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(54) **SUPPORT CUSHIONS FOR PROVIDING COOLING**

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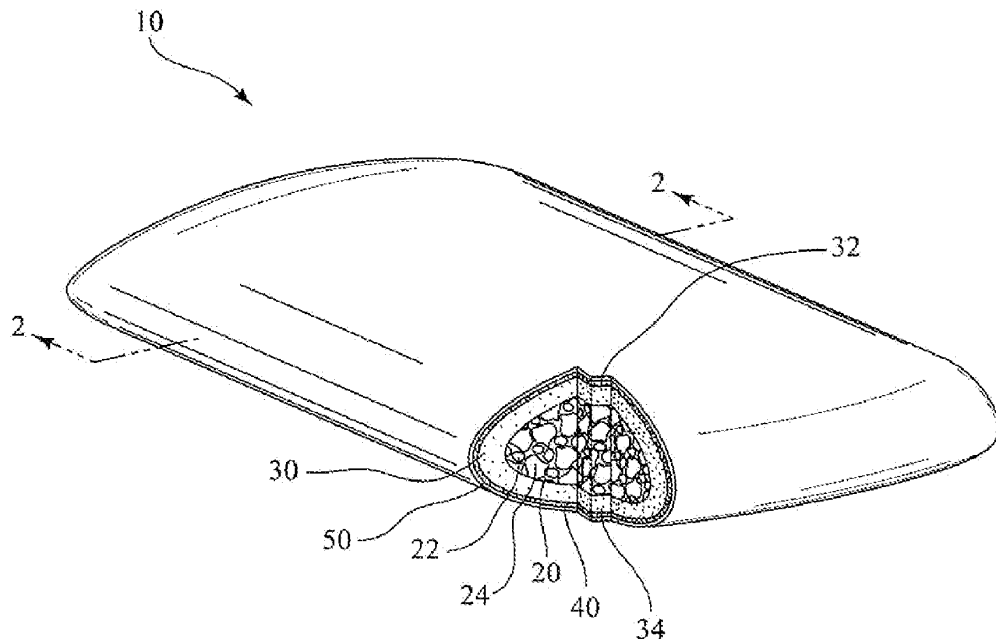
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ABSTRACT

A support cushion for is provided that includes a core comprised of a first flexible foam and a sleeve comprised of a second flexible foam. The sleeve has a first side and a second side opposite the first side that together encapsulate the core. The support cushion further includes an amount of phase change material that is incorporated into at least one of the first side or the second side of the sleeve.



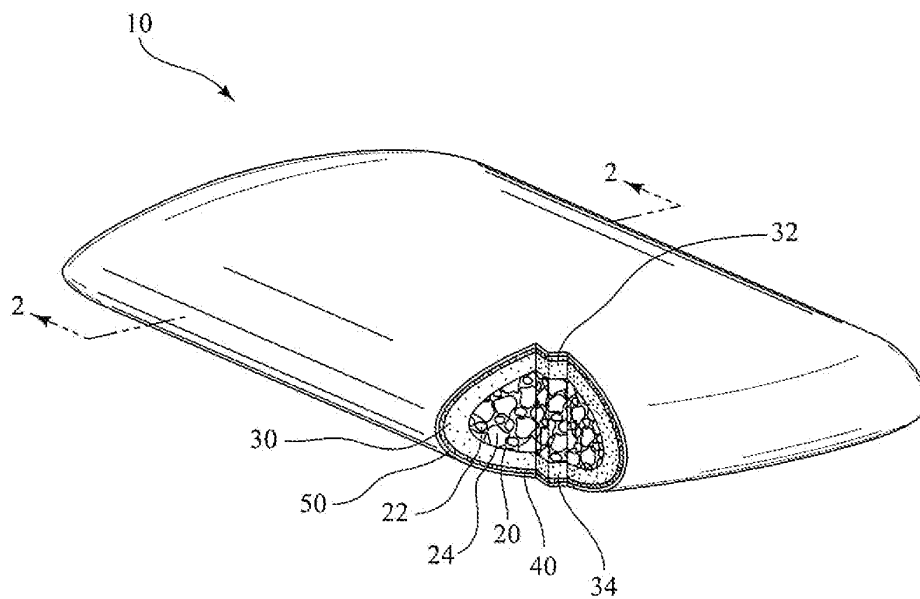


FIG. 1

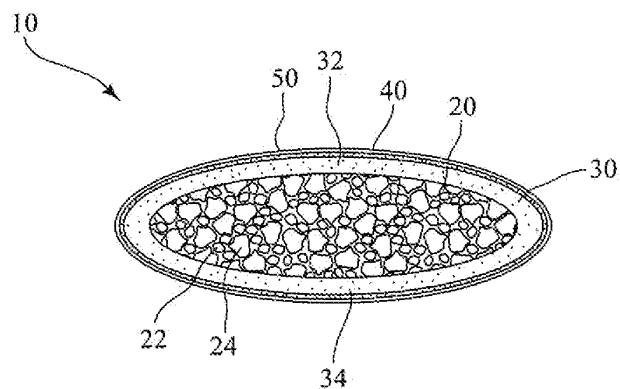


FIG. 2

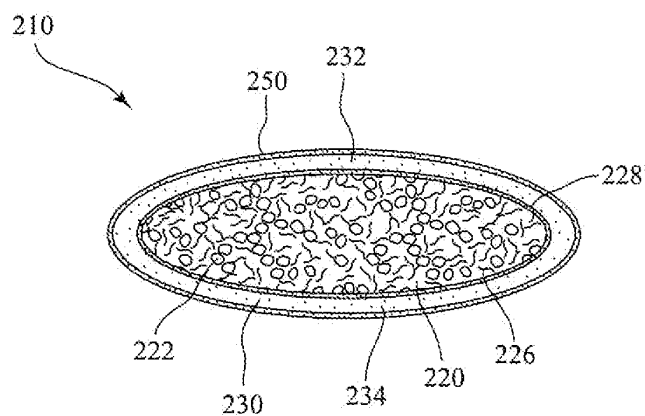


FIG. 5

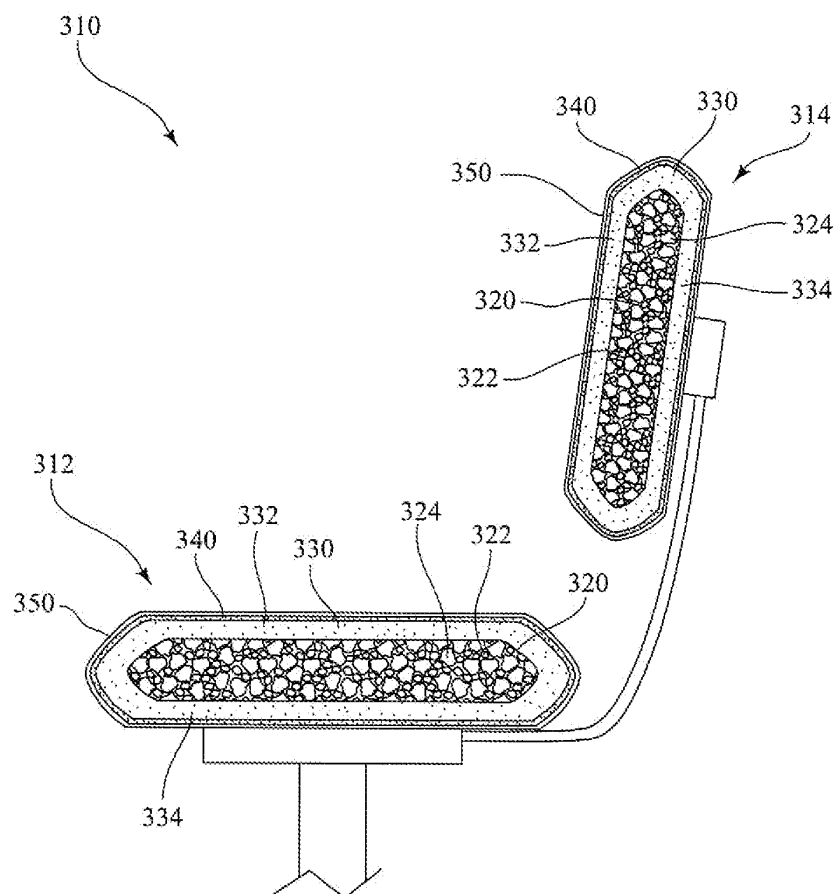


FIG. 6

SUPPORT CUSHIONS FOR PROVIDING COOLING

TECHNICAL HELD

[0001] The present invention relates to support cushions for providing cooling. In particular, the present invention relates to support cushions, such as pillows, that make use of a sleeve surrounding a flexible foam core and having an amount of phase change material incorporated into at least one side of the sleeve to provide cooling to the body of a user, or a portion thereof resting on the support cushion.

BACKGROUND

[0002] As is generally the case with support cushions and, in particular, with support cushions comprised of flexible foam or other body-conforming materials, the effectiveness of the support cushion in providing support to the body of a user is partly a function of how well the flexible foam responds to the contour of the particular user resting on the cushion. In this regard, support cushions made from temperature-sensitive viscoelastic foam are often particularly desirable as such support cushions are able to change shape based at least in part, upon the temperature of the supported body part. That conformance of the cushion to the body of a user, however, often causes more of the user's body to be in contact with the body support cushion, and thus, less of the body of the user is exposed to the ambient air around the cushion. The reduction in the amount of the body of the user exposed to ambient air in turn causes many users to find support cushions comprised of visco-elastic foam to "sleep hot" and occasionally such users will choose other types of support cushions, notwithstanding the supportive benefits associated with visco-elastic foam and similar types of body-conforming materials.

[0003] In an effort to remedy users' concerns of "sleeping hot" as a result of the body-confirming qualities of their support cushions, many support cushion manufactures have incorporated so-called "cooling" technologies into their products. For example, many support cushions now incorporate latent heat storage units, such as phase change material, that absorb heat and provide a cooling sensation when in contact with the body of a user. Support cushions that include phase change material, however, often fail to provide or provide a reduced cooling sensation when the phase change material is not placed in direct contact with the body of a user. For instance, in a support cushion that makes use of phase change material, the support cushion often includes a highly-elastic outer cover or liner that protects the support cushion from stains or abrasions, while allowing the elastic feel of the support cushion incorporating the PCM to not be diminished. In using such an outer cover or liner, however, the cover or liner often inhibits the cooling sensation offered by the PCM material by creating an additional layer of insulating material between the body of the user and the PCM found in the support cushion.

SUMMARY

[0004] The present invention includes support cushions for providing cooling. In particular, the present invention includes support cushions, such as pillows, that make use of a sleeve surrounding a flexible foam core and having an amount of phase change material incorporated into at least one side of the sleeve to provide cooling to the body of a user, or a portion

thereof resting on the support cushion. Thus, the support cushions of the present invention allow a user to obtain the benefits of a support cushion that includes phase change material, but without the reduction in cooling that may occur as a result of covering the support cushion with an insulating material to protect the cushion.

[0005] In one exemplary embodiment of the present invention, a support cushion is provided in the form of a pillow that includes a core comprised of a first flexible foam and a sleeve comprised of a second flexible foam. The sleeve of the pillow includes a first side and a second side that together encapsulate the core of the pillow. The pillow also includes a first amount of phase change material that is incorporated into either the first side, the second side, or both the first side and the second side of the sleeve such that the body of a user or a portion thereof, resting on the side of the sleeve incorporating the phase change material is provided with a cooling sensation.

[0006] The core of the support cushions is generally a molded foam core having a shape suitable for accommodating the body of a user. Further, both the core and the sleeve of the support cushions are generally comprised of a flexible foam that is capable of suitably distributing the pressure from a user's body or portion thereof across the support cushion. In some embodiments, the flexible foam is a visco-elastic foam that has a desired density and hardness, and that allows pressure to be distributed uniformly across the support cushion. In some embodiments both the first flexible foam comprising the core and the second flexible foam comprising the sleeve are comprised of a visco-elastic foam. In this regard in certain embodiments, the visco-elastic foam comprising the sleeve can have a density less than that of the visco-elastic foam comprising the core, such that the visco-elastic foam comprising the sleeve provides a softer surface on which to rest while the visco-elastic foam comprising the core provides a desired amount of support.

[0007] With further respect to the visco-elastic foam included in the core of the support cushions, the visco-elastic foam comprising the core can also be configured to improve the cooling capabilities of the support cushions. For example, in some embodiments, the visco-elastic foam included in the core comprises a plurality of visco-elastic foam fragments, such that the core is not comprised of a single continuous piece of visco-elastic foam, but is instead comprised of a number of fragments of visco-elastic foam that allow heat to in re readily dissipate from the sleeve and throughout the core. In some embodiments, to provide for enhanced air movement and, consequently, enhanced heat dissipation from the sleeve and through the core of the support cushions, the visco-elastic foam fragments are comprised of non-reticulated foam fragments and reticulated foam fragments.

[0008] To further take advantage of the cooling capability of the phase change material incorporated into the sleeve, in certain embodiments, the sleeve of the support cushions incorporates the phase change material into both the first side and the second side of the sleeve, such that a user is provided with a cooling sensation regardless of which side of the support cushion is being used to support the user's body or a portion thereof. To further help ensure that the user is provided with a cooling sensation, in some embodiments, a liner comprised of a netting with a second amount of phase change material incorporated into the netting surrounds the sleeve, such that liner also provides cooling to a user resting on the support cushion.

[0009] In addition to incorporating PCM material into the sleeves and liners of the support cushions, in some embodiments, the support cushions can further comprise an outer cover that surrounds the liner covering the sleeve. Such outer covers are typically comprised of a textile having a sufficient amount of durability to protect the underlying liner and sleeve of the support cushions, but are also sufficiently breathable to allow air and heat to travel through the outer cover and allow the phase change material in the sleeve and liner to still provide cooling to a user. For instance, in certain embodiments, the outer cover is comprised of cotton (e.g., 100 percent cotton) that allows the phase change material in the sleeve and liner to provide cooling to a user resting on the support cushion.

[0010] Further features and advantages of the present invention will become evident to those of ordinary skill in the art after a study of the description, figures, and non-limiting examples in this document.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a perspective view of an exemplary support cushion, in the form of a pillow, made in accordance with the present invention and with a portion of the pillow removed to show the core and the sleeve of the pillow;

[0012] FIG. 2 is a partial cross-sectional view of the exemplary pillow of FIG. 1 taken along line 2-2 of FIG. 1;

[0013] FIG. 3 is a perspective view of another exemplary pillow made in accordance with the present invention and with a portion of the pillow removed to show the core and the sleeve of the pillow;

[0014] FIG. 4 is a partial cross-sectional view of the exemplary pillow of FIG. 3 taken along line 4-4 of FIG. 3;

[0015] FIG. 5 is a partial cross-sectional view of yet another exemplary pillow made in accordance with the present invention; and

[0016] FIG. 6 is a cross-sectional view of exemplary support cushions for use in a chair and made in accordance with the present invention.

DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0017] The present invention includes support cushions for providing cooling. In particular, the present invention includes support cushions, such as pillows, that make use of a sleeve surrounding a flexible foam core and having an amount of phase change material incorporated into at least one side of the sleeve to provide cooling to the body of a user, or a portion thereof, resting on the support cushion. Thus, the support cushions of the present invention allow a user to obtain the benefits of a support cushion that includes phase change material, but without the reduction in cooling that may occur as a result of covering the support cushion with an insulating material to protect the cushion.

[0018] Referring first to FIGS. 1 and 2, in one exemplary embodiment of the present invention, a support cushion is provided in the form of a pillow 10 that includes a core 20 comprised of a first flexible foam and a sleeve 30 comprised of a second flexible foam. The sleeve 30 includes a first side 32 and a second side 34. The pillow 10 also includes a first amount of phase change material that is incorporated into both the first side 32 and the second side 34 of the sleeve 30, such that the body of a user, or a portion thereof, resting on

either the first side 32 or the second side 34 of the sleeve 30 of the pillow 10 is provided with cooling, as described in further detail below.

[0019] Both the core 20 and the sleeve 30 of the pillow 10 are generally comprised of flexible foam that is capable of suitably distributing the pressure from a user's body or portion thereof across the pillow 10. Such flexible foams include, but are not limited to, latex foam, reticulated or non-reticulated visco-elastic foam (sometimes referred to as memory foam or low-resilience foam), reticulated or non-reticulated non-visco-elastic foam, polyurethane high-resilience foam, expanded polymer foams e.g., expanded ethylene vinyl acetate, polypropylene, polystyrene, or polyethylene), and the like. In the embodiment shown in FIGS. 1 and 2, the first flexible foam comprising the core 20 of the pillow 10 is comprised of visco-elastic foam fragments 22, 24, including both reticulated visco-elastic foam fragments 24 and non-reticulated visco-elastic foam fragments 22. Generally, such visco-elastic foam fragments have a hardness of at least about 10 N to no greater than about 80 N, as measured by exerting pressure from a plate against a sample of the material to a compression of at least 40% of an original thickness of the material at approximately room temperature (i.e., 21° C. to 23° C.) where the 40% compression is held for a set period of time as established by the International Organization of Standardization (ISO) 2439 hardness measuring standard. In some embodiments, the visco-elastic foam fragments 22, 24 have a hardness of about 10 N, about 20 N, about 30 N, about 40 N, about 50 N, about 60 N, about 70 N, or about 80 N to provide a desired degree of comfort and body-conforming qualities.

[0020] The visco-elastic foam fragments 22, 24 described herein for use in the pillow 10 can also have a density that assists in providing a desired degree of comfort and body-conforming qualities, as well as an increased degree of material durability. In some embodiments, the density of the visco-elastic foam fragments 22, 24 used in the core 20 of the pillow 10 have a density of no less than about 30 kg/m³ to no greater than about 150 kg/m³. In some embodiments, the density of the visco-elastic foam used in the core 20 of the pillow 10 is about 30 kg/m³, about 40 kg/m³, about 50 kg/m³, about 60 kg/m³, about 70 kg/m³, about 80 kg/m³, about 90 kg/m³, about 100 kg/m³, about 110 kg/m³, about 120 kg/m³, about 130 kg/m³, about 140 kg/m³, or about 150 kg/m³. Of course, the selection of a visco-elastic foam having a particular density will affect other characteristics of the foam, including its hardness, the manner in which the foam responds to pressure, and the overall feel of the foam, but it is appreciated that a visco-elastic foam having a desired density and hardness can readily be selected for a particular application or support cushion as desired. Additionally, it is appreciated that the cores of the pillows need not be comprised of fragments of flexible foam at all, but can also take the form of more traditional foam-based pillows that include a single piece of foam or one or more layers of flexible foam without departing from the spirit and scope of the subject matter described herein.

[0021] Referring still to FIGS. 1 and 2, in this exemplary embodiment, the sleeve 30 of the pillow 10 encapsulates the core 20 of the pillow 10. The sleeve 30 is also comprised of a visco-elastic foam. However, the sleeve 30 is comprised of a continuous piece of visco-elastic foam, as opposed to visco-elastic foam fragments, and typically has a density, hardness, or both that is less than that of the core 20 of the pillow 10, such that the sleeve 30 provides an even softer surface on

which to rest the body of a user or a portion thereof. For example, in certain embodiments, the pillow 10 includes a sleeve 30 that is comprised of a visco-elastic foam with a density of about 35 kg/m³ and a hardness of about 10 N, while the core 20 is comprised of visco-elastic foam fragments having a density of about 80 kg/m³ and a hardness of about 13 N.

[0022] Regardless of the particular hardness and density of the materials (e.g., the foams) used, the visco-elastic foam fragments 22, 24 that comprise the core 20 are generally secured to one another and molded to create a molded or integrated foam core and to prevent the visco-elastic fragments 22, 24 from moving during use. The core 20 and the sleeve 30 are also generally secured to one another to prevent the core 20 and the sleeve 30 from moving relative to one another during use. Various means of securing one layer of material to another can be used in this regard, including tape, hook and loop fasteners, conventional fasteners, stitches, and the like. In one particular embodiment, the core 20 and the sleeve 30 are bonded together by an adhesive or cohesive bonding material to create a substantially continuous assembly where the core 20 and the sleeve 30 are fully adhered to one another. Such adhesive bonding materials include, for example, environmentally-friendly, water based adhesives, like SABA AQUABOND RSD, a two-component water-based adhesive product produced by SABA DINXPERLO BY, B-7090 AA. Dinxperlo, Belgium.

[0023] Turning now to the phase change material included in the sleeve 30 of the pillow 10, the phase change material is incorporated into both the first side 32 and the second side 34 of the sleeve 30 to provide a user with a cooling sensation regardless of whether the user is resting on the first side 32 or the second side 34 of the pillow 10. In this regard, the phase change material is generally positioned and configured to place the body of the user, or a portion thereof, resting on the pillow 10 in close proximity to the phase change material and avoid the reduction in the cooling capabilities of the phase change material that may occur as a result of incorporating the phase change material into the core 20 of the pillow 10 and then covering the core 20 of the pillow 10 with an insulating layer of material.

[0024] The phase change material that is incorporated into the first side 32 and the second side 34 of the sleeve 30 of the pillow 10 is typically comprised of microspheres that include substances having a high heat of fusion and that store or release heat as the substances oscillate between solid and liquid form (i.e., phase change materials). As the phase change material included in the first side 32 and the second side 34 of the sleeve 30 change from solid to liquid form (i.e., melt) as the result of heat generated by a user lying on the pillow 10, the phase change material thus continually absorbs heat and provides a cooling effect to the user until all of the phase change material has been transformed from a solid to a liquid form. In the first side 32 and the second side 34 of the sleeve 30, the phase change material is incorporated into the first side 32 and second side 34 of the sleeve 30 by infusing and coating the first side 32 and second side 34 of the sleeve 30 with the microspheres of phase change material. However, it is of course contemplated that the phase change material need not be infused into and/or used to coat both the first side 32 and second side 34 of the sleeve 30 to provide a sufficient amount of cooling to the body of a user lying on the pillow 10, but can also be infused into and/or used to coat only the first side 32 or the second side 34 of the sleeve 30 of the pillow 10.

[0025] Referring still to FIGS. 1 and 2, to further take advantage of the cooling capabilities of the phase change material incorporated into the first side 32 and second side 34 of the sleeve 30, by including reticulated visco-elastic foam fragments 24 in the core 20 of the pillow 10, the pillow 10 is configured to allow heat to more readily dissipate from the phase change material in the sleeve 30 and then throughout the core 20. Reticulated foam (visco-elastic or otherwise) is a cellular foam structure in which the cells of the foam are essentially skeletal. In other words the cells of the reticulated foam are each defined by a plurality of apertured windows surrounded by cell struts, where the cell windows of reticulated foam can be entirely absent (leaving only the cell struts) or substantially missing. In some embodiments, the visco-elastic foam fragments 24 included in the core 20 are considered "reticulated" if at least 50% of the windows of the cells are missing (i.e., windows having apertures therethrough, or windows that are completely missing and therefore leaving only the cell struts). Such structures can be created by destruction or other removal of cell window material, by chemical or mechanical means, or by preventing the complete formation of cell windows during the manufacturing process of the foam.

[0026] Regardless of the manufacturing process used to produce the reticulated visco-elastic foam fragments, as indicated above, reticulated visco-elastic foam fragments 24, by virtue of their reticulated cellular structure, have characteristics that are well suited for use in the core 20 of the pillow 10, including the enhanced ability to permit fluid movement through the reticulated visco-elastic foam fragments and, consequently, the ability to provide enhanced air and/or heat movement away from the phase change materials in a particular portion of the sleeve 30, throughout the core 20, and then to unheated phase change material in another portion of the sleeve 30. In this regard, by including the visco-elastic foam fragments 24 in the core 20 of the pillow, not only is enhanced air movement and, consequently, enhanced heat dissipation provided through the core 20 of the pillow 10, but the phase change material in discrete heated portions of the sleeve 30, such as what may result from a user lying in a particular position on the pillow 10 for a prolonged period of time, is prevented from quickly reaching its melting point and ceasing to provide cooling to a user resting on the pillow 10. Of course, other structural elements such as vertical channels that provide a path for air to flow through the core of an exemplary pillow are also contemplated to be within the scope of the present invention, and can be included in an exemplary pillow without departing from the spirit and scope of the subject matter described herein.

[0027] To further ensure that a user resting on the pillow 10 is provided with a cooling sensation, and referring still to FIGS. 1 and 2, the pillow 10 further includes a liner 40 that surrounds the sleeve 30 and includes a second amount of phase change material. The liner 40 serves to protect the sleeve and can be comprised of a number of different materials into which phase change material can be incorporated. In one preferred embodiment, the liner 40 is comprised of a netting that has been passed through a bath including phase change material, such that the phase change material adheres to and can subsequently be fixed to the netting (see, e.g., U.S. Pat. Nos. 8,404,345; 8,329,223; 7,794,507; and 7,186,273, which are each incorporated herein by this reference in their entirety). The liner 40 also preferably incorporates one or more flame retardant materials, such that a flame retardant

barrier surrounds the flexible foam of the sleeve 30 and core 20 of the pillow 10. Like the sleeve 30 surrounding the core 20, however, by incorporating phase change material directly in the liner 40, the liner 40 is also configured to provide cooling to a user resting on the pillow 10, while avoiding any reduction in the cooling capabilities of the phase change material in the sleeve 30 that may occur as a result of covering the sleeve 30 of the pillow 10 with a protective or insulating layer of material.

[0028] To further avoid any reduction in the cooling capability of the phase change materials included in the pillow 10 and to also provide protection for the liner 40, the pillow 10 further comprises an outer cover 50 as shown in FIGS. 1 and 2. The outer cover 50 is typically comprised of a textile having a sufficient amount of durability to protect the underlying liner and sleeve of the support cushions, but also having a sufficient amount of “breathability” to allow air and heat to travel through the outer cover, and allow the phase change material in the sleeve 30 and liner 40 to still provide cooling to a user resting on the pillow 10. In the embodiment shown in FIGS. 1 and 2, the outer cover is comprised of one-hundred percent cotton to allow the cooling sensation provided by the phase change material in the sleeve 30 and liner 40 to be readily transferred to a user resting on the pillow 10. However, it is further contemplated that numerous other textiles, including silk and textiles having a lower percentage of cotton can also be readily used to produce a sufficient outer cover.

[0029] Referring now to FIGS. 3 and 4, in another exemplary embodiment of the present invention, an exemplary pillow 110 is provided that includes a core 120 comprised of a plurality of reticulated visco-elastic foam fragments 124 and non-reticulated visco-elastic foam fragments 122, and a sleeve 130 comprised of a continuous piece of visco-elastic foam. Like the pillow 10 shown in FIGS. 1 and 2, the pillow 110 includes: a sleeve 130 having a first side 132 and a second side 134; a liner 140 including an amount of phase change material; and an outer cover 150. Unlike the pillow shown in FIGS. 1 and 2, however, the first side 132 and the second side 134 of the sleeve 30 are not identical to one another. Rather, the pillow 110 and, in particular, the first side 132 of the sleeve 130 has a curved profile that acts to align the head, neck and shoulders of a user lying on the first side 132. Additionally, in the pillow 110, only the first side 132 of the sleeve 130 includes an amount of phase change material as the curved profile of the pillow 10 is designed to only allow a user to rest on the pillow 10 adjacent to the first side 132 of the sleeve 130. Of course, it is also contemplated that pillows having various other profiles and arrangements of phase change material can be provided in accordance with the present invention, and can be used to provide support and cooling to a body of a user without departing from the spirit and scope of the subject matter described herein.

[0030] Referring now to FIG. 5, in a further exemplary embodiment of the present invention, an exemplary pillow 210 is provided that also includes a visco-elastic foam sleeve 230. The sleeve 230 has an amount of phase change material incorporated into the first surface 232 and the second surface 234 of the sleeve 230, such that the first surface 232 and the second surface 234 of the sleeve 230 are again configured to provide cooling to a user lying on the pillow 210. The pillow 210 also includes an outer cover 250 that surrounds the sleeve 230 and that is comprised of a textile. Additionally, the pillow 210 has a core 220 that includes a plurality of non-reticulated visco-elastic foam fragments 222. In the pillow 210, however,

the core 220 further includes a plurality of fibers 226 that, similar to the reticulated visco-elastic foam fragments described above, provide enhanced air and/or heat movement through the core 220 of the pillow 210. Such fibers can include natural fibers, such as cotton or silk fibers, synthetic fibers, such as polyester fibers, or combinations thereof. In this regard, in this exemplary embodiment, the core 220 of the pillow 210 is also surrounded by a flame retardant material or barrier 228 (e.g., a fire sock) that is positioned between the core 220 and the sleeve 230, such that the flame retardant barrier 228 surrounds the core 20, but yet does not detract from the cooling provided by the phase change material incorporated into the sleeve 230.

[0031] As yet another refinement to the present invention, although the support cushions shown in FIGS. 1-5 are in the form of pillows 10, 110, 210 and are dimensionally sized to support the head of a user, it is contemplated that the features described herein are equally applicable to mattresses, seat cushions, seat backs, neck pillows, leg spacer pillows, mattress toppers, overlays and the like. As such the phrase “support cushion” is used herein to refer to any and all such objects having any size and shape, and that are capable of or are generally used to support the body of a user or a portion thereof. For example, as shown in FIG. 6, support cushions made in accordance with the present invention are incorporated into a seat 312 and back 314 of a desk chair 310. Each support cushion of the desk chair 310 includes a core 320 comprised of a plurality of reticulated visco-elastic foam fragments 324 and a plurality of non-reticulated visco-elastic foam fragments 322, and a sleeve 330 comprised of a continuous piece of visco-elastic foam. Similar to the pillows of the present invention, each support cushion of the desk chair 310 also includes a first amount of phase change material that is incorporated into both the first side 332 and the second side 334 of each sleeve 330, such that the portions of the body of a user resting on the support cushions of the desk chair 310 are provided with a cooling sensation.

[0032] Throughout this document, various references are mentioned. All such references are incorporated herein by reference.

[0033] One of ordinary skill in the art will recognize that additional embodiments or implementations are possible without departing from the teachings of the present invention or the scope of the claims which follow. This detailed description, and particularly the specific details of the exemplary embodiments and implementations disclosed herein, is given primarily for clarity of understanding, and no unnecessary limitations are to be understood therefrom, for modifications will become obvious to those skilled in the art upon reading this disclosure and may be made without departing from the spirit or scope of the claimed invention.

What is claimed is:

1. A support cushion, comprising:
 - a core comprised of a first flexible foam;
 - a sleeve comprised of a second flexible foam, the sleeve having a first side and a second side opposite the first side, and the sleeve encapsulating the core; and
 - a first amount of phase change material incorporated into at least one of the first side or the second side of the sleeve.
2. The support cushion of claim 1, wherein the first flexible foam, the second flexible foam, or both is a visco-elastic foam.
3. The support cushion of claim 2, wherein both the first flexible foam and the second flexible foam are visco-elastic

foam, and wherein the second flexible foam has a density less than that of the first flexible foam.

4. The support cushion of claim 1, wherein the first flexible foam includes a plurality of visco-elastic foam fragments.

5. The support cushion of claim 4, wherein the viscoelastic foam fragments include reticulated visco-elastic foam fragments and non-reticulated visco-elastic foam fragments.

6. The support cushion of claim 1, wherein the core is a molded foam core.

7. The support cushion of claim 1, wherein the phase change material is incorporated into the first side and the second side of the sleeve.

8. The support cushion of claim 1, wherein the phase change material includes a plurality of microspheres.

9. The support cushion of claim 1, further comprising a liner surrounding the sleeve, the liner including a second amount of phase change material.

10. The support cushion of claim 9, wherein the liner is comprised of netting, and wherein the phase change material is incorporated into the netting.

11. The support cushion of claim 9, further comprising an outer cover surrounding the liner.

12. The support cushion of claim 11, wherein the outer cover is comprised of a textile.

13. The support cushion of claim 12, wherein the textile is a cotton.

14. The support cushion of claim 12, wherein the outer cover is comprised of one-hundred percent cotton.

15. A pillow, comprising:

a core comprised of reticulated visco-elastic foam;

a sleeve comprised of a visco-elastic foam and encapsulating the core, the sleeve having a first surface and a second surface opposite the first surface, and the sleeve having a first amount of phase change material incorporated into the visco-elastic foam at the first surface, the second surface, or both; and

a liner surrounding the sleeve, the liner having a second amount of phase change material incorporated into the liner.

16. The pillow of claim 15, wherein the liner is comprised of a flame retardant material.

17. The pillow of claim 15, further comprising an outer cover surrounding the liner, the outer cover being comprised of a textile.

18. The pillow of claim 1, wherein the core further comprises non-reticulated visco-elastic foam.

19. A pillow, comprising:

a sleeve encapsulating a plurality of reticulated viscoelastic foam fragments and a plurality of non-reticulated visco-elastic foam fragments, the sleeve having a first surface and a second surface opposite the first surface, and the sleeve having a first amount of phase change material incorporated into the sleeve at the first surface, the second surface, or both;

a liner surrounding the sleeve, the liner having a second amount of phase change material incorporated into the liner; and

an outer cover surrounding the liner.

20. The pillow of claim 19, wherein the liner is comprised of a flame retardant material.

21. A pillow, comprising:

a core including a flexible foam; and

a sleeve encapsulating the core, the sleeve having at least one surface configured to provide cooling to a user lying on the pillow.

22. The pillow of claim 21, wherein the core includes a plurality of non-reticulated visco-elastic foam fragments and a plurality of fibers, and wherein the sleeve includes an amount of phase change material incorporated into the at least one surface of the sleeve.

23. The pillow of claim 22, further comprising:

a flame retardant barrier surrounding the core such that the flame retardant barrier is positioned between the core and the sleeve; and

an outer cover surrounding the sleeve, the outer cover being comprised of a textile.

* * * * *