US 20250261700A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2025/0261700 A1**

CAMPITELLI et al. (43) **Pub. Date: Aug. 21, 2025**

(54) **PROFILE SELECTION BASED ON PUFF BEHAVIOUR**

(71) Applicant: **Philip Morris Products S.A.**, Neuchatel (CH)

(72) Inventors: **Gennaro CAMPITELLI**, Neuchatel (CH); **Bruno Christian Joseph CHASSOT**, Auvernier (CH)

(73) Assignee: **Philip Morris Products S.A.**, Neuchatel (CH)

(21) Appl. No.: **18/856,441**

(22) PCT Filed: **May 15, 2023**

(86) PCT No.: **PCT/EP2023/062972**

§ 371 (c)(1),
(2) Date: **Oct. 11, 2024**

(30) **Foreign Application Priority Data**

May 16, 2022 (EP) 22173638.2

Publication Classification

(51) **Int. Cl.**

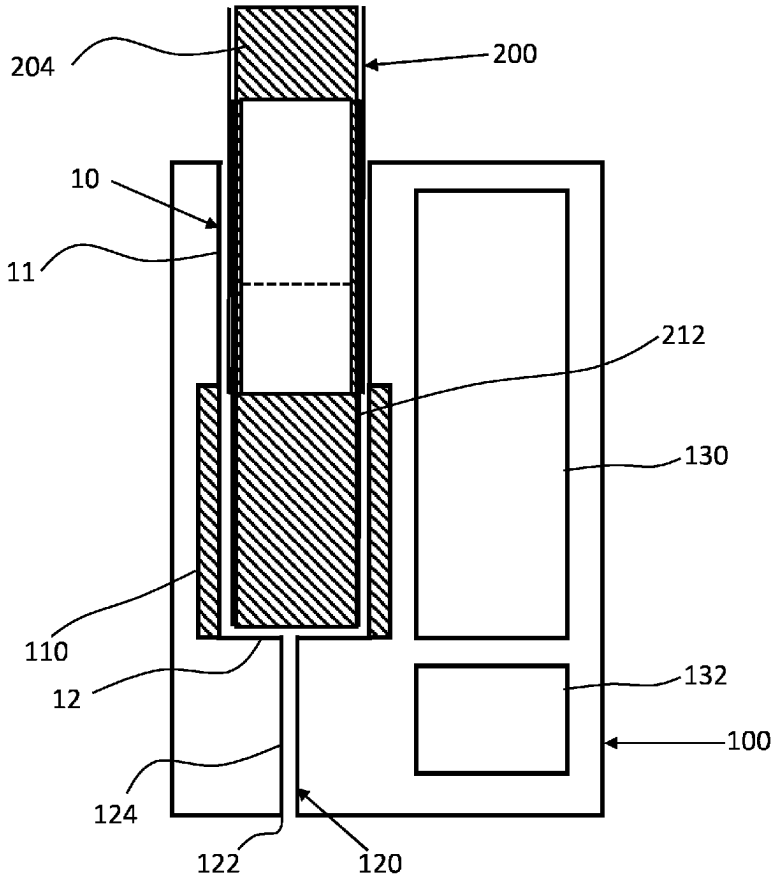
A24F 40/57	(2020.01)
A24F 40/20	(2020.01)
A24F 40/51	(2020.01)
A24F 40/53	(2020.01)

(52) **U.S. Cl.**

CPC ***A24F 40/57*** (2020.01); ***A24F 40/20*** (2020.01); ***A24F 40/51*** (2020.01); ***A24F 40/53*** (2020.01)

(57) **ABSTRACT**

An aerosol-generating device is provided for generating an aerosol from an aerosol-generating article including an aerosol-forming substrate, the device being configured to generate the aerosol during a usage session including a usage session start, end, and first and second periods between the start and the end, the device including: a heater assembly to heat the substrate; a power supply to supply power to the assembly; and control circuitry including a memory in which predetermined different heating profiles are stored, the circuitry to determine a user puff behaviour during the first period, to use the determined behaviour to select one of the predetermined profiles, and to control the power during the second period according to the selected profile, the usage session end corresponding to an end of the selected profile, the first period start corresponding to the usage session start and the second period end corresponding to the usage session end.



