

TABLE TOP

FIELD OF INVENTION

- 5 This invention relates to a laminated material for the use in manufacturing furniture. More particularly, the present invention relates to a laminated wooden table top.

BACKGROUND OF INVENTION

- 10 A table is a piece of furniture with a flat top, also known as a table top, supported by one or more legs, in which the table top provides a surface for working at, eating from, or on which to place an object. The table may be designed with various design elements. For example, the table top may be generally shaped in rectangular, square, round, semi-circular, or oval configuration. The table top is normally supported by four legs, while some may have three legs, a single pedestal, or any
15 structure providing sufficient support for the table top.

- Table top, apart from its shape, can be configured in various dimensions and materials for different purposes. Small table or table top may be used as a coffee table while large table or table top may be used as conference room table. Laminated wood is one of the most commonly used materials
20 for the manufacture of table top apart from solid wood, glass, marble, plastic polymer, or metal. Laminated wood is a type of engineered wood made from derivatives of wood such as strands, particles, fibres, chips, veneers, or boards of wood fixed together with adhesives, and optionally with a protective or decorative laminate layer on one or both sides.

- 25 Laminated wood is particularly preferred in the field as the cost of manufacturing is much lower than the others yet achieving promising durability, aesthetic appearance, and workability. As various designs can be printed on the decorative laminate layer, the aesthetic appearance of the table top can therefore be customisable. The protective or decorative laminate layer can be engineered with various properties such as fire resistance, water resistance, ultraviolet (UV)
30 resistance, and etc. and therefore rendering the table top with improved durability.

However, table top made from laminated wood naturally comprises two or more laminate joints which are susceptible to water or moisture attack especially in the event of liquid spilling or raining when being used outdoor. The conventional laminated wooden table top has a thick and outwardly inclined peripheral edge for directing liquid away from the top surface of the table top. Such configuration is aesthetically unpleasant and space-consuming when two or more tables are parked together, nevertheless a gap is unavoidably present between the tables. Moreover, the directed liquid will drop off at the edge of the inclination, where one of the laminate joint is, and water seepage may occur. Apart from that, most laminated wooden table top is only limited to indoor use as its durability under long exposure to sunlight, rain, and heat is still a problem to be solved.

SUMMARY OF INVENTION

This invention provides a solution to the problems.

The present invention discloses a table top made from a wood-based core bonded with a top decorative layer and a bottom backing layer, comprising a peripheral groove defining a dripping edge extending around the underside of the table top; and an upwardly extending portion leading from the peripheral groove to the bottom periphery of the table top such that the peripheral edge of the table top is thinner than the centre portion of the table top, wherein the upwardly extending portion directs water from the table top to the dripping edge.

The table top may further comprises a downwardly extending portion leading from the peripheral groove towards the centre portion of the table top which preferably having a generally uniform thickness.

Preferably, the vertices at the top periphery of the table top, at the peripheral groove, and between the downwardly extending portion and the centre portion of the table top are curved to avoid sharp vertices which can form a lamination joint that is susceptible to water or moisture penetration.

The peripheral edge may be configured as a generally vertical surface such that negligible gap is present between two table tops when two or more tables are parked together.

Preferably, the top decorative layer wraps around the top periphery of the table top to cover the peripheral edge to minimise joint formation, with a scratch resistant resin coating covering over the top decorative layer to resist abrasion. More preferably, the top decorative layer is printed with
5 a UV resistant pigment to resist colour fading under intense sunlight.

The top decorative layer and the bottom backing layer are made from a high tension counter balancing material that cooperates with a counter balancing adhesive to produce a counteractive force that can resist stress acted on the table top during thermal expansion and contraction caused
10 by drastic weather changes.

The preferred embodiment of the invention consists of novel features and a combination of parts hereinafter fully described and illustrated in the accompanying drawings and particularly pointed out in the appended claims; it being understood that various changes in the details may be effected
15 by those skilled in the arts but without departing from the scope of the invention or sacrificing any of the advantages of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

20 For the purpose of facilitating an understanding of the invention, there is illustrated in the accompanying drawing the preferred embodiments from an inspection of which when considered in connection with the following description, the invention, its construction and operation and many of its advantages would be readily understood and appreciated.

25 FIGURE 1 is a cross sectional view of a table top.

FIGURE 2 is an enlarged cross sectional view of the table top of FIGURE 1.

FIGURE 3 is a top view of a rectangular table top.

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FIGURE 4 is a bottom view of the rectangular table top.

FIGURE 5 is a bottom perspective view of the rectangular table top.

FIGURE 6 is an enlarged bottom perspective view of the rectangular table top of FIGURE 5.

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FIGURE 7 is a top view of a round table top.

FIGURE 8 is a bottom view of the round table top.

10 FIGURE 9 is a bottom perspective view of the round table top.

FIGURE 10 is an enlarged bottom perspective view of the round table top of FIGURE 9.

DETAILED DESCRIPTION OF THE INVENTION

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Hereinafter, the invention shall be described according to the preferred embodiments of the present invention and by referring to the accompanying description and drawings. However, it is to be understood that limiting the description to the preferred embodiments of the invention and to the drawings is merely to facilitate discussion of the present invention and it is envisioned that those skilled in the art may devise various modifications without departing from the scope of the appended claim.

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The invention discloses a table top made from a wood-based core (not shown) bonded with a top decorative layer (not shown) and a bottom backing layer (not shown), comprising a peripheral groove (4) defining a dripping edge (8) extending around the underside of the table top; and an upwardly extending portion (5) leading from the peripheral groove (4) to the bottom periphery (7A) of the table top such that the peripheral edge (3) of the table top is thinner than the centre

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portion (1) of the table top, wherein the upwardly extending portion (5) directs water from the table top to the dripping edge (8).

The term “table top” hereinafter refers to a surface to be supported by one or more legs or any supporting structure, so as to form a table as a whole. With reference to the drawings, the table top is described as a rectangular-shaped article and a round-shaped article, for ease of illustration. This shall not exclude other possible shapes and configurations. Generally, a table top comprises a centre portion (1), a side portion (2), and a peripheral edge (3) having a top periphery (7B) and a bottom periphery (7A), as shown in FIGURE 1 and 2.

According to the preferred embodiment of the invention, the table top is made from a laminated wood-based material. Particularly, the table top is made from a wood-based core bonded together with a top decorative layer and a bottom backing layer. The wood-based core may include solid wood or derivatives of wood such as strands, particles, fibres, chips, veneers, or boards of wood. The wood-based core are bonded together with the top and bottom layers with an adhesive through a press-moulding process. For example, the aforementioned materials are moulded and compressed, and cured under high pressure, density, and temperature to form the table top, whereby the pressure and temperature shall not be less than 30 kg/cm², 750 kg/m³, and 120 °C respectively.

In conventional practice, the top decorative layer and bottom backing layer are laminated to the wood-based core in separate operations. However, it is preferable to perform the moulding, compression, and lamination in a single operation. This can enhance and ensure an inseparable bonding between the wood-base core and the top and bottom layers. With such, the table top is well-equipped with weather resistant property, especially towards sunshine and rain, and thus having an improved durability by minimising shedding or peeling.

As described by the preferred embodiment of the invention, the table top comprises a peripheral groove (4) extending around the underside of the table top. The term “peripheral groove” does not limit the position of the groove (4) to near the bottom periphery (7A) of the table top, but may be positioned at any location of the underside of the table top, such that the groove (4) generally

extends according to the scaled outline of the bottom periphery (7A) and on the underside of the table top. The cross-section of the groove (4) can be in any configuration such as rectangular, triangular, or semi-circular. Technically, semi-circular is preferred for lower cost and a simpler production. Preferably, the vertices (9) of the groove (4) are curved to prevent joint formation, as
5 an access point to water or moisture attack, which is unavoidable at the presence of a sharp edge.

An upwardly extending portion (5) leading from the peripheral groove (4) to the bottom periphery (7A) of the table top is provided, such that the peripheral edge (3) of the table top is thinner than the centre portion (1) of the table top. This creates an optical illusion that in overall the table top
10 looks thinner despite having a similar thickness at its centre portion (1). It is necessary that the centre portion (1) has a reasonable thickness required for a strong fastening or fixing of the legs or supporting structure to the table top. Inherent from the presence of groove (4), the density of the side portion (2) of the table top is higher than the centre portion (1) of the table top. Hence, water or moisture penetration can be retarded. In the event of liquid spilling or raining, liquid can be
15 directed towards the groove (4) via the upwardly extending portion (5) which defines a dripping edge (8). Retention of water droplets at the bottom periphery (7) of the table top can be avoided.

In accordance to the preferred embodiment of the invention, the table top further comprises a downwardly extending portion (6) leading from the peripheral groove (4) towards the centre
20 portion (1) of the table top. More preferably, the downwardly extending portion (6) further leads to a generally uniformly thick centre portion (1) of the table top. With the combination of the two-step tapering portions, the angle of inclination of each tapering portion can be smaller. The density of the side portion (2) can be further increased as well. Preferably, the intersection (9) between the downwardly extending portion (6) and the centre portion (1) of the table top is curved to avoid
25 joint formation.

The technical difficulty in the existing press-moulding process could be overcome with the reduced thickness at the peripheral edge (3). Hence, the peripheral edge (3) can be configured into a generally vertical surface such that negligible gap is present in between two tables parked together.
30 This is particularly advantageous when there is limited space for two or more tables to be parked together to form a larger table, apart from its improved aesthetic appearance.

Preferably, the top decorative layer wraps around the top periphery (7B) of the table top to cover the surface of the peripheral edge (3). More preferably, the wrapping is formed simultaneously during the press-moulding process to minimise joint formation. It is important to have a seamless or almost seamless laminated surface, thereby improving the water resistant property of the table top. The top periphery is preferably curved to further prevent joint formation. The top decorative layer is preferably printed with a UV resistant pigment that can prevent colour fading under intense sunlight. Further, the top decorative layer is preferably covered with a scratch resistant resin coating for enhance protection towards abrasion.

As depicted in the preferred embodiment of the invention, the top decorative layer and the bottom backing layer are made from a high tension counter balancing material that cooperates with a counter balancing adhesive to produce a counteractive force that can resist stress acted on the table top during thermal expansion and contraction caused by drastic weather changes. Hence, the table top can remain its flat surface and in shape.

The present table top is particularly useful for outdoor use with its excellence properties such as weather resistant, stain resistant, damp-proof, scratch resistant, heat resistant, and resistance to cigarette burns. Only minimum maintenance is required. The top decorative layer is furnished various finishing which render the table top with high definition clarity outlook. As a point of reference, the table top can withstand in boiling water for approximately three hours and in ice water for approximately one hour, with less than 12% thickness swelling.

Although the invention has been described and illustrated in detail, it is to be understood that the same is by the way of illustration and example, and is not to be taken by way of limitation. The spirit and scope of the present invention are to be limited only by the terms of the appended claims.

CLAIMS

1. A table top for outdoor use, made from a compression moulded wood-based core bonded with a top decorative layer and a bottom backing layer, wherein the top decorative layer and the bottom backing layer are formed of a high tension counter balancing material, comprising
 - a peripheral groove (4) defining a dripping edge (8) extending around the underside of the table top such that the presence of the groove (4) results in a side portion (2) of the table top having higher density than the centre portion (1) of the table top; and
 - an upwardly extending portion (5) leading from the peripheral groove (4) to the bottom periphery (7A) of the table top such that the peripheral edge (3) of the table top is thinner than the centre portion (1) of the table top,
 wherein the upwardly extending portion (5) directs water from the table top to the dripping edge (8).
2. A table top according to claim 1 further comprising a downwardly extending portion (5) leading from the peripheral groove (4) towards the centre portion (1) of the table top.
3. A table top according to claim 2, wherein the thickness of the centre portion (1) of the table top is generally uniform.
4. A table top according to any of the preceding claims, wherein the top periphery (7B) of the table top and the vertices (9) of the peripheral groove (4) are curved.
5. A table top according to any of claims 2-4, wherein intersection (9) between the downwardly extending portion (5) and the centre portion (1) of the table top is curved.
6. A table top according to any of the preceding claims, wherein the peripheral edge (3) is generally vertical.

7. A table top according to any of the preceding claims, wherein the top decorative layer wraps around the top periphery (7B) of the table top to cover the peripheral edge (3).
8. A table top according to any of the preceding claims further comprising a scratch resistant resin coating over the top decorative layer.
9. A table top according to any of the preceding claims, wherein the top decorative layer is printed with a UV resistant pigment.

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