	543.1	271.0	9.2	262.9	92.2	33.5	82.6	49.7	236.6	127.2	131.8	60.6
February	563.6	276.3	9.2	278.0	94.7	34.5	82.7	48.5	250.3	131.6	135.9	61.8
March	584.3	282.6	10.6	291.0	97.7	34.3	85.1	49.6	264.8	137.8	136.7	60.9
April	605.3	298.6	11.1	295.6	99.3	36.9	89.0	52.4	275.5	145.2	141.5	64.2
May	627.7	309.2	10.8	307.7	102.4	37.5	92.8	55.1	284.7	150.2	147.8	66.4
June (r)	640.4	323.0	10.4	307.1	96.8	38.7	95.4	57.8	294.6	156.2	153.6	70.2
July (r)	655.5	331.5	10.8	313.2	99.0	38.9	99.9	60.4	300.7	162.4	155.9	69.8
August (p)	665.2	336.7	11.1	317.4	101.9	39.6	102.3	61.8	303.8	162.6	157.3	72.7
Average RSE (%) ¹	2	2	15	5	6	5	5	7	3	3	4	5

(p) Preliminary. (r) Revised. RSE Relative standard error. S Does not meet publication standards because tests for identifiable and stable seasonality do not meet reliability standards.

X Not applicable.

¹Average RSE for the latest 6-month period.²See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals.

Table 5. New Privately-Owned Housing Units Completed

[Thousands of units. Detail may not add to total because of rounding]

Period	United States				Northeast		Midwest		South		West	
	Total	In structures with --			Total	1 unit	Total	1 unit	Total	1 unit	Total	1 unit
		1 unit	2 to 4 units	5 units or more								
Seasonally adjusted annual rate												
2012: August	686	495	(S)	182	63	41	120	81	331	262	172	111
September	651	512	(S)	134	72	47	108	93	328	264	143	108
October	741	535	(S)	201	63	54	119	94	407	268	152	119
November	677	520	(S)	148	72	47	97	83	346	265	162	125
December	672	520	(S)	144	57	47	100	93	352	269	163	111
2013: January	720	554	(S)	156	73	54	89	83	370	288	188	129
February	727	573	(S)	147	65	45	108	94	373	305	181	129
March	810	591	(S)	214	97	61	116	98	371	293	226	139
April	698	526	(S)	166	62	46	127	92	353	267	156	121
May	711	559	(S)	142	58	47	116	89	382	297	155	126
June (r)	759	540	(S)	205	70	42	113	84	388	295	188	119
July (r)	767	570	(S)	189	79	52	119	91	374	274	195	153
August (p)	769	573	(S)	191	70	47	120	105	408	301	171	120
Average RSE (%) ¹	6	5	(X)	18	17	13	13	13	8	8	14	11
<i>Percent Change:</i>												
<i>August 2013 from July 2013</i>	<i>0.3%</i>	<i>0.5%</i>	<i>(S)</i>	<i>1.1%</i>	<i>-11.4%</i>	<i>-9.6%</i>	<i>0.8%</i>	<i>15.4%</i>	<i>9.1%</i>	<i>9.9%</i>	<i>-12.3%</i>	<i>-21.6%</i>
<i>90% Confidence Interval</i> ²	<i>± 15.6</i>	<i>± 12.8</i>	<i>(X)</i>	<i>± 40.3</i>	<i>± 45.7</i>	<i>± 22.1</i>	<i>± 24.1</i>	<i>± 30.2</i>	<i>± 23.7</i>	<i>± 22.3</i>	<i>± 26.5</i>	<i>± 20.6</i>
<i>August 2013 from August 2012</i>	<i>12.1%</i>	<i>15.8%</i>	<i>(S)</i>	<i>4.9%</i>	<i>11.1%</i>	<i>14.6%</i>	<i>0.0%</i>	<i>29.6%</i>	<i>23.3%</i>	<i>14.9%</i>	<i>-0.6%</i>	<i>8.1%</i>
<i>90% Confidence Interval</i> ²	<i>± 15.1</i>	<i>± 12.6</i>	<i>(X)</i>	<i>± 31.7</i>	<i>± 37.5</i>	<i>± 39.6</i>	<i>± 23.8</i>	<i>± 34.4</i>	<i>± 23.2</i>	<i>± 17.9</i>	<i>± 27.3</i>	<i>± 29.9</i>
Not seasonally adjusted												
2011:	584.9	446.6	8.4	129.9	72.5	44.0	103.0	75.9	295.5	235.6	113.9	91.2
2012:	649.2	483.0	8.7	157.6	74.7	46.8	110.5	85.2	324.6	250.4	139.4	100.6
RSE (%)	2	2	18	4	6	6	3	5	2	2	4	4
2012: Year to Date	400.2	290.0	6.4	103.8	50.1	28.0	69.6	49.4	196.8	154.2	83.6	58.4
2013: Year to Date	475.3	353.5	5.2	116.6	44.9	30.1	70.3	56.0	244.0	185.6	116.1	81.9
RSE (%)	2	2	19	7	7	6	5	5	3	3	5	4
<i>Year to Date Percent Change</i> ³	<i>18.8%</i>	<i>21.9%</i>	<i>-19.2%</i>	<i>12.4%</i>	<i>-10.3%</i>	<i>7.5%</i>	<i>0.9%</i>	<i>13.2%</i>	<i>24.0%</i>	<i>20.3%</i>	<i>38.9%</i>	<i>40.3%</i>
<i>90% Confidence Interval</i> ²	<i>± 5.2</i>	<i>± 3.8</i>	<i>± 30.1</i>	<i>± 15.9</i>	<i>± 11.3</i>	<i>± 13.5</i>	<i>± 10.3</i>	<i>± 9.2</i>	<i>± 8.3</i>	<i>± 6.4</i>	<i>± 12.5</i>	<i>± 7.0</i>
2012: August	64.8	43.3	1.0	20.5	6.1	3.6	11.3	7.0	30.9	23.1	16.5	9.7
September	58.7	46.6	0.4	11.7	6.6	4.5	10.3	9.0	28.7	23.1	13.0	10.0
October	67.7	50.1	0.4	17.2	6.3	5.5	11.3	9.2	36.6	24.7	13.5	10.7
November	57.8	45.6	0.7	11.5	6.2	4.3	8.9	7.8	28.7	22.4	14.0	11.1
December	64.8	50.7	0.7	13.4	5.4	4.5	10.4	9.8	33.7	26.0	15.3	10.4
2013: January	47.5	36.9	0.6	9.9	4.6	3.4	5.5	5.1	24.8	19.6	12.5	8.8
February	49.7	39.6	0.5	9.7	4.1	2.8	7.1	6.2	26.4	21.9	12.2	8.7
March	61.7	45.8	0.4	15.5	6.5	3.8	7.9	6.6	29.2	23.5	18.2	11.9
April	54.6	40.5	0.5	13.6	4.7	3.4	10.0	7.2	27.9	20.9	12.0	9.1
May	58.3	46.3	0.8	11.2	4.8	4.0	9.3	7.1	31.3	24.6	12.9	10.6
June (r)	66.0	47.0	1.2	17.8	6.4	4.0	9.4	6.9	34.1	26.0	16.1	10.2
July (r)	65.6	46.6	0.8	18.2	7.0	4.4	10.1	7.5	32.1	22.4	16.3	12.3
August (p)	72.0	50.9	0.5	20.6	6.8	4.3	11.0	9.4	38.3	26.7	15.9	10.4
Average RSE (%) ¹	6	5	38	18	17	13	13	13	8	8	14	11

(p) Preliminary. (r) Revised. RSE Relative standard error. S Does not meet publication standards because tests for identifiable and stable seasonality do not meet reliability standards. X Not applicable.

¹ Average RSE for the latest 6-month period.

² See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals.

³ Computed using unrounded data.

EXHIBIT 4

Exclusive License Agreement

EXCLUSIVE LICENSE AGREEMENT

This EXCLUSIVE LICENSE AGREEMENT ("*Agreement*") is entered into on July 15, 2012 ("*Effective Date*"), by HangZhou DingGang Trade Co., LTD., No. 70-2, Tongyun Road, Liangzhu Street, Yuhang City, Zhejiang Province, China ("*Licensor*") and Tomahawk 30 Importers Ltd., 1396 Richards Street, Vancouver, BC V6B 3G6, Canada ("*Licensee*").

Licensor is the owner of US Patent #8,105,965 and Chinese Patent #ZL2007 1 0107857.3 ("the Patents") pertaining to roofing underlayment products ("Products").

No company has been authorized to make or have made a roofing underlayment product in China under Chinese Patent #ZL2007, except Licensor.

Licensee is the exclusive authorized distributor for Licensor's roofing underlayment product in the United States since October, 2011, and no other roofing underlayment product, including but not limited to the product known as Capital 30, is a licensed product under the Patents.

In consideration of terms set forth below, the parties agree as follows:

Licensor grants to Licensee an exclusive license of all rights of any kind conferred by the Patents to use, offer to sell, sell (directly and/or indirectly), import or otherwise dispose of Products.

The parties agree that any organization that manufactures, uses, exports or otherwise distributes a roofing underlayment product which infringes the claim(s) of the Patents, including, but not limited to the product known as Capital 30, shall be liable for patent infringement. Licensee is authorized to take all lawful action against such persons or organizations to prevent further infringing activities, including seeking damages or injunctive relief under the applicable laws.

Licensor conveys to Licensee all right and interest Licensor has in and to all causes of action and enforcement rights, if any, whether currently pending, filed, or otherwise, for the Patents, including without limitation, all rights to pursue damages, injunctive relief and other remedies for past, current and future infringement of the Patents. Licensee shall have the right to institute, prosecute and control any case, action or proceeding concerning infringement of the Patents, using counsel of its choice. Licensee shall have the right to join Licensor as a named party in any case or proceeding as is necessary to achieve standing to enforce claims arising out of the rights granted in this Agreement, and executing such documents as may be necessary. Licensor agrees to grant and grants Licensee the power of attorney required to enforce and prosecute the patent rights granted in this Agreement in the courts of the United States and with the United States Patent & Trademark Office. **Notwithstanding the above, HangZhou DingGang Trading Company shall retain ownership and title to the Patent.**

The term of this Agreement shall begin on the Effective Date and shall continue in effect until 31 December 2014

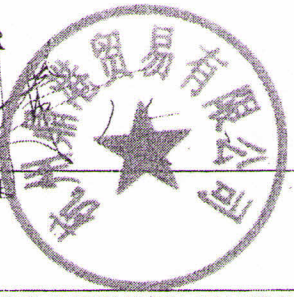
The terms and conditions of this Agreement, constitute the entire agreement between the parties with respect to the subject matter hereof, and supersedes all prior agreements.



The parties have duly executed this Agreement effective the day and year set forth above.

LICENSOR


SIGNATURE

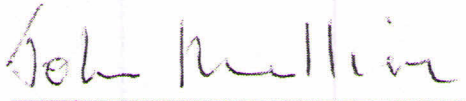


AUTHORIZED REPRESENTATIVE

DATE

2013. 1. 23

LICENSEE



SIGNATURE

President, Tomahawk 30 Importers Ltd.

AUTHORIZED REPRESENTATIVE

2013-01-24

DATE



EXHIBIT 5

Screenprint of www.capital30.com/products

International

INTEGRATION

Integrating Building Materials

questions@internationalintegrationllc.com

- [Home](#)
- [Products](#)
- [Installation](#)
- [MSDS](#)
- [Warranty](#)
- [Gallery](#)
- [Contact Us](#)

Introducing the new generation of hybrid underlayment.

Stronger, Lighter, and more Durable alternative to 30lb organic felt.

• Capital 30 Hybrid Underlayment

A superior hybrid underlayment for almost half the cost of other synthetic underlayments, with all of the quality and protection of leading underlayments plus ease of installation.

- -Hybrid technology combines asphaltic polymer & synthetic fabrics for superior performance
- Consistently outperforming conventional 30lb organic felt roof underlayments
- Passes 110mph wind test and 4hour water shower test with both cap and roofing nails
- Superior adhesion - will not wrinkle or blow in the wind during installation
- Easier & Faster to install - lightweight and flexible material
- Safer to install - resistance to slipping
- Resists leaking and tearing
- Left exposed, may protect a house for up to 4 months

-Won't stick to metal roofing - thermal stability in excess of 260 F

-Meets or Exceeds ASTM D226 Requirements

-30 Year limited warranty

Weight per square

Squares per roll

Roll Length

Roll Width

Weight/Roll

Flexibility

Tear Strength -- MD

Tear Strength -- CD

Tensile Strength -- MD

Tensile Strength -- CD

Water Shower Test

Hybrid Underlayment (ASTM 30lb specs)

11lbs per square (27 lbs per square)

4.5 squares (2 squares)

145 Feet (66 Feet)

3.1 Feet (3 Feet)

50lbs (54 lbs)

Excellent (Stiff and Boardy)

>1362 grams (>500 grams)

>2400 grams (>500grams)

350 lbs (95 lbs)

260 lbs (33 lbs)

Passed (Passed)

Copyright 2006 International Integration LLC. All rights reserved.

questions@internationalintegrationllc.com

[close](#)



- ■
- ■
- ■

EXHIBIT 6

Photograph of International Integration's
"Patent Pending" Capital 30 Product

UNDERLAYMENT

5 ft.

lbs.

ft.

two pallets high.

4 MONTHS



International

INTEGRATION

Integrating Building Materials

U.S. Patent Pending

COMPLIES WITH PERFORMANCE REQUIREMENTS OF ASTM D222

Made in

EXHIBIT 7

Assignments on the Web Search for
“International Integration”



United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz alerts](#) | [News](#) | [Help](#)



[Assignments on the Web](#) > [Patent Query](#)

Assignment Data Not Available

For Assignor/Assignee: INTERNATIONAL INTEGRATION

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.3.4
Web interface last modified: Jul 8, 2013 v.2.3.4

[.HOME](#) | [INDEX](#) | [SEARCH](#) | [eBUSINESS](#) | [CONTACT US](#) | [PRIVACY STATEMENT](#)

EXHIBIT 8

Screenprint of www.capital30.com homepage

International

INTEGRATION

Integrating Building Materials

questions@internationalintegrationllc.com

- [Home](#)
- [Products](#)
- [Installation](#)
- [MSDS](#)
- [Warranty](#)
- [Gallery](#)
- [Contact Us](#)

Home

Capital 30

The 1st and only hybrid underlayment

Can't decide whether or not to stop using the 30lb for something new in the market?

You like the synthetics performance, but not the price?

Our Hybrid Underlayment is different.

Unlike most synthetics where you're just working with a sheet of plastic. At the same time traditional 30lb can be hard to work with.

We integrated both products into one strong and unique material. The hybrid also features the characteristics of both products that you will love.

Still can't make up your mind, request a free sample to try and see the difference!

Call Us Today!

1970 W. Holt Ave.

Pomona, CA 91768

T: (909)629-4188

F: (909)629-4198

Copyright 2006 International Integration LLC. All rights reserved.

questions@internationalintegrationllc.com

[close](#)



- ■
- ■
- ■

I. (a) PLAINTIFFS (Check box if you are representing yourself <input type="checkbox"/>) Tomahawk 30 Importers, LTD., a Canadian corporation, and Safeguard 30, LLC.	DEFENDANTS (Check box if you are representing yourself <input type="checkbox"/>) International Integration, LLC., a California limited liability company.
(b) Attorneys (Firm Name, Address and Telephone Number. If you are representing yourself, provide same information.) Law Offices of J. Curtis Edmondson, Venture Commerce Center, 3699 NW John Olsen Place, Hillsboro, OR 97124	(b) Attorneys (Firm Name, Address and Telephone Number. If you are representing yourself, provide same information.)

II. BASIS OF JURISDICTION (Place an X in one box only.) <input type="checkbox"/> 1. U.S. Government Plaintiff <input type="checkbox"/> 2. U.S. Government Defendant <input checked="" type="checkbox"/> 3. Federal Question (U.S. Government Not a Party) <input type="checkbox"/> 4. Diversity (Indicate Citizenship of Parties in Item III)	III. CITIZENSHIP OF PRINCIPAL PARTIES -For Diversity Cases Only (Place an X in one box for plaintiff and one for defendant) <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">Citizen of This State</td> <td style="width:10%;">PTF <input type="checkbox"/> 1</td> <td style="width:10%;">DEF <input type="checkbox"/> 1</td> <td style="width:33%;">Incorporated or Principal Place of Business in this State</td> <td style="width:10%;">PTF <input type="checkbox"/> 4</td> <td style="width:10%;">DEF <input type="checkbox"/> 4</td> </tr> <tr> <td>Citizen of Another State</td> <td>PTF <input type="checkbox"/> 2</td> <td>DEF <input type="checkbox"/> 2</td> <td>Incorporated and Principal Place of Business in Another State</td> <td>PTF <input type="checkbox"/> 5</td> <td>DEF <input type="checkbox"/> 5</td> </tr> <tr> <td>Citizen or Subject of a Foreign Country</td> <td>PTF <input type="checkbox"/> 3</td> <td>DEF <input type="checkbox"/> 3</td> <td>Foreign Nation</td> <td>PTF <input type="checkbox"/> 6</td> <td>DEF <input type="checkbox"/> 6</td> </tr> </table>	Citizen of This State	PTF <input type="checkbox"/> 1	DEF <input type="checkbox"/> 1	Incorporated or Principal Place of Business in this State	PTF <input type="checkbox"/> 4	DEF <input type="checkbox"/> 4	Citizen of Another State	PTF <input type="checkbox"/> 2	DEF <input type="checkbox"/> 2	Incorporated and Principal Place of Business in Another State	PTF <input type="checkbox"/> 5	DEF <input type="checkbox"/> 5	Citizen or Subject of a Foreign Country	PTF <input type="checkbox"/> 3	DEF <input type="checkbox"/> 3	Foreign Nation	PTF <input type="checkbox"/> 6	DEF <input type="checkbox"/> 6
Citizen of This State	PTF <input type="checkbox"/> 1	DEF <input type="checkbox"/> 1	Incorporated or Principal Place of Business in this State	PTF <input type="checkbox"/> 4	DEF <input type="checkbox"/> 4														
Citizen of Another State	PTF <input type="checkbox"/> 2	DEF <input type="checkbox"/> 2	Incorporated and Principal Place of Business in Another State	PTF <input type="checkbox"/> 5	DEF <input type="checkbox"/> 5														
Citizen or Subject of a Foreign Country	PTF <input type="checkbox"/> 3	DEF <input type="checkbox"/> 3	Foreign Nation	PTF <input type="checkbox"/> 6	DEF <input type="checkbox"/> 6														

IV. ORIGIN (Place an X in one box only.)

1. Original Proceeding
 2. Removed from State Court
 3. Remanded from Appellate Court
 4. Reinstated or Reopened
 5. Transferred from Another District (Specify)
 6. Multi-District Litigation

V. REQUESTED IN COMPLAINT: JURY DEMAND: Yes No (Check "Yes" only if demanded in complaint.)

CLASS ACTION under F.R.Cv.P. 23: Yes No **MONEY DEMANDED IN COMPLAINT:** \$ _____

VI. CAUSE OF ACTION (Cite the U.S. Civil Statute under which you are filing and write a brief statement of cause. Do not cite jurisdictional statutes unless diversity.)
 35 U.S.C. §§ 1, et seq., patent infringement

VII. NATURE OF SUIT (Place an X in one box only.)

OTHER STATUTES	CONTRACT	REAL PROPERTY CONT.	IMMIGRATION	PRISONER PETITIONS	PROPERTY RIGHTS
<input type="checkbox"/> 375 False Claims Act	<input type="checkbox"/> 110 Insurance	<input type="checkbox"/> 240 Torts to Land	<input type="checkbox"/> 462 Naturalization Application	Habeas Corpus:	<input type="checkbox"/> 820 Copyrights
<input type="checkbox"/> 400 State Reapportionment	<input type="checkbox"/> 120 Marine	<input type="checkbox"/> 245 Tort Product Liability	<input type="checkbox"/> 465 Other Immigration Actions	<input type="checkbox"/> 463 Alien Detainee	<input checked="" type="checkbox"/> 830 Patent
<input type="checkbox"/> 410 Antitrust	<input type="checkbox"/> 130 Miller Act	<input type="checkbox"/> 290 All Other Real Property		<input type="checkbox"/> 510 Motions to Vacate Sentence	<input type="checkbox"/> 840 Trademark
<input type="checkbox"/> 430 Banks and Banking	<input type="checkbox"/> 140 Negotiable Instrument	TORTS	TORTS	<input type="checkbox"/> 530 General	SOCIAL SECURITY
<input type="checkbox"/> 450 Commerce/ICC Rates/Etc.	<input type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment	PERSONAL PROPERTY	PERSONAL PROPERTY	<input type="checkbox"/> 535 Death Penalty	<input type="checkbox"/> 861 HIA (1395ff)
<input type="checkbox"/> 460 Deportation	<input type="checkbox"/> 151 Medicare Act	<input type="checkbox"/> 310 Airplane	<input type="checkbox"/> 370 Other Fraud	Other:	<input type="checkbox"/> 862 Black Lung (923)
<input type="checkbox"/> 470 Racketeer Influenced & Corrupt Org.	<input type="checkbox"/> 152 Recovery of Defaulted Student Loan (Excl. Vet.)	<input type="checkbox"/> 315 Airplane Product Liability	<input type="checkbox"/> 371 Truth In Lending	<input type="checkbox"/> 540 Mandamus/Other	<input type="checkbox"/> 863 DIWC/DIWW (405 (g))
<input type="checkbox"/> 480 Consumer Credit	<input type="checkbox"/> 160 Stockholders' Suits	<input type="checkbox"/> 320 Assault, Libel & Slander	<input type="checkbox"/> 380 Other Personal Property Damage	<input type="checkbox"/> 550 Civil Rights	<input type="checkbox"/> 864 SSID Title XVI
<input type="checkbox"/> 490 Cable/Sat TV	<input type="checkbox"/> 162 Recovery of Overpayment of Vet. Benefits	<input type="checkbox"/> 330 Fed. Employers' Liability	<input type="checkbox"/> 385 Property Damage Product Liability	<input type="checkbox"/> 555 Prison Condition	<input type="checkbox"/> 865 RSI (405 (g))
<input type="checkbox"/> 850 Securities/Commodities/Exchange	<input type="checkbox"/> 190 Other Contract	<input type="checkbox"/> 340 Marine	BANKRUPTCY	<input type="checkbox"/> 560 Civil Detainee Conditions of Confinement	FEDERAL TAX SUITS
<input type="checkbox"/> 890 Other Statutory Actions	<input type="checkbox"/> 195 Contract Product Liability	<input type="checkbox"/> 345 Marine Product Liability	<input type="checkbox"/> 422 Appeal 28 USC 158	FORFEITURE/PENALTY	<input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant)
<input type="checkbox"/> 891 Agricultural Acts	<input type="checkbox"/> 196 Franchise	<input type="checkbox"/> 350 Motor Vehicle	<input type="checkbox"/> 423 Withdrawal 28 USC 157	<input type="checkbox"/> 625 Drug Related Seizure of Property 21 USC 881	<input type="checkbox"/> 871 IRS-Third Party 26 USC 7609
<input type="checkbox"/> 893 Environmental Matters	REAL PROPERTY	<input type="checkbox"/> 355 Motor Vehicle Product Liability	CIVIL RIGHTS	<input type="checkbox"/> 690 Other	
<input type="checkbox"/> 895 Freedom of Info. Act	<input type="checkbox"/> 210 Land Condemnation	<input type="checkbox"/> 360 Other Personal Injury	<input type="checkbox"/> 440 Other Civil Rights	LABOR	
<input type="checkbox"/> 896 Arbitration	<input type="checkbox"/> 220 Foreclosure	<input type="checkbox"/> 362 Personal Injury-Med Malpractice	<input type="checkbox"/> 441 Voting	<input type="checkbox"/> 710 Fair Labor Standards Act	
<input type="checkbox"/> 899 Admin. Procedures Act/Review of Appeal of Agency Decision	<input type="checkbox"/> 230 Rent Lease & Ejectment	<input type="checkbox"/> 365 Personal Injury-Product Liability	<input type="checkbox"/> 442 Employment	<input type="checkbox"/> 720 Labor/Mgmt. Relations	
<input type="checkbox"/> 950 Constitutionality of State Statutes		<input type="checkbox"/> 367 Health Care/Pharmaceutical Personal Injury Product Liability	<input type="checkbox"/> 443 Housing/Accommodations	<input type="checkbox"/> 740 Railway Labor Act	
		<input type="checkbox"/> 368 Asbestos Personal Injury Product Liability	<input type="checkbox"/> 445 American with Disabilities-Employment	<input type="checkbox"/> 751 Family and Medical Leave Act	
			<input type="checkbox"/> 446 American with Disabilities-Other	<input type="checkbox"/> 790 Other Labor Litigation	
			<input type="checkbox"/> 448 Education	<input type="checkbox"/> 791 Employee Ret. Inc. Security Act	

FOR OFFICE USE ONLY: Case Number: CV13-7158

CIVIL COVER SHEET

VIII. VENUE: Your answers to the questions below will determine the division of the Court to which this case will most likely be initially assigned. This initial assignment is subject to change, in accordance with the Court's General Orders, upon review by the Court of your Complaint or Notice of Removal.

Question A: Was this case removed from state court? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "no," go to Question B. If "yes," check the box to the right that applies, enter the corresponding division in response to Question D, below, and skip to Section IX.	STATE CASE WAS PENDING IN THE COUNTY OF:		INITIAL DIVISION IN CAGD IS:
	<input type="checkbox"/> Los Angeles		Western
	<input type="checkbox"/> Ventura, Santa Barbara, or San Luis Obispo		Western
	<input type="checkbox"/> Orange		Southern
	<input type="checkbox"/> Riverside or San Bernardino		Eastern

Question B: Is the United States, or one of its agencies or employees, a party to this action? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "no," go to Question C. If "yes," check the box to the right that applies, enter the corresponding division in response to Question D, below, and skip to Section IX.	If the United States, or one of its agencies or employees, is a party, is it:		INITIAL DIVISION IN CAGD IS:
	A PLAINTIFF? <small>Then check the box below for the county in which the majority of DEFENDANTS reside.</small>	A DEFENDANT? <small>Then check the box below for the county in which the majority of PLAINTIFFS reside.</small>	
	<input type="checkbox"/> Los Angeles	<input type="checkbox"/> Los Angeles	Western
	<input type="checkbox"/> Ventura, Santa Barbara, or San Luis Obispo	<input type="checkbox"/> Ventura, Santa Barbara, or San Luis Obispo	Western
	<input type="checkbox"/> Orange	<input type="checkbox"/> Orange	Southern
	<input type="checkbox"/> Riverside or San Bernardino	<input type="checkbox"/> Riverside or San Bernardino	Eastern
<input type="checkbox"/> Other	<input type="checkbox"/> Other	Western	

Question C: Location of plaintiffs, defendants, and claims?	A. Los Angeles County	B. Ventura, Santa Barbara, or San Luis Obispo Counties	C. Orange County	D. Riverside or San Bernardino Counties	E. Outside the Central District of California	F. Other
Indicate the location in which a majority of plaintiffs reside:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indicate the location in which a majority of defendants reside:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indicate the location in which a majority of claims arose:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C.1. Is either of the following true? If so, check the one that applies: <input type="checkbox"/> 2 or more answers in Column C <input type="checkbox"/> only 1 answer in Column C and no answers in Column D Your case will initially be assigned to the SOUTHERN DIVISION. Enter "Southern" in response to Question D, below. If none applies, answer question C2 to the right. →	C.2. Is either of the following true? If so, check the one that applies: <input type="checkbox"/> 2 or more answers in Column D <input type="checkbox"/> only 1 answer in Column D and no answers in Column C Your case will initially be assigned to the EASTERN DIVISION. Enter "Eastern" in response to Question D, below. If none applies, go to the box below. ↓
---	---

Your case will initially be assigned to the WESTERN DIVISION.
Enter "Western" in response to Question D below.

Question D: Initial Division? Enter the initial division determined by Question A, B, or C above: →	INITIAL DIVISION IN CAGD: Western Division
---	---

CIVIL COVER SHEET

IX(a). IDENTICAL CASES: Has this action been previously filed in this court and dismissed, remanded or closed? NO YES

If yes, list case number(s): _____

IX(b). RELATED CASES: Have any cases been previously filed in this court that are related to the present case? NO YES

If yes, list case number(s): _____

Civil cases are deemed related if a previously filed case and the present case:

- (Check all boxes that apply)
- A. Arise from the same or closely related transactions, happenings, or events; or
 - B. Call for determination of the same or substantially related or similar questions of law and fact; or
 - C. For other reasons would entail substantial duplication of labor if heard by different judges; or
 - D. Involve the same patent, trademark or copyright, and one of the factors identified above in a, b or c also is present.

X. SIGNATURE OF ATTORNEY

(OR SELF-REPRESENTED LITIGANT): /s/ J. Curtis Edmondson DATE: 9/25/2013

Notice to Counsel/Parties: The CV-71 (JS-44) Civil Cover Sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law. This form, approved by the Judicial Conference of the United States in September 1974, is required pursuant to Local Rule 3-1 is not filed but is used by the Clerk of the Court for the purpose of statistics, venue and initiating the civil docket sheet. (For more detailed instructions, see separate instructions sheet).

Key to Statistical codes relating to Social Security Cases:

Nature of Suit Code	Abbreviation	Substantive Statement of Cause of Action
861	HIA	All claims for health insurance benefits (Medicare) under Title 18, Part A, of the Social Security Act, as amended. Also, include claims by hospitals, skilled nursing facilities, etc., for certification as providers of services under the program. (42 U.S.C. 1935FF(b))
862	BL	All claims for "Black Lung" benefits under Title 4, Part B, of the Federal Coal Mine Health and Safety Act of 1969. (30 U.S.C. 923)
863	DIWC	All claims filed by insured workers for disability insurance benefits under Title 2 of the Social Security Act, as amended; plus all claims filed for child's insurance benefits based on disability. (42 U.S.C. 405 (g))
863	DIWW	All claims filed for widows or widowers insurance benefits based on disability under Title 2 of the Social Security Act, as amended. (42 U.S.C. 405 (g))
864	SSID	All claims for supplemental security income payments based upon disability filed under Title 16 of the Social Security Act, as amended.
865	RSI	All claims for retirement (old age) and survivors benefits under Title 2 of the Social Security Act, as amended. (42 U.S.C. 405 (g))

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

NOTICE OF ASSIGNMENT TO UNITED STATES JUDGES

This case has been assigned to District Judge Percy Anderson and the assigned Magistrate Judge is Patrick J. Walsh.

The case number on all documents filed with the Court should read as follows:

2:13CV7158 PA PJWx

Pursuant to General Order 05-07 of the United States District Court for the Central District of California, the Magistrate Judge has been designated to hear discovery related motions.

All discovery related motions should be noticed on the calendar of the Magistrate Judge.

Clerk, U. S. District Court

September 27, 2013

Date

By J.Prado

Deputy Clerk

NOTICE TO COUNSEL

A copy of this notice must be served with the summons and complaint on all defendants (if a removal action is filed, a copy of this notice must be served on all plaintiffs).

Subsequent documents must be filed at the following location:

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Western Division
312 N. Spring Street, G-8
Los Angeles, CA 90012 | <input type="checkbox"/> Southern Division
411 West Fourth St., Ste 1053
Santa Ana, CA 92701 | <input type="checkbox"/> Eastern Division
3470 Twelfth Street, Room 134
Riverside, CA 92501 |
|--|--|---|

Failure to file at the proper location will result in your documents being returned to you.

ORIGINAL

Name & Address:

J. Curtis Edmondson (SBN 236105)
Law Offices of J. Curtis Edmondson
3699 NW John Olsen Place
Hillsboro, OR 97124

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

TOMAHAWK 30 IMPORTERS, LTD, a Canadian Corporation, and SAFEGUARD 30, LLC, an Oregon Limited Liability Company

PLAINTIFF(S)

v.

INTERNATIONAL INTEGRATION LLC, a California Limited Liability Company,

DEFENDANT(S).

CASE NUMBER

CV 13-7158 PA (PJWx)

SUMMONS

TO: DEFENDANT(S): International Integration, LLC

A lawsuit has been filed against you.

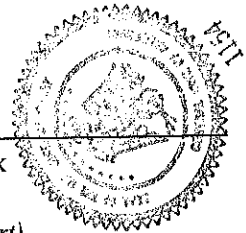
Within 21 days after service of this summons on you (not counting the day you received it), you must serve on the plaintiff an answer to the attached complaint _____ amended complaint counterclaim cross-claim or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff's attorney, J. Curtis Edmondson, whose address is 3699 NW John Olsen Place, Hillsboro, OR 97124. If you fail to do so, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

Dated: SEP 27 2013

Clerk, U.S. District Court

By: _____
Deputy Clerk

(Seal of the Court)



[Use 60 days if the defendant is the United States or a United States agency, or is an officer or employee of the United States. Allowed 60 days by Rule 12(a)(3)].