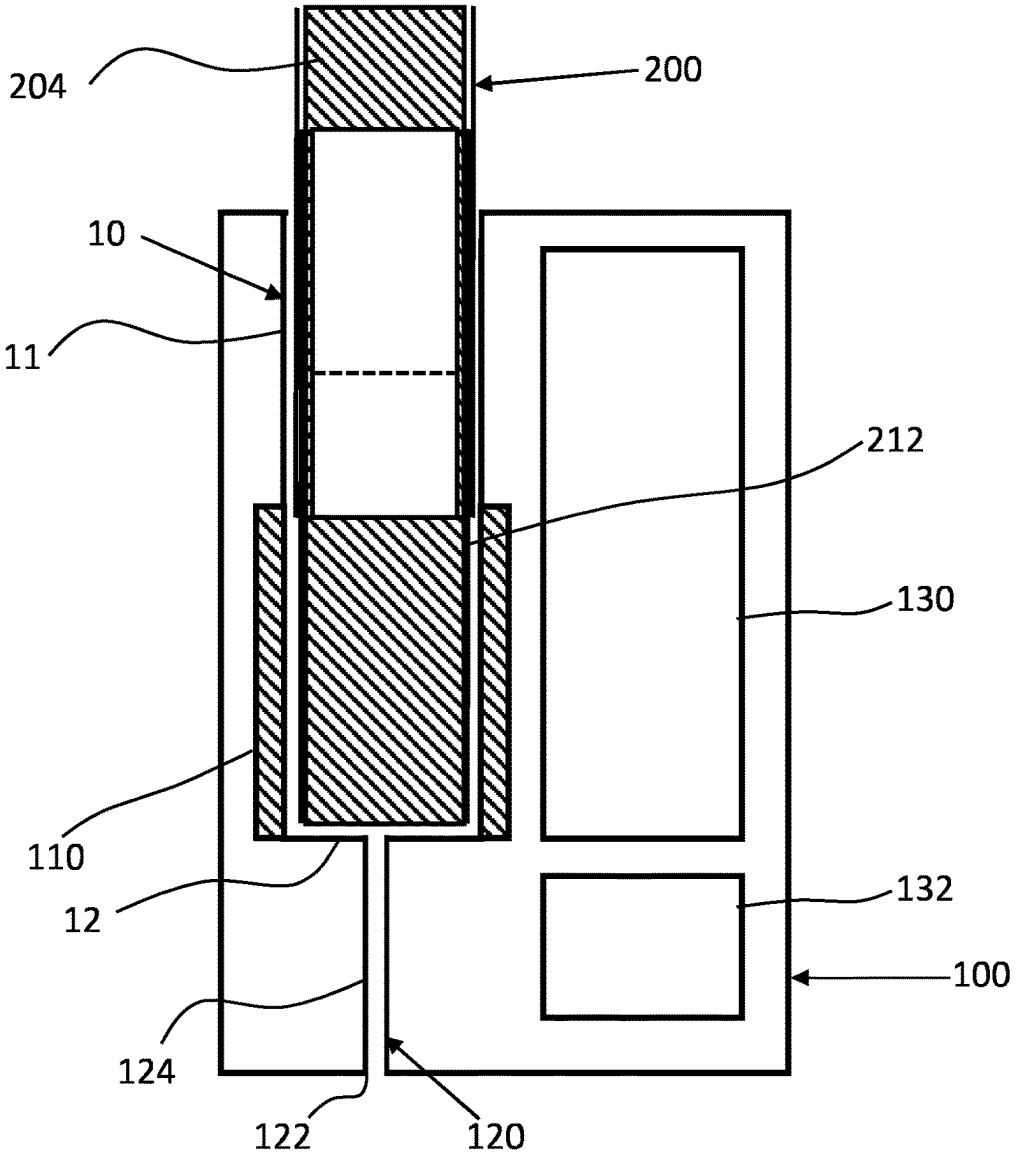


Figure 1

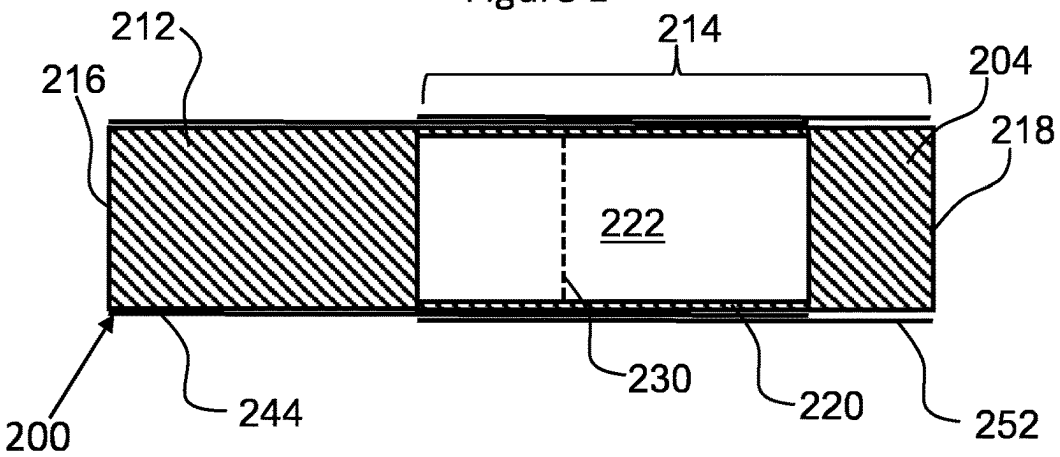


Figure 2

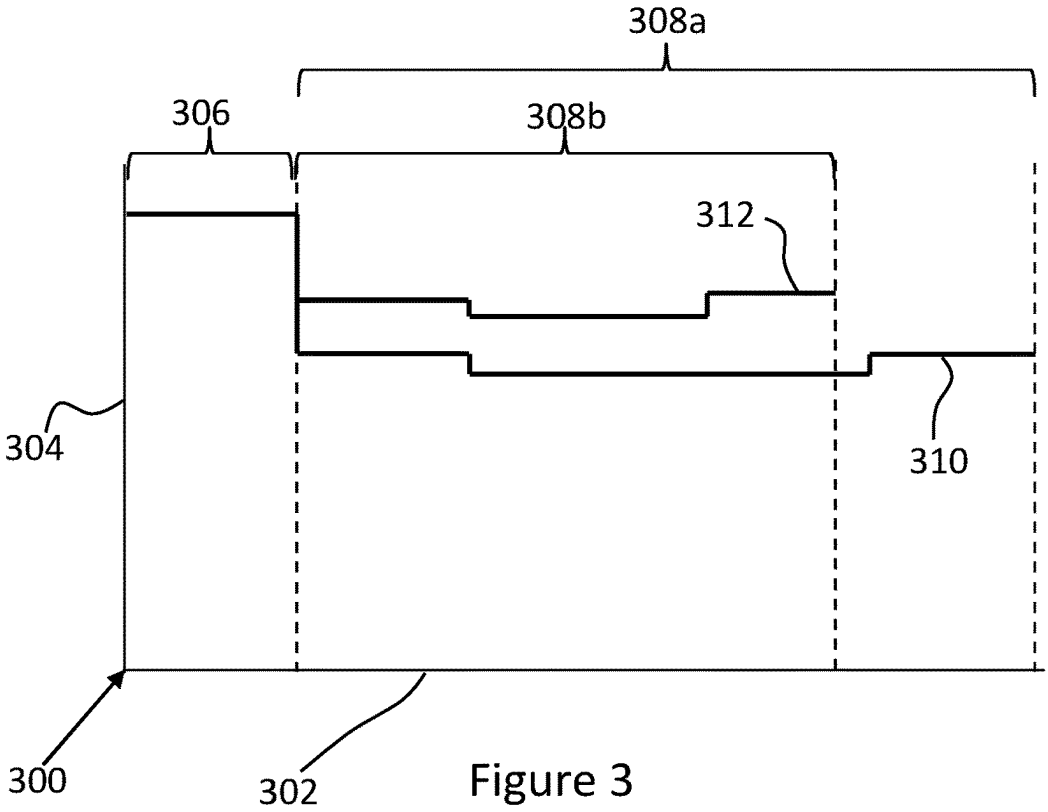


Figure 3

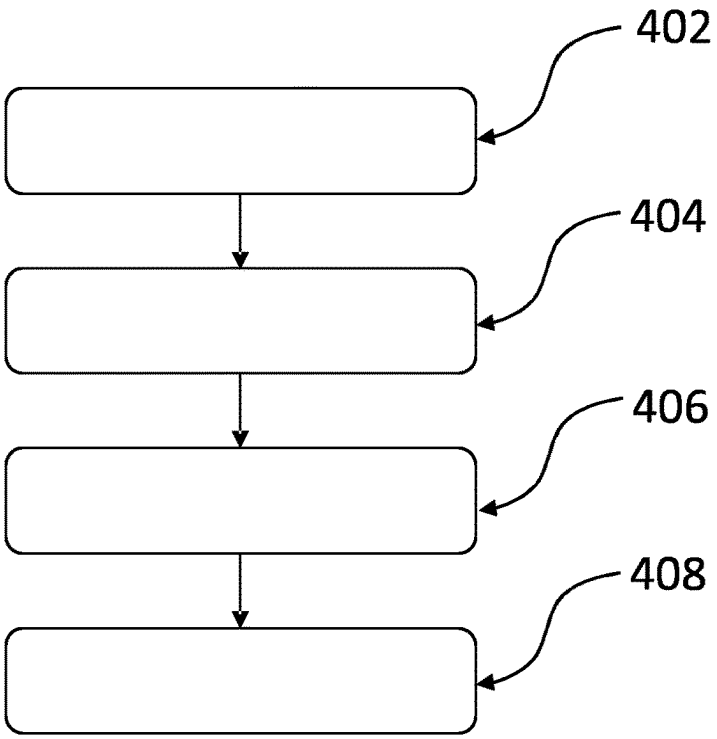


Figure 4

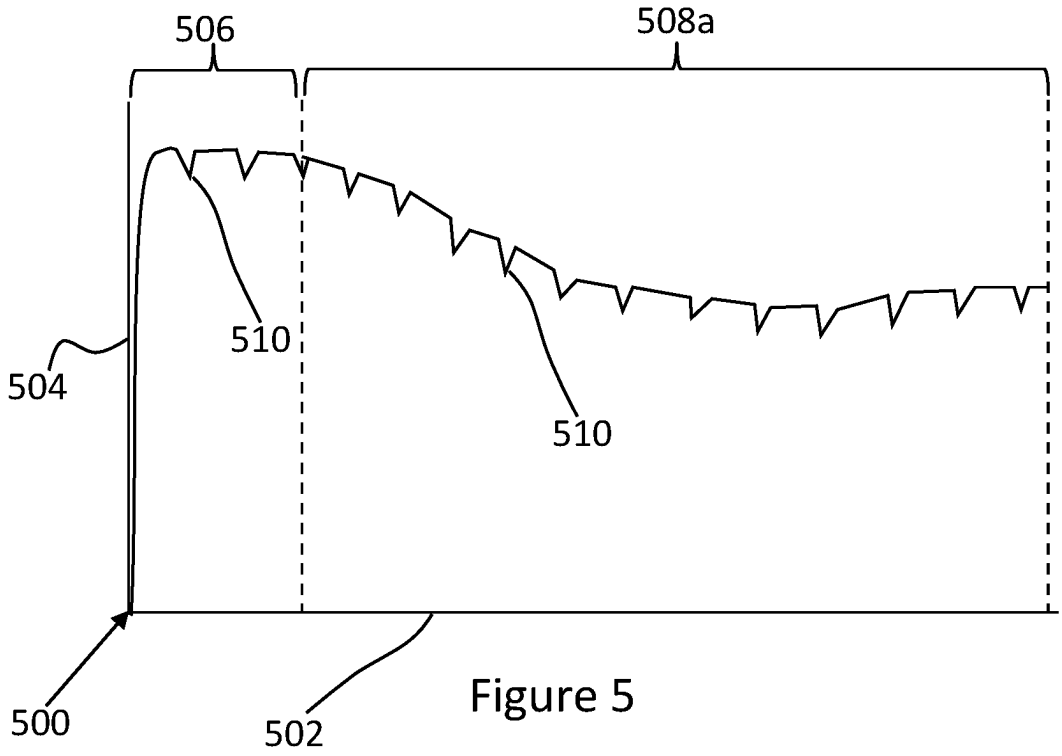


Figure 5

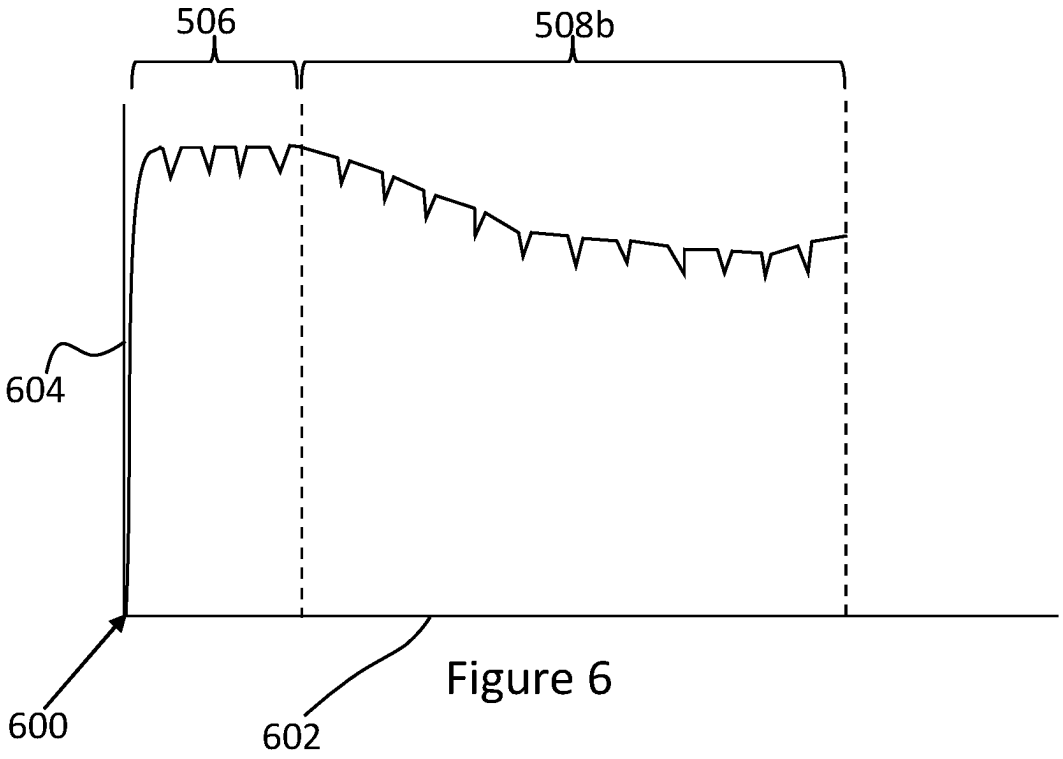


Figure 6

PROFILE SELECTION BASED ON PUFF BEHAVIOUR

[0001] The present disclosure relates to an aerosol-generating device, an aerosol-generating system comprising the aerosol-generating device and a method of controlling power supplied to a heater assembly of an aerosol-generating system.

[0002] Aerosol-generating systems configured to generate an aerosol from an aerosol-forming substrate, such as a tobacco-containing substrate, are known in the art. Many known aerosol-generating systems generate aerosol by the application of heat to the substrate by a heater assembly. In electrically operated aerosol-generating systems, heat is applied to the substrate when the heater assembly is supplied with power from a power supply. The generated aerosol can then be inhaled by a user of the system as part of a user puff. A usage session of the aerosol-generating system typically comprises a plurality of user puffs.

[0003] Many aerosol-generating systems comprise a controller configured to control the supply of power to the heater assembly according to a predetermined heating profile. The predetermined heating profile is typically optimized such that a consistent aerosol is generated throughout a usage session assuming a specific puff behaviour is followed during that usage session. A user puff behaviour may be characterised, for example, by a puff frequency throughout the usage session or an interval between subsequent puffs throughout the usage session.

[0004] If the specific puff behaviour for which the predetermined heating profile is optimized is not followed by the user, then the aerosol generated throughout the usage session may be inconsistent. For example, the quantity of the aerosol or the chemical composition of the aerosol may differ significantly from user puff to user puff.

[0005] In one particular example, it has been found a first subset of the users of aerosol-generating systems prefer a first puff behaviour comprising a puff interval of about 20 seconds and a second subset of users of aerosol-generating systems prefer a second puff behaviour comprising a longer puff interval of about 40 seconds. If the second puff behaviour is followed during a usage session but the predetermined heating profile implemented by an aerosol-generating system is optimized for the first puff behaviour, then the aerosol that is generated throughout the usage session may be inconsistent.

[0006] The longer puff interval of the second subset of users is a puff behaviour that is similar to a typical behaviour of a smoker of Kretek conventional cigarettes.

[0007] It would be desirable to provide an aerosol-generating system in which aerosol generation is consistent despite the puff behaviour followed during a usage session. It would be desirable to provide an aerosol-generating device or system that provides consistent aerosol generation for more than one user puff behaviour. It would be desirable to provide an aerosol-generating system that is optimizable for users who are previously smokers of either or both of Kretek and non-Kretek conventional cigarettes.

[0008] In a first aspect there is provided an aerosol-generating device. The aerosol-generating device may be for generating an aerosol from an aerosol-generating article. The aerosol-generating article may comprise an aerosol-forming substrate. The aerosol-generating device may be configured to generate the aerosol during a usage session. The usage session may comprise a usage session start. The usage session may comprise a usage session end. The usage session may comprise a first period. The usage session may comprise a second period. The first period may be between the usage session start and the usage session end. The second period may be between the usage session start and the usage session end. Preferably, the second period is after the first period. Preferably, the first and second periods are sequential.

[0009] The aerosol-generating device may comprise a heater assembly. The heater assembly may be for heating an aerosol-forming substrate. The aerosol-generating device may comprise a power supply. The power supply may be configured to supply power to the heater assembly. The aerosol-generating device may comprise control circuitry. The control circuitry may comprise a memory. A plurality of predetermined heating profiles may be stored in the memory of the control circuitry. The plurality of predetermined heating profiles may be different to one another. For example, the plurality of predetermined heating profiles may comprise a first predetermined heating profile and a second predetermined heating profile. Preferably, the duration of the first predetermined heating profile may be longer than the second predetermined heating profile.

[0010] The control circuitry may be configured to determine a user puff behaviour during the first period of the usage session. The control circuitry may be configured to use the determined user puff behaviour to select one of the plurality of predetermined heating profiles. The control circuitry may be configured to control the supply of power to the heater assembly during the second period according to the selected predetermined heating profile.

[0011] The control circuitry being configured to use the determined user puff behaviour of the first period to select one of the plurality of predetermined heating profiles advantageously means that a predetermined heating profile that is optimized for the determined puff behaviour during the first period can be selected and applied during the second period. In this way, a consistent aerosol may be generated throughout the second period of the usage session for different puff behaviours. It has been found that users of an aerosol-generating system tend to maintain a consistent puff behaviour throughout a usage session and so it may be assumed that the determined puff behaviour of the first period will be maintained throughout the second period of the usage session.

[0012] Using the determined puff behaviour to select the predetermined heating profile may advantageously allow a user to follow one of a variety of puff behaviours during a usage session using the same aerosol-generating device and the same aerosol-forming substrate. The aerosol-generating device may advantageously automatically select an appropriate predetermined heating profile according to the detected puff behaviour.

[0013] Preferably, the usage session comprises a plurality of puffs. Even more preferably, a usage session comprises more than four user puffs, even more preferably more than five user puffs, even more preferably more than six user puffs, even more preferably more than seven user puffs, even more preferably more than eight user puffs, even more preferably more than nine user puffs, even more preferably more than ten user puffs, even more preferably more than eleven user puffs, even more preferably more than twelve user puffs.

[0014] The first period of the usage session may comprise one or more user puffs. Preferably, the first period of the usage session comprises a plurality of user puffs.

[0015] The control circuitry may be configured to determine the user puff behaviour based on one or more user puffs of the first period of the usage session. Preferably, the control circuitry is configured to assess the determined user puff behaviour over a plurality of user puffs during the first period.

[0016] The control circuitry may be configured to determine a mean average puff behaviour for a plurality of user puffs during the first period. It has been found that, while a user's puff behaviour may vary puff to puff, the puff behaviour may be substantially consistent throughout a usage session for a plurality of puffs. As such, a mean average of the puff behaviour may typically be substantially uniform throughout a usage session and so a user's puff behaviour may be effectively characterised based on an average puff behaviour during the first period. A mean average puff behaviour may reduce the effect of variance in the puff behaviour on a puff to puff basis.

[0017] The determined user puff behaviour during the first period may relate to at least one of: a puff frequency, a puff interval, a puff strength, a puff length, a number of puffs taken, a quantity of aerosol generated per puff or a quantity of aerosol generated during the first period.

[0018] Preferably, the determined user puff behaviour during the first period is at least one of a mean average puff frequency, a mean average puff interval, a mean average puff strength, a mean average puff length or a mean average quantity of aerosol generated per puff.

[0019] The first period may comprise a first period start and a first period end. The first period end may be at least 20 seconds after the first period start, preferably the first period end may be at least 30 seconds after the first period start, preferably the first period end may be at least 40 seconds after the first period start, preferably the first period end may be at least 50 seconds after the first period start, preferably the first period end may be at least 75 seconds after the first period start, preferably the first period end may be at least 90 seconds after the first period start. The first period start may be not more than 150 seconds, preferably not more than 140 seconds, preferably not more than 130 seconds, preferably not more than 120 seconds, preferably not more than 110 seconds from the first period start.

[0020] As above, the first period may comprise one or more puffs, preferably a plurality of puffs. So, the duration between the first period start and the first period end may be long enough to comprise one or more puffs, preferably long enough to comprise a plurality of puffs. Of course, the number of puffs in a given time may depend on the puff behaviour followed by a user of the device. In any case, at least 20 seconds between the first period start and first period end may be more than enough time to comprise a single puff. The longer the first period, the more puffs that are likely to be contained within the first period. So, the longer values disclosed above for the time between the first period end and the first period start may be preferable when the determined user puff behaviour is based on a plurality of user puffs and, particularly, when the determined user puff behaviour is a mean average user puff behaviour.

[0021] The first period end may be a predetermined time after the first period start. The predetermined time may be at least 20 seconds, preferably at least 30 seconds, preferably at least 40, preferably at least 50 seconds, preferably at least 75 seconds, preferably at least 90 seconds. The predetermined time may be not more than 150 seconds, preferably not more than 140 seconds, preferably not more than 130 seconds, preferably not more than 120 seconds, preferably not more than 110 seconds.

[0022] The control circuitry may be configured to monitor the number of puffs that have occurred during the first period. The control circuitry may be configured such that the first period end is when the control circuitry has detected that a predetermined number of puffs have occurred during the first period. The predetermined number of user puffs during the first period may be at least 2 puffs, preferably at least 3 puffs. An advantage of the first period end being dependent on when a predetermined number of puffs have been taken is that the first period may be dynamic. If a user is following a puff behaviour in which the interval between puffs is low, the first period may be short meaning and the predetermined heating profile for the second period may advantageously be selected and followed earlier in the usage session. However, if a user is following a slow puff haviour with a longer interval between puffs, a dynamic first period may advantageously extend to be long enough to achieve a reliable measure of the user puff behaviour.

[0023] Preferably, the first period start corresponds to the usage session start. In other words, the first period of the usage session may be an initial period of the usage session.

[0024] The second period of the usage session may comprise a plurality of user puffs. The second period of the usage session may preferably comprise more than three, preferably more than five, preferably more than seven, preferably more than eight, preferably more than nine user puffs. Preferably, the controller is configured to control the supply of power to the heater assembly during each of the puffs of the second period according to the selected predetermined heating profile.

[0025] The second period may comprise a second period start and a second period end.

[0026] The second period start may correspond to the first period end. In other words, the second period may immediately follow the first period such that the first and second period are sequential to one another.

[0027] The second period end may correspond to the usage session end. In such cases, the control circuitry may be configured to control the supply of power to the heater assembly according to the predetermined heating profile that is selected using the determined user puff behaviour of the first period until the end of the usage session.

[0028] The length of the usage session may depend on the length of selected predetermined heating profile. The usage session end may correspond to an end of the selected predetermined heating profile.

[0029] It has been found that users typically perform a similar number of puffs regardless of other features of the puff behaviour such as puff interval and puff frequency. So, a user following a first user puff behaviour having, for example, a longer interval or lower puff frequency, may perform the desired number of puffs in a longer time than user following the second user puff behaviour. As such, it may be advantageous for the usage session length to change according to the determined user puff behaviour and selected predetermined heating profile to correspond to the changing time in which a user performs the desired number of puffs.

[0030] The aerosol-generating device may comprise a detector. The detector may be configured to detect a parameter indicative of a user puff.

[0031] The control circuitry may be configured to detect a user puff based on signals received from the detector. The control circuitry may be configured to determine the user puff behaviour based on signals received from the detector. For example, the control circuitry may be configured to detect a puff frequency for the first period, or a puff interval, by measuring the time between subsequent detected user puffs. As another example, the control circuitry may be configured to detect the length of detected user puffs or the strength of detected user puffs. When the user puff behaviour is a mean average user puff behaviour, the control circuitry may be configured to detect a plurality of user puffs and determine a mean average user puff behaviour for the detected plurality of user puffs.

[0032] The aerosol-generating device may comprise an airflow channel. The airflow channel may extend from an air inlet at least partially defined by a housing the of the aerosol-generating device. The airflow channel may extend to an air outlet at least partially defined by a housing the aerosol-generating device. The parameter indicative of a user puff that the detector is configured to detect may be a parameter of air in the airflow channel.

[0033] The parameter the detector may be configured to detect may be at least one of flow, pressure, temperature or aerosol quantity.

[0034] The heater assembly may comprise a heating element. The heating element may be a resistive heating element. The heating element may comprise an electrically resistive material. Suitable electrically resistive materials include but are not limited to: semiconductors such as doped ceramics, electrically "conductive" ceramics (such as, for example, molybdenum disilicide), carbon, graphite, metals, metal alloys and composition materials made of ceramic material and a metallic material. Such composite materials may comprise doped and undoped ceramics.

[0035] The aerosol-generating device may comprise a power supply which may be configured to supply current to the resistive heating element.

[0036] The heating element may comprise a substrate layer of flexible material. The substrate layer may comprise a thermally stable polymer, preferably polyimide.

[0037] The heating element may be arranged on the substrate layer. The heating element may be a resistive heating element. The heating element may contain wire connections configured for being connected with a controller of the aerosol-generating device. The heating element may comprise heating tracks arranged on the substrate layer. The heating tracks may comprise a thermally conductive material, preferably a metal such as stainless steel. The heating tracks may be electrically connected to said wire connections.

[0038] The heating element may take other forms. For example, a metallic grid or grids, a flexible printed circuit board, a molded interconnect device (MID), ceramic heater, flexible carbon fibre heater or may be formed using a coating technique such as plasma vapour deposition, on a suitably shaped substrate.

[0039] In another example, the heater assembly may comprise one or more inductor coils and the heating element may comprise one or more susceptor elements.

[0040] The one or more susceptor elements may be configured to be heatable by an alternating magnetic field generated by the inductor coil or coils. In use, electrical power supplied to an inductor coil (for example, by the above-mentioned power source of the device) results in the inductor coil inducing eddy currents in a susceptor element. These eddy currents, in turn, result in the susceptor element generating heat. The electrical power is supplied to the inductor coil as an alternating magnetic field. The alternating current may have any suitable frequency. The alternating current may preferably be a high frequency alternating current. The alternating current may have a frequency between 100 kilohertz (kHz) and 30 megahertz (MHz). When an aerosol-forming substrate is received in the chamber, the heat generated by the susceptor element may heat the aerosol-forming substrate to a temperature sufficient to cause aerosol to evolve from the substrate. The susceptor element is formed of a material having an ability to absorb electromagnetic energy and convert it into heat. By way of example and without limitation, the susceptor element may be formed of a ferromagnetic material, such as a steel.

[0041] The detector may comprise a sensor. The sensor may comprise a pressure sensor, a flow sensor, a temperature sensor or an aerosol quantity sensor.

[0042] When the heater assembly comprises a heating element, the heating element may form the detector. In such cases, the control circuitry may be configured to detect a user puff based on changes in the temperature of the heating element during the usage session. For example, the control circuitry may be configured to detect a user puff based on a drop in the temperature of the heating element. The control circuitry may be configured to detect a length or a strength of a user puff based on at least one of a length or a magnitude of the drop in the temperature of the heating element.

[0043] The control circuitry may be configured to monitor the electrical resistance of the heating element. The electrical resistance of the heating element may preferably be temperature dependent. So, the control circuitry may be configured to determine changes in the temperature of the heating element based on changes in the electrical resistance of the heating element. In particular, the control circuitry may be configured to detect a user puff based on a drop in the resistance of the heater element. The control circuitry may be configured to detect the length or strength of a user puff based on at least one of a length or a magnitude of a drop in the resistance of the heater element.

[0044] The plurality of predetermined heating profiles may comprise a first predetermined heating profile. The plurality of predetermined heating profiles may comprise a second predetermined heating profile.

[0045] The control circuitry may be configured to select the first predetermined heating profile if a first user puff behaviour is detected. The control circuitry may be configured to select the second predetermined heating profile if a second user puff behaviour is detected. The first user puff behaviour may be different to the second user puff behaviour.

[0046] The control circuitry may be configured to select the first predetermined profile or the second predetermined profile based on a comparison of the detected user puff behaviour with a predetermined threshold. The predetermined threshold may be stored in a memory of the control circuitry. The control circuitry may advantageously use the

predetermined threshold to distinguish between the first user puff behaviour and the second user puff behaviour.

[0047] In one example, the detected user puff behaviour may be a puff interval during the first period, preferably a mean average puff interval for the first period. The control circuitry may be configured to select the first predetermined profile if the puff interval is greater than a predetermined threshold for the puff interval. The control circuitry may be configured to select the second predetermined profile if the puff interval is less than or equal to the predetermined threshold for the puff interval.

[0048] In another example, the detected user puff behaviour may be a puff frequency during the first period, preferably a mean average puff frequency for the first period. The control circuitry may be configured to select the first predetermined profile if the puff frequency is less than or equal to a predetermined threshold for the puff frequency. The control circuitry may be configured to select the second predetermined profile if the puff frequency is greater than the predetermined threshold for the puff interval.

[0049] The control circuitry may be configured to determine the puff frequency by measuring the number of puffs in a period and dividing by the length of that period. The period may be the first period.

[0050] The first predetermined heating profile may be optimized for longer interval between puffs than the second predetermined heating profile.

[0051] Preferably, the first predetermined heating profile may have a longer duration than the second predetermined heating profile. This may be particularly advantageous because users having a longer interval between puffs, or a lower puff frequency, typically prefer to take the same number of puffs during a usage session as users having a relatively shorter interval between puffs. To accommodate for the longer interval, the duration of a predetermined heating profile optimized for that puff behaviour may be longer. In particular, the first predetermined heating profile may advantageously be longer to accommodate the longer interval between puffs.

[0052] The duration between the usage session start and the usage session end may be dependent on selected predetermined heating profile. So, if a longer predetermined heating profile is selected for the second period, the usage session may be longer. In particular, if the first predetermined heating profile is selected that usage session may be longer than if the second predetermined heating profile is selected.

[0053] Each predetermined heating profile may comprise one or more target temperatures. When the control circuitry is configured to supply power to the heater assembly according to a particular predetermined heating profile, the control circuitry may be configured to heat the heater assembly with reference to the one or more target temperatures. The one or more target temperatures may advantageously be chosen to ensure a consistent amount of aerosol is generated throughout at least the second period of the usage session. For example, an initial target temperature of a predetermined heating profile may be high to ensure the aerosol-forming substrate reaches operation temperature. Subsequent target temperatures of the predetermined heating profile may be lower than the initial target temperature to avoid overheating the aerosol-forming substrate.

[0054] Preferably, the first predetermined heating profile may be configured such that a mean average of the target temperature throughout the duration of the first predetermined heating profile is lower than a mean average of the target temperature throughout the duration of the second predetermined heating profile.

[0055] The first user puff behaviour may comprise the interval between puffs is greater than 20 seconds, preferably greater than 22 seconds, preferably greater than 24 seconds, preferably greater than 26 seconds, preferably greater than 28 seconds, preferably greater than 30 seconds, preferably greater than 32 seconds, preferably greater than 34 seconds.

[0056] Preferably, the interval may be a mean average interval. The mean average interval may be the time between a plurality of subsequent pairs of puffs in the first period divided by the number of pairs of puffs.

[0057] The second user puff behaviour may comprise the interval between puffs being less than 34 seconds, preferably less than 32 seconds, preferably less than 30 seconds, preferably less than 28 seconds, preferably less than 26 seconds, preferably less than 24 seconds, preferably less than 22 seconds, preferably less than 20 seconds.

[0058] The predetermined threshold for the user puff behaviour stored in the memory may be a threshold for the puff interval or mean average puff interval. The predetermined threshold may be a value between 20 seconds and 34 seconds, preferably between 22 seconds and 32 seconds, preferably between 24 seconds and 30 seconds.

[0059] Preferably, both the first predetermined heating profile and the second predetermined heating profile may have a longer duration than 1 minute, preferably, longer than 2 minutes.

[0060] Preferably, the first predetermined heating profile may have a duration that is at least 30% longer than the second heating profile. Preferably the first predetermined heating profile may have a duration at least 40% longer than the second heating profile. Preferably the first predetermined heating profile may have a duration at least 50% longer than the second heating profile. Preferably the first predetermined heating profile may have a duration at least 75% longer than the second heating profile.

[0061] The first predetermined heating profile may have a duration longer than 5 minutes, preferably longer than 6 minutes, preferably longer than 8 minutes.

[0062] The first predetermined heating profile may have a duration of no more than 18 minutes, preferably no more than 15 minutes, preferably no more than 12 minutes, preferably no more than 10 minutes.

[0063] The second predetermined heating profile may have a duration of no more than 8 minutes, preferably no more than 6 minutes, preferably no more 4 minutes.

[0064] The second predetermined heating profile may have a duration longer than 1 minute, preferably longer than 2 minutes.

[0065] The plurality of predetermined heating profiles may comprise a third predetermined heating profile that is different to the first and second predetermined heating profiles. The control circuitry may be configured to control the supply of power to the heater assembly during the first period according to the third predetermined heating profile.

[0066] When wherein the first period comprises a first period start and a first period end and the first period end is a predetermined time after the first period start, the third predetermined heating profile may have the same duration as the predetermined time.

[0067] The third predetermined heating profile may comprises a third profile start. The third profile start may correspond to the first period start. In other words, the control circuitry may be configured to control the supply of power to the heater assembly according to the third predetermined heating profile throughout the first period.

[0068] The third predetermined heating profile may be shorter than the first and second predetermined heating profile.

[0069] The third predetermined heating profile may comprise a target temperature that is higher than a target temperature of the first or second predetermined heating profiles.

[0070] Preferably, the third predetermined heating profile may comprise a target temperature that is higher than any target temperature of the first or second predetermined heating profiles. This may particularly advantageous if the control circuitry is configured to control the heater assembly to rapidly increase temperature to a vaporisation temperature during the first period of the usage session.

[0071] It may be advantageous for the control circuitry to control the supply of power to the heater assembly in the first period according to the third predetermined heating profile irrespective of the puffing behaviour. This may be particularly preferable when the heater assembly is required to rapidly reach a vaporisation temperature during the first period of the usage session.

[0072] At least one of the plurality of predetermined heating profiles may comprise a first portion that is substantially identical to a first portion of another of the plurality of predetermined heating profiles. Each of the plurality of predetermined heating profiles may comprise a first portion that is substantially identical to the first portion of the other predetermined heating profiles of the plurality of predetermined heating profiles. The first portion may be an initial portion of the respective predetermined heating profile.

[0073] In a specific example, at least a first portion of the first predetermined heating profile may be substantially identical to a first portion of the second predetermined heating profile. The first portion of the first predetermined heating profile may correspond to the first portion of the second predetermined heating profile. Preferably, the first portion of each of the first and second predetermined heating profiles may be an initial portion of the respective heating profile.

[0074] The control circuitry may be configured to control the supply of power to the heater assembly during the first period according to the first portion of one of the plurality of predetermined heating profiles. This may be instead of controlling the supply of power to the heater assembly according to a dedicated third predetermined heating profile for the first period, as described above.

[0075] The first portion of each of the predetermined heating profiles may comprise a target temperature configured such that the heater assembly rapidly increases in temperature to a vaporisation temperature during the first period of the usage session. It may be advantageous for the heater assembly to be controlled in this manner in the first period irrespective of the puffing behaviour or the selected predetermined heating profile.

[0076] One or more the plurality of predetermined heating profiles may comprise a second portion. The or each second portion may be subsequent to a first portion of the respective predetermined heating profile. The second portion of the or each of the first and second predetermined heating profiles may start immediately following an end of a first portion of the respective predetermined heating profile.

[0077] The control circuitry may be configured to control the supply of power to the heater assembly according to the second portion of the selected predetermined heating profile during the second period. The control circuitry may be configured such that the selection to control the supply of power to the heater assembly during the second period comprises selecting to supply power according to a second portion of one of the predetermined heating profiles.

[0078] The aerosol-generating device may be configured for generating aerosol from an aerosol-forming substrate comprised in an aerosol-generating article.

[0079] As used herein, the term 'aerosol-forming substrate' relates to a substrate capable of releasing volatile compounds that can form an aerosol. Such volatile compounds may be released by heating the aerosol-forming substrate. An aerosol-forming substrate may conveniently be part of an aerosol-generating article or smoking article.

[0080] The aerosol-forming substrate may be a solid aerosol-forming substrate. Alternatively, the aerosol-forming substrate may comprise both solid and liquid components. The aerosol-forming substrate may comprise a tobacco-containing material containing volatile tobacco flavour compounds which are released from the substrate upon heating. Alternatively, the aerosol-forming substrate may comprise a non-tobacco material. The aerosol-forming substrate may further comprise an aerosol former that facilitates the formation of a dense and stable aerosol. Examples of suitable aerosol formers are glycerine and propylene glycol.

[0081] The aerosol-forming substrate may comprise a gathered crimpled sheet of homogenised tobacco material. As used herein, the term 'crimped sheet' denotes a sheet having a plurality of substantially parallel ridges or corrugations. Alternatively or additionally, the aerosol-forming substrate may comprise strands, strips of sheds of homogenised tobacco material. Preferably, the aerosol-forming substrate may comprise cut homogenized tobacco comprising glycerine. The glycerine may be applied to the cut homogenized tobacco. Preferably, the glycerine may be sprayed onto the homogenised tobacco.

[0082] The aerosol-generating system may comprise a cartridge containing an aerosol-forming substrate. The cartridge may be receivable in the chamber of the aerosol-generating device. The aerosol-forming substrate may be solid or liquid or comprise both solid and liquid components. Preferably, the aerosol-forming substrate is a liquid.

[0083] The aerosol-forming substrate may comprise plant-based material. The aerosol-forming substrate may comprise tobacco. The aerosol-forming substrate may comprise a tobacco-containing material containing volatile tobacco flavour compounds, which are released from the aerosol-forming substrate upon heating. Preferably, the aerosol-forming substrate may alternatively comprise a non-tobacco-containing material.

[0084] The aerosol-generating article may comprise a wrapper circumscribing the aerosol-forming substrate. The aerosol-forming substrate may be a solid aerosol-forming substrate. The aerosol-generating device may comprise a device housing defining. The device housing may define a cavity. The cavity may be for receiving the aerosol-forming substrate.

[0085] The control circuitry may be configured such that the selection of the predetermined heating profile for the second period is further based on a detected type of aerosol-forming substrate used with aerosol-generating device. This would preferably be in addition to the selection being based on the detected user puff behaviour of the first period.

[0086] The plurality of predetermined heating profiles may comprise a subset of predetermined heating profiles for each type of aerosol-forming substrate that the aerosol-generating device is configured to be used with. For example, the plurality of predetermined heating profiles may comprise a first subset of predetermined heating profiles configured for a first type of aerosol-forming substrate and a second subset of predetermined heating profiles configured for a second type of aerosol-forming substrate. Each of the first and second subset of predetermined heating profiles may comprise a first predetermined heating profile and a second predetermined heating profile. The first and second predetermined heating profile may have features as described above. For example, preferably, the first predetermined heating profile may be longer than the second predetermined heating profile in each subset.

[0087] The control circuitry may be configured to determine the type of aerosol-forming substrate being used with the device. The control circuitry may be configured to select a subset of predetermined heating profiles based on the determined type of aerosol-forming substrate. Once the subset of predetermined heating profiles has been selected, the control circuitry may be configured to use a determined use puff behaviour during a first period to select a predetermined heating profile from the respective subset of predetermined heating profiles, as described above.

[0088] The aerosol-generating device may comprise a substrate detector configured to detect the type of aerosol-forming substrate used with the device. The substrate detector may be configured to detect a property of an aerosol-forming substrate used with the device or a property of an aerosol-generating article comprising the aerosol-forming substrate. The property may be a physical or chemical property of the aerosol-forming substrate. The substrate detector may comprise an emitter of electromagnetic radiation and a receiver of electromagnetic radiation and the property may be a spectroscopic property related to the aerosol-forming substrate or aerosol-generating article. The property may relate to a taggant or other indicia incorporated into the aerosol-forming substrate or aerosol-generating article.

[0089] The control circuitry may be configured to determine the type of aerosol-forming substrate used with the device based on signals received from the substrate detector. The control circuitry may be configured to determine the type of aerosol-forming substrate used with the device during the usage session or prior to the usage session. If the control circuitry is configured to determine the type of aerosol-forming substrate used with the device during the usage session, it may be configured to do so during the first period.

[0090] In a second aspect, there is provided an aerosol-generating system. The aerosol-generating system may comprise an aerosol-generating device. The aerosol-generating device may be an aerosol-generating device according to the first aspect.

[0091] The aerosol-generating system may further comprise one or more aerosol-generating articles. The or each of the one or more aerosol-generating articles may comprise a rod of aerosol-forming substrate.

[0092] The aerosol-forming substrate of the or each of the one or more aerosol-generating articles may be an aerosol-forming substrate of a first type.

[0093] As described in relation to the first aspect, the control circuitry of the aerosol-generating device may advantageously select a predetermined heating profile based on a detected user behaviour. In one example, the control circuitry may make this selection independently of the type of aerosol-forming substrate used with the device. In another example, the control circuitry may be configured to use a detected type of aerosol-forming substrate in addition to the determined puff behaviour to select the predetermined heating profile.

[0094] The aerosol-generating system may comprise a plurality of aerosol-generating articles. At least two of the aerosol-generating articles may comprise a rod of the first type of aerosol-forming substrate.

[0095] The length of the rod of aerosol-forming substrate may be at least 30 percent of the length of the aerosol-generating article. The rod of aerosol-forming substrate may have a tobacco content of between 30 percent by weight on dry weight basis and 90 percent by weight on a dry weight basis.

[0096] The aerosol-generating article may comprise a hollow tubular element at a downstream end of the rod of aerosol-forming substrate. The aerosol-generating article may comprise a mouthpiece element at a downstream end of the hollow tubular element.

[0097] In some aerosol-generating articles it may be desirable to include components other than tobacco and aerosol former in the rod of aerosol-forming substrate. For example, it may be desirable to include one or more flavourants in the rod of aerosol-forming substrate.

[0098] The term "flavourant" refers to organoleptic compounds, compositions, or materials that alter and are intended to alter the taste or aroma characteristics of one or more components of the aerosol-forming substrate during consumption or inhalation thereof. The flavourant may, for example, alter and or be intended to alter the taste or aroma characteristics of nicotine during consumption or inhalation thereof. For the purpose of this disclosure, nicotine is not considered as a "flavourant" or flavour.

[0099] The rod of aerosol-forming substrate may comprise one of more flavourants. The rod of aerosol-forming substrate may comprise a plurality of flavourants.

[0100] The rod of aerosol-forming substrate may have a flavourant content of at least 0.1 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 1 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 3 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 5 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 8 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 10 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 13 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 15 percent by weight on a dry

weight basis. The rod of aerosol-forming substrate may have a flavourant content of at least 18 percent by weight on a dry weight basis.

[0101] The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 25 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 20 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 18 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 15 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 13 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 10 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 8 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of less than or equal to 5 percent by weight on a dry weight basis.

[0102] The rod of aerosol-forming substrate may have a flavourant content of between 0.1 and 25 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of between 0.1 and 20 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of between 5 and 20 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of between 10 and 20 percent by weight on a dry weight basis. The rod of aerosol-forming substrate may have a flavourant content of between 15 and 20 percent by weight on a dry weight basis.

[0103] The one or more flavourants may be one or more of: clove, ginger, mint, rosemary, star anise, and tea. The plurality of flavourants may be a combination of two or more of: clove, ginger, mint, rosemary, star anise, and tea.

[0104] In one example, the rod of aerosol-forming substrate may comprise clove.

[0105] The rod of aerosol-forming substrate may comprise at least 30 milligrams of flavourant. The rod of aerosol-forming substrate may comprise at least 35 milligrams of flavourant. The rod of aerosol-forming substrate may comprise at least 40 milligrams of flavourant. The rod of aerosol-forming substrate may comprise at least 45 milligrams of flavourant. The rod of aerosol-forming substrate may comprise at least 50 milligrams of flavourant.

[0106] The hollow tubular element may have a length of at least 15 millimetres. The hollow tubular element may have a length of at least 17 millimetres. The hollow tubular element may have a length of at least 19 millimetres.

[0107] The hollow tubular element may have a length of less than or equal to 30 millimetres. The hollow tubular element may have a length of less than or equal to 25 millimetres. The hollow tubular element may have a length of less than or equal to 23 millimetres.

[0108] The hollow tubular element may have a length of between 15 millimetres and 30 millimetres. The hollow tubular element may have a length of between 17 millimetres and 25 millimetres. The hollow tubular element may have a length of between 19 millimetres and 23 millimetres. In one example, the length of the hollow tubular element is 12 millimetres.

[0109] In a third aspect there is a provided a method of controlling power supplied to a heater assembly of an aerosol-generating device for generating an aerosol from an aerosol-forming substrate during a usage session. The usage session may comprise a usage session start. The usage session may comprise a usage session end. The usage session may comprise a first period between the usage session start and the usage session end. The usage session may comprise a second period between the usage session start and the usage session end. Preferably, the usage session comprises both the first and second period. Preferably, the first period and the second period are sequential.

[0110] The method may comprise determining a user puff behaviour. The method may comprise determining a user puff behaviour during the first period of the usage session.

[0111] The method may comprise using the determined user puff behaviour to select one of a plurality of predetermined heating profiles that are different to one another.

[0112] The method may comