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DISHWASHING APPLIANCE WITH COLOR MATCHING SOUND INSULATION

Abstract

A dishwashing appliance includes a tub defining a wash chamber therein for receipt of articles for washing. The dishwashing appliance also includes an acoustic barrier. The acoustic barrier may be positioned within the dishwashing appliance and/or outside the tub. The acoustic barrier may be color matched with an adjacent external portion of the dishwashing appliance. At least one external surface of the dishwashing appliance may comprise a color, and at least a portion of the acoustic barrier may comprise the color.

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Background/Summary

FIELD OF THE INVENTION

[0001] The present subject matter relates generally to dishwashing appliances, and more particularly to features and methods for providing a uniform appearance in dishwashing appliances.

BACKGROUND OF THE INVENTION

[0002] Dishwashing appliances generally include a tub that defines a wash chamber. Rack assemblies can be mounted within the wash chamber of the tub for receipt of articles for washing. Multiple spray assemblies can be positioned within the wash chamber for applying or directing wash liquid (e.g., water, detergent, etc.) towards articles disposed within the rack assemblies in order to clean such articles. Dishwashing appliances are also typically equipped with one or more pumps, such as a circulation pump or a drain pump, for directing or motivating wash liquid from the sump to, e.g., the spray assemblies or an area outside of the dishwashing appliance.

[0003] Various cycles may be included as part of the overall cleaning process. For example, a typical, user-selected cleaning option may include a wash cycle and rinse cycle (referred to collectively as a wet cycle), as well as a drying cycle. During such cycles, various components of the dishwashing appliance are activated and deactivated, typically in a predetermined sequence and for predetermined durations.

[0004] The cycles of the dishwashing appliance may generate significant noise, such as due to the flow of wash liquid, the operation of one or more pumps, and movement of articles within the dishwashing appliance. Consumers prefer dishwashers which generate less noise. In order to diminish the level of noise that can be perceived outside of the dishwashing appliance during such cycles, a dishwashing appliance may include sound barriers, sound dampening materials, sound insulation, and/or other similar features to acoustically isolate the interior of the dishwashing appliance. Consumers also prefer aesthetically pleasing household appliances, including dishwashing appliances. For example, the overall perception of fit and finish, such as clean and uniform colors in the visible external surfaces of the dishwashing appliance, can increase the desirability, e.g., salability, of the dishwashing appliance. The sound barrier or other acoustic features may be a different color from adjacent trim materials, such as the outer surface of a door of the dishwashing appliance or a toe kick of the dishwashing appliance. In some places, the sound barrier, insulation, etc., may be visible and the mismatched color of the sound barrier and the trim, e.g., toe kick, may create a less desirable commercial impression.

[0005] Accordingly, features for providing improved aesthetics, such as uniform external colors, in a dishwashing appliance would be useful.

BRIEF DESCRIPTION OF THE INVENTION

[0006] Aspects and advantages of the invention will be set forth in part in the following description, or may be obvious from the description, or may be learned through practice of the invention.

[0007] In one exemplary aspect of the present disclosure, a dishwashing appliance is provided. The dishwashing appliance includes a tub defining a wash chamber therein for receipt of articles for washing. A sump is positioned at a bottom of the wash chamber for receiving fluid from the wash chamber. The dishwashing appliance also includes a pump in fluid communication with the wash chamber and the sump and an acoustic barrier positioned outside the tub. A portion of the acoustic barrier is visible from outside of the dishwashing appliance. The acoustic barrier is color matched with an adjacent external portion of the dishwashing appliance.

[0008] In another exemplary aspect of the present disclosure, a dishwashing appliance is provided. The dishwashing appliance includes a tub defining a wash chamber therein for receipt of articles for washing. The dishwashing appliance also includes a cosmetic panel defining at least one external surface of the dishwashing appliance. The at least one external surface comprises a color. The dishwashing appliance further includes an acoustic barrier positioned within the dishwashing appliance. A portion of the acoustic barrier is visible from outside of the dishwashing appliance.

The portion of the acoustic barrier comprises the color.
[0009] These and other features, aspects and advantages of the present invention will become better understood with reference to the following description and appended claims. The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0010] A full and enabling disclosure of the present invention, including the best mode thereof, directed to one of ordinary skill in the art, is set forth in the specification, which makes reference to the appended figures.
[0011] FIG. **1** provides a front view of an exemplary embodiment of a dishwashing appliance of the present disclosure.
[0012] FIG. **2** provides a perspective view of an additional exemplary embodiment of a dishwashing appliance of the present disclosure with a door in an intermediate position.
[0013] FIG. **3** provides a side, cross section view of an exemplary dishwashing appliance, such as the dishwashing appliance of FIG. **1** or FIG. **2**.
[0014] FIG. **4** provides a schematic transverse sectional view of a portion of the exemplary dishwashing appliance.
[0015] FIG. **5** provides a schematic illustration of an exemplary acoustic barrier and adjacent component in a dishwashing appliance according to one or more exemplary embodiments of the present disclosure.
[0016] FIG. **6** provides a schematic illustration of an exemplary acoustic barrier and adjacent component in a dishwashing appliance according to one or more additional exemplary embodiments of the present disclosure.
DETAILED DESCRIPTION
[0017] Reference now will be made in detail to embodiments of the invention, one or more examples of which are illustrated in the drawings. The detailed description uses numerical and letter designations to refer to features in the drawings. Like or similar designations in the drawings and description have been used to refer to like or similar parts of the disclosure. Each example is provided by way of explanation of the invention, not limitation of the invention. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope of the invention. For instance, features illustrated or described as part of one embodiment can be used with another embodiment to yield a still further embodiment. Thus, it is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents.
[0018] As used herein, the term “or” is generally intended to be inclusive (i.e., “A or B” is intended to mean “A or B or both”). The terms “first,” “second,” and “third” may be used interchangeably to distinguish one component from another and are not intended to signify location or importance of the individual components. The terms “upstream” and “downstream” refer to the relative flow direction with respect to fluid flow in a fluid pathway. For instance, “upstream” refers to the flow direction from which the fluid flows, and “downstream” refers to the flow direction to which the fluid flows. The term “article” may refer to, but need not be limited to dishes, pots, pans, silverware, and other cooking utensils and items that can be cleaned in a dishwashing appliance. The term “wash cycle” is used to refer to an overall operation of the dishwashing appliance which may include two or more distinct phases. The term “wash phase” is intended to refer to one or more periods of time during which a dishwashing appliance operates while containing the articles to be

washed and uses a wash liquid (e.g., water, detergent, or wash additive) and may be a portion of the wash cycle, such as a beginning or early portion of the wash cycle. The term “rinse phase” is intended to refer to one or more periods of time during which the dishwashing appliance operates to remove residual soil, detergents, and other undesirable elements that were retained by the articles after completion of the wash phase and may be a portion of the wash cycle, such as an intermediate portion of the wash cycle. The term “drain phase” is intended to refer to one or more periods of time during which the dishwashing appliance operates to discharge soiled water from the dishwashing appliance and may be a portion of the wash cycle, such as a later portion of the wash cycle. The term “wash liquid” refers to a liquid used for washing or rinsing the articles that is typically made up of water and may include additives, such as detergent or other treatments (e.g., rinse aid). Furthermore, as used herein, terms of approximation, such as “generally,” “approximately,” “substantially,” or “about,” refer to being within a ten percent (10%) margin of error. When used in the context of an angle or direction, such terms include within ten degrees greater or less than the stated angle or direction, e.g., “generally vertical” includes forming an angle of up to ten degrees in any direction, e.g., clockwise or counterclockwise, with the vertical direction V.

[0019] Turning now to the figures, FIGS. **1** through **3** depict an exemplary dishwasher or dishwashing appliance (e.g., dishwashing appliance **100**) that may be configured in accordance with aspects of the present disclosure. Generally, dishwasher **100** defines a vertical direction V, a lateral direction L, and a transverse direction T. Each of the vertical direction V, lateral direction L, and transverse direction T are mutually perpendicular to one another and form an orthogonal direction system.

[0020] Dishwasher **100** includes a tub **104** that defines a wash chamber **106** therein. As shown in FIG. **3**, tub **104** extends between a top **107** and a bottom **108** along the vertical direction V, between a pair of side walls **110** along the lateral direction L, and between a front side **111** and a rear side **112** along the transverse direction T.

[0021] Tub **104** includes a front opening **114** at the front side **111**. In some embodiments, the dishwashing appliance **100** may also include a door **116** at the front opening **114**. The door **116** may, for example, be coupled to the tub **104** by a hinge **200** at its bottom for movement between a normally closed vertical position (FIGS. **1** and **3**), wherein the wash chamber **106** is sealed shut for washing operation, and a horizontal open position (not shown) for loading and unloading of articles from dishwasher **100**. A door closure mechanism or assembly **118**, e.g., a latch, may be provided to lock and unlock door **116** for accessing and sealing wash chamber **106**.

[0022] In exemplary embodiments, tub side walls **110** accommodate a plurality of rack assemblies. For instance, guide rails **120** may be mounted to side walls **110** for supporting a lower rack assembly **122** and an upper rack assembly **126**. In some such embodiments, upper rack assembly **126** is positioned at a top portion of wash chamber **106** above lower rack assembly **122** along the vertical direction V.

[0023] Generally, each rack assembly **122**, **126** may be adapted for movement between an extended loading position (not shown) in which the rack is substantially positioned outside the wash chamber **106**, and a retracted position (shown in FIGS. **1** through **3**) in which the rack is located inside the wash chamber **106**. In some embodiments, movement is facilitated, for instance, by rollers **128** mounted onto rack assemblies **122**, **126**, respectively.

[0024] Although guide rails **120** and rollers **128** are illustrated herein as facilitating movement of the respective rack assemblies **122**, **126**, it should be appreciated that any suitable sliding mechanism or member may be used according to alternative embodiments.

[0025] In optional embodiments, some or all of the rack assemblies **122**, **126** are fabricated into lattice structures including a plurality of wires or elongated members **130** (for clarity of illustration, not all elongated members making up rack assemblies **122**, **126** are shown). In this regard, rack assemblies **122**, **126** are generally configured for supporting articles within wash chamber **106**

while allowing a flow of wash liquid to reach and impinge on those articles (e.g., during a cleaning or rinsing phase of the wash cycle). According to additional or alternative embodiments, a silverware basket (not shown) may be removably attached to a rack assembly (e.g., lower rack assembly **122**), for placement of silverware, utensils, and the like, which are otherwise too small to be accommodated by the rack assembly.

[0026] Generally, dishwasher **100** includes one or more spray assemblies for urging a flow of fluid (e.g., wash liquid) onto the articles placed within wash chamber **106**.

[0027] In exemplary embodiments, dishwasher **100** includes a lower spray arm assembly **134** disposed in a lower region **136** of wash chamber **106** and above a sump **138** so as to rotate in relatively close proximity to lower rack assembly **122**. In this regard, lower spray arm assembly **134** may generally be configured for urging a flow of wash liquid up through lower rack assembly **122**.

[0028] In some embodiments, an upper spray assembly **142** may be located proximate to and, e.g., below, upper rack assembly **126** along the vertical direction V. In this manner, upper spray assembly **142** may be generally configured for urging of wash liquid up through upper rack assembly **126**.

[0029] The various spray assemblies and manifolds described herein may be part of a fluid distribution system or fluid circulation assembly **150** for circulating wash liquid in tub **104**. In certain embodiments, fluid circulation assembly **150** includes a circulation pump **152** for circulating wash liquid in tub **104**. Circulation pump **152** may be mounted to sump **138** and in fluid communication with the sump **138** through a circulation outlet **151** from the sump **138**.

[0030] When assembled, circulation pump **152** may be in fluid communication with an external water supply line (not shown) and sump **138**. A water inlet valve (not shown) can be positioned between the external water supply line and circulation pump **152** (e.g., to selectively allow water to flow from the external water supply line to circulation pump **152**). Additionally or alternatively, water inlet valve can be positioned between the external water supply line and sump **138** (e.g., to selectively allow water to flow from the external water supply line to sump **138**). During use, water inlet valve may be selectively controlled to open to allow the flow of water into dishwasher **100** and may be selectively controlled to close and thereby cease the flow of water into dishwasher **100**. Further, fluid circulation assembly **150** may include one or more fluid conduits or circulation piping for directing wash fluid from circulation pump **152** to the various spray assemblies and manifolds. In exemplary embodiments, such as that shown in FIG. **3**, a primary supply conduit **154** extends from circulation pump **152**, along rear side **112** of tub **104** along the vertical direction V to supply wash liquid throughout wash chamber **106**.

[0031] In optional embodiments, circulation pump **152** urges or pumps wash liquid to a diverter **156** (FIG. **3**). In some such embodiments, diverter **156** is positioned within sump **138** of dishwashing appliance **100**). Diverter **156** may include a diverter disk (not shown) disposed within a diverter chamber **158** for selectively distributing the wash liquid to the spray assemblies **134**, **142**, or other spray manifolds or assemblies. For instance, the diverter disk may have at least one aperture configured to align with one or more outlet ports (not shown) at the top of diverter chamber **158**. In this manner, the diverter disk may be selectively rotated to provide wash liquid to the desired spray device(s).

[0032] In exemplary embodiments, diverter **156** is configured for selectively distributing the flow of wash liquid from circulation pump **152** to various fluid supply conduits—only some of which are illustrated in FIG. **3** for clarity. In certain embodiments, diverter **156** includes two or more outlet ports (not shown) for supplying wash liquid to a first conduit for rotating lower spray arm assembly **134** and a second conduit for supplying upper spray assembly **142** (e.g., supply conduit **154**). Additional embodiments may also include one or more additional conduits, e.g., a third conduit for spraying an auxiliary rack such as a silverware rack, etc.

[0033] In some embodiments, a supply conduit **154** is used to supply wash liquid to one or more

spray assemblies (e.g., to upper spray assembly **142**). It should be appreciated, however, that according to alternative embodiments, any other suitable plumbing configuration may be used to supply wash liquid throughout the various spray manifolds and assemblies described herein. For instance, according to another exemplary embodiment, supply conduit **154** could be used to provide wash liquid to lower spray arm assembly **134** and a dedicated secondary supply conduit (not shown) could be utilized to provide wash liquid to upper spray assembly **142**. Other plumbing configurations may be used for providing wash liquid to the various spray devices and manifolds at any location within dishwashing appliance **100**.

[0034] Each spray assembly **134** and **142**, or other spray device as may be included in dishwashing appliance **100**, may include an arrangement of discharge ports or orifices for directing wash liquid received from circulation pump **152** onto dishes or other articles located in wash chamber **106**. The arrangement of the discharge ports, also referred to as jets, apertures, or orifices, may provide a rotational force by virtue of wash liquid flowing through the discharge ports. Alternatively, spray assemblies **134**, **142** may be motor-driven, or may operate using any other suitable drive mechanism. Spray manifolds and assemblies may also be stationary. The resultant movement of the spray assemblies **134**, **142** and the spray from fixed manifolds provides coverage of dishes and other dishwasher contents with a washing spray. Other configurations of spray assemblies may be used as well. For instance, dishwasher **100** may have additional spray assemblies for cleaning silverware, for scouring casserole dishes, for spraying pots and pans, for cleaning bottles, etc.

[0035] Drainage of soiled wash liquid within sump **138** may by provided, for instance, by a drain pump **168** (e.g., during or as part of a drain phase). In particular, wash liquid may exit sump **138** through a drain outlet **167** and may flow through a drain conduit or directly to the drain pump **168**. Thus, drain pump **168** is downstream of sump **138** and facilitates drainage of the soiled wash liquid by urging or pumping the wash liquid to a drain line external to dishwasher **100**.

[0036] In some embodiments, a filter assembly may be provided, e.g., in the sump **138** and/or at a top entrance into the sump **138**, e.g., to filter fluid to circulation assembly **150** and/or drain pump **168**. Generally, the filter assembly removes soiled particles from the liquid that flows to the sump **138** from the wash chamber **106** during operation of dishwashing appliance **100**. In exemplary embodiments, the filter assembly may include both a first filter (also referred to as a “coarse filter”) and a second filter (also referred to as a “fine filter”).

[0037] Although a separate circulation pump **152** and drain pump **168** are described herein, it is understood that other suitable pump configurations (e.g., using only a single pump for both recirculation and draining) may be provided.

[0038] The dishwashing appliance **100** may further include a heating element **184**, such as a resistance heating element, positioned in or near the sump **138**. For example, the heating element **184** may be positioned “near” the sump **138** in that the heating element **184** is disposed above the sump **138** and within the lower region **136** of wash chamber **106**, such as below the lower spray arm **134** and/or below the lower rack assembly **122**. The heating element **184** may be positioned and configured to heat liquid in the sump **138**, such as for a heated wash phase, and/or to heat air within the wash chamber **106**, such as for drying articles during a dry phase.

[0039] Dishwashing appliance **100** may also include ventilation features, e.g., to promote improved, e.g., more rapid, drying of articles therein after the wash and rinse phases. For example, one or more vents **170** may be provided in the tub **104** for introducing relatively dry air from outside of the tub **104** into the wash chamber **106** and/or for removing relatively humid air from the wash chamber **106** to the outside of the tub **104**. In some embodiments, a fan **172** may be provided. The fan **172** may be operable to urge air through the wash chamber **106**, such as to promote air circulation and/or ventilation within and through the wash chamber. Such air movement may increase the rate of evaporation of moisture from articles in the wash chamber **106** after a wash and/or rinse phase.

[0040] In certain embodiments, dishwasher **100** includes a controller **160** configured to regulate

operation of dishwasher **100** (e.g., initiate one or more wash operations). Controller **160** may include one or more memory devices and one or more microprocessors, such as general or special purpose microprocessors operable to execute programming instructions or micro-control code associated with a wash operation or wash cycle that may include a pre-wash phase, a wash phase, a rinse phase, a drain phase, and/or a dry phase. The memory may represent random access memory such as DRAM, or read only memory such as ROM or FLASH. In some embodiments, the processor executes programming instructions stored in memory. The memory may be a separate component from the processor or may be included onboard within the processor. Alternatively, controller **160** may be constructed without using a microprocessor, e.g., using a combination of discrete analog or digital logic circuitry—such as switches, amplifiers, integrators, comparators, flip-flops, AND gates, and the like—to perform control functionality instead of relying upon software. It should be noted that controllers as disclosed herein are capable of and may be operable to perform any methods and associated method steps as disclosed herein.

[0041] Controller **160** may be positioned in a variety of locations throughout dishwasher **100**. In optional embodiments, controller **160** is located within a control panel area **162** of door **116** (e.g., as shown in FIG. **1** or FIG. **2**). Input/output ("I/O") signals may be routed between the control system and various operational components of dishwasher **100** along wiring harnesses that may be routed through the bottom of door **116**. Typically, the controller **160** includes or is operatively coupled to a user interface panel/controls **164** through which a user may select various operational features and modes and monitor progress of dishwasher **100**. In some embodiments, user interface **164** includes a general purpose I/O ("GPIO") device or functional block. In additional or alternative embodiments, user interface **164** includes input components, such as one or more of a variety of electrical, mechanical or electro-mechanical input devices including rotary dials, push buttons, and touch pads. In further additional or alternative embodiments, user interface **164** includes a display component, such as a digital or analog display device designed to provide operational feedback to a user. When assembled, user interface **164** may be in operative communication with the controller **160** via one or more signal lines or shared communication busses.

[0042] The dishwashing appliance **100** may also include a temperature sensor **186** in operative communication with the controller **160**. For example, in some embodiments, the temperature sensor **186** may be located in the sump **138** and may thereby be operable to measure a temperature of a liquid, e.g., wash liquid, within the sump **138**. For example, the "temperature sensor" may include any suitable type of temperature measuring system or device positioned at any suitable location for measuring the desired temperature. Thus, for example, temperature sensor **186** may be any suitable type of temperature sensor, such as a thermistor, a thermocouple, a resistance temperature detector, a semiconductor-based integrated circuit temperature sensor, etc. In addition, temperature sensor **186** may be positioned at any suitable location and may output a signal, such as a voltage, to the controller **160** that is proportional to and/or indicative of the temperature being measured. Although exemplary positioning of the temperature sensor **186** is described herein and depicted in FIG. **3**, it should be appreciated that dishwashing appliance **100** may include any other suitable number, type, and position of temperature, humidity, and/or other sensors as well as or instead of the exemplary temperature sensor **186** according to alternative embodiments.

[0043] In some embodiments, the dishwashing appliance **100** may include one or more trim pieces, e.g., cosmetic panels, which are provided to improve the visual appeal of the dishwashing appliance and thereby increase consumer interest in the dishwashing appliance **100**. Such trim pieces may include a toe kick **202** (see, e.g., FIGS. **1**, **2**, **5**, and **6**) located generally at a front bottom of the dishwashing appliance, e.g., below the door **116** and slightly behind the door **116**, such as behind the door **116** to provide a clearance for the bottom of the door **116** when rotating to the open position. The trim pieces may also or instead include a door panel **210** (see, e.g., FIG. **2**) which defines an outward surface, e.g., skin, of the door **116** including a front surface **212** of the

door **116**. The cosmetic panels, e.g., toe kick **202**, door panel **210** and front surface **212** thereof, may be any suitable texture and material for the desired cosmetic appearance, such as white enamel, matte black, stainless steel, etc., in various combinations of colors, glossy/matte, smooth or textured (e.g., pebbled, knurled, or other texture over some or all of the panel).

[0044] It should be appreciated that the invention is not limited to any particular style, model, or configuration of dishwasher **100**. The exemplary embodiments depicted in FIGS. **1** through **3** are for illustrative purposes only. For instance, different locations may be provided for control panel area **162** (e.g., on the front of the door **116** as illustrated in FIG. **1** or on the top of the door **116** as illustrated in FIG. **2**, or other locations as well), different configurations may be provided for rack assemblies **122**, **126**, different spray assemblies **134**, **142** and spray manifold configurations may be used, different sensors may be used, and other differences may be applied while remaining within the scope of the present disclosure.

[0045] In various embodiments, a dishwashing appliance according to embodiments of the present disclosure may include an acoustic barrier formed by one or more sound insulating elements, such as sound insulation, e.g., a mat or blanket (e.g., sound blanket) formed of woven or non-woven fiber material, and/or other acoustic insulation such as foam materials (e.g., polyurethane foam, silicon foam, etc.) and the like. For example, the acoustic barrier may include a fiber such as cotton fiber or other natural fiber material, a synthetic fiber such as polyester (PET), polypropylene (PP), and/or other similar fibers in various combinations such as blends of one or more natural and/or synthetic fibers. Also by way of example, the acoustic barrier material may be or may include various types of cellulose materials, such as cotton, e.g., a recycled cotton material (cotton shoddy), and other similar materials, and may be treated with flame retardant. Moreover, any of the foregoing materials (natural and/or synthetic, etc.) may be sourced from recycled materials.

[0046] FIG. **4** provides a schematic transverse sectional view, e.g., a schematic section taken in a plane perpendicular to the transverse direction T, such as a vertical-lateral plane defined by the vertical direction V and the lateral direction L, of a portion of an exemplary dishwashing appliance such as dishwashing appliance **100** described above. In some embodiments, the acoustic barrier may be or may include a sound blanket **300**, e.g., as illustrated in FIG. **4**. The sound blanket **300** may include a continuous sheet (such as one continuous layer across the entire sound blanket, or multiple continuous layers bonded together to form the continuous sheet) that extends continuously from a first edge **310** to a second edge **312** along a first dimension of the sound blanket **300**. The sound blanket **300** may be wrapped or draped along one or more sides of the tub **104** of the dishwashing appliance **100**, such as across or along two side of the tub **104**. For example, as illustrated in FIG. **4**, the sound blanket **300** may be draped over the top of the tub **104** and may extend downwards along the left and right sides of the tub **104**.

[0047] FIGS. **5** and **6** provide schematic illustrations of an exemplary acoustic barrier, e.g., a piece of sound insulation **302**, according to one or more embodiments of the present disclosure and an exemplary adjacent component which may be, e.g., a cosmetic panel such as toe kick **202**, for a dishwashing appliance such as dishwashing appliance **100**. The toe kick **202** may include one or more openings or apertures extending therethrough, e.g., along the transverse direction T, such as a slot (e.g., configured for receipt of and engagement with one or more fasteners), a cutout **204**, and the like. As illustrated, the acoustic barrier, e.g., sound insulation **302**, may be positioned within the dishwashing appliance **100**, e.g., outside of the tub **104**, such as below the tub **104** and/or in front of the tub **104**, and behind the toe kick **202**. Accordingly, the sound insulation **302** may be partially concealed behind the toe kick **202**, however, a portion of the sound insulation **302** may be visible through the apertures, e.g., cutout **204** as illustrated in FIGS. **5** and **6**.

[0048] In various embodiments, the dishwashing appliance **100** may include an acoustic barrier positioned within the dishwashing appliance, such as outside of the tub and within the dishwashing appliance. One or more pieces of the acoustic barrier may be at least partly visible from outside of the dishwashing appliance. For example, the acoustic barrier may include a sound blanket such as

sound blanket **300** and/or sound insulation such as sound insulation **302**. In some embodiments, the acoustic barrier may include the sound blanket **300** around the top, left, and right sides of the tub **104** and sound insulation **302** underneath and in front of the tub **104**. Such acoustic barrier may have a portion that is visible from outside of the dishwashing appliance, such as a portion of the sound blanket **300** may be visible on one or both sides (e.g., adjacent to the door **116**) depending on the fit between the dishwashing appliance and adjacent cabinetry. As another example, a portion of the sound insulation **302** may be visible below the door, such as through the toe kick **202** (as mentioned above) or between the toe kick **202** and the door **116**. The acoustic barrier, or at least one or more visible portions of the acoustic barrier, may thus be color matched with an adjacent external portion (or more than one adjacent external portion) of the dishwashing appliance, in order to provide a more uniform and pleasing visual appearance to the exterior of the dishwashing appliance and thereby increase customer attraction to the dishwashing appliance. Thus, the color matched insulation may improve the marketability and sales of the dishwashing appliance.

[0049] In some embodiments, the dishwashing appliance may include a cosmetic panel defining at least one external surface of the dishwashing appliance, such as the door panel **210** or toe kick **202**, and the at least one external surface may include a color, e.g., the toe kick **202** may be painted black, the door panel **210** may be formed of stainless steel to provide a natural silver-gray color, etc. In some embodiments, the acoustic barrier may be color matched with the adjacent external portion of the dishwashing appliance, such as where the external surface includes a color the acoustic barrier, or at least a portion of the acoustic barrier, may also include the color, e.g., the same color as the adjacent external surface(s).

[0050] In some embodiments, the adjacent external portion or surface of the dishwashing appliance, e.g., cosmetic panel, may include a door panel and/or a front surface of the door of the dishwashing appliance. In some embodiments, the adjacent external portion or surface of the dishwashing appliance, e.g., cosmetic panel, may include the toe kick. In such embodiments, the dishwashing appliance may further include a cutout defined in the toe kick, and the acoustic barrier, e.g., portion thereof, may be visible from outside of the dishwashing appliance through the cutout defined in the toe kick.

[0051] In some embodiments, the acoustic barrier may include a fiber material, e.g., the sound blanket and/or sound insulation may be formed of a fiber material, such as cellulose (e.g., cotton), PET, PP, and/or other fibers, in a woven or non-woven form, as described above. In such embodiments, the fiber material may be dyed to provide the color match, such as where the external surface includes a color, the fiber material may be dyed the color.

[0052] In some embodiments, the adjacent external portion of the dishwashing appliance, e.g., the trim piece or cosmetic panel, may be painted. In such embodiments, the acoustic barrier may be painted the same color (e.g., with the same paint) as the adjacent external portion, such as the acoustic barrier may include a painted external layer, whereby the acoustic barrier is color matched with the adjacent external portion of the dishwashing appliance by the painted external layer. In additional embodiments, the acoustic barrier may be painted to match the color of the adjacent external portion regardless of whether the adjacent external portion is itself painted, where the paint applied to the acoustic barrier (or portion thereof) matches whatever color the adjacent external portion may have, painted or otherwise.

[0053] In some embodiments, for example, as illustrated in FIG. **6**, the acoustic barrier may include a first material (such as sound insulation **302**) configured for acoustically insulating the dishwashing appliance, e.g., the tub and/or sump and mechanical components therein, and a layer of a second material **306** on at least a portion of the exterior of the acoustic barrier, such as on at least the visible portion, or may extend beyond the visible portion, such as over a majority or all of the exterior of the acoustic barrier. The second material **306** may be the same color as the adjacent external portion, e.g., cosmetic panel and external surface thereon, of the dishwashing appliance, whereby the acoustic barrier is color matched to the adjacent external portion by the second

material **306**. In some embodiments, the second material **306** may be the same material as the adjacent external portion and/or may have the same color treatment (painting, dyeing, brushing, galvanizing, etc.) as the adjacent external portion. In some embodiments, the second material **306** may be or may include any one or more of the materials described above for the acoustic barrier. In addition or in the alternative, the second material **306** may also or instead be or include a thermoplastic material (e.g., formed as a sheet) such as polyvinyl chloride (PVC), polypropylene (PP), and/or other similar materials. In some embodiments, the second material **306** may be or may include a thin dielectric or flame guard sheeting, as well as or instead of any of the foregoing examples.

[0054] This written description uses examples to disclose the invention, including the best mode, and also to enable any person skilled in the art to practice the invention, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the invention is defined by the claims, and may include other examples that occur to those skilled in the art. Such other examples are intended to be within the scope of the claims if they include structural elements that do not differ from the literal language of the claims, or if they include equivalent structural elements with insubstantial differences from the literal languages of the claims.

Claims

1. A dishwashing appliance, comprising: a tub defining a wash chamber therein for receipt of articles for washing; a sump positioned at a bottom of the wash chamber for receiving fluid from the wash chamber; a pump in fluid communication with the wash chamber and the sump; and an acoustic barrier positioned outside the tub, wherein a portion of the acoustic barrier is visible from outside of the dishwashing appliance, and wherein the acoustic barrier is color matched with an adjacent external portion of the dishwashing appliance.

2. The dishwashing appliance of claim 1, wherein the adjacent external portion of the dishwashing appliance comprises a front surface of a door of the dishwashing appliance.

3. The dishwashing appliance of claim 1, wherein the adjacent external portion of the dishwashing appliance comprises a toe kick.

4. The dishwashing appliance of claim 3, further comprising a cutout defined in the toe kick, wherein the portion of the acoustic barrier is visible from outside of the dishwashing appliance through the cutout defined in the toe kick.

5. The dishwashing appliance of claim 1, wherein the acoustic barrier comprises a sound blanket extending along at least one side of the tub.

6. The dishwashing appliance of claim 1, wherein the acoustic barrier comprises sound insulation formed of a fiber material.

7. The dishwashing appliance of claim 1, wherein the acoustic barrier comprises a painted external layer, whereby the acoustic barrier is color matched with the adjacent external portion of the dishwashing appliance by the painted external layer.

8. The dishwashing appliance of claim 1, wherein the acoustic barrier comprises a first material configured for acoustically insulating the dishwashing appliance and a layer of a second material on a portion of the exterior of the acoustic barrier, wherein a color of the layer of the second material matches the adjacent external portion of the dishwashing appliance.

9. The dishwashing appliance of claim 1, wherein the acoustic barrier comprises a dyed material, whereby the acoustic barrier is color matched with the adjacent external portion of the dishwashing appliance by the dyed material.

10. A dishwashing appliance comprising: a tub defining a wash chamber therein for receipt of articles for washing; a cosmetic panel defining at least one external surface of the dishwashing appliance, wherein the at least one external surface comprises a color; and an acoustic barrier

positioned within the dishwashing appliance, wherein a portion of the acoustic barrier is visible from outside of the dishwashing appliance, and wherein the portion of the acoustic barrier comprises the color.

11. The dishwashing appliance of claim 10, wherein the cosmetic panel is a door panel and the at least one external surface of the dishwashing appliance comprises a front surface of a door of the dishwashing appliance.

12. The dishwashing appliance of claim 10, wherein the cosmetic panel comprises a toe kick.

13. The dishwashing appliance of claim 12, further comprising a cutout defined in the toe kick, wherein the portion of the acoustic barrier is visible from outside of the dishwashing appliance through the cutout defined in the toe kick.

14. The dishwashing appliance of claim 10, wherein the acoustic barrier comprises a sound blanket extending along at least one side of the tub.

15. The dishwashing appliance of claim 10, wherein the acoustic barrier comprises sound insulation formed of a fiber material.

16. The dishwashing appliance of claim 10, wherein the acoustic barrier comprises a painted external layer, wherein the painted external layer comprises the color.

17. The dishwashing appliance of claim 10, wherein the acoustic barrier comprises a first material configured for acoustically insulating the dishwashing appliance and a layer of a second material on a portion of the exterior of the acoustic barrier, wherein the layer of the second material comprises the color.

18. The dishwashing appliance of claim 10, wherein the acoustic barrier comprises a dyed material, wherein the dyed material comprises the color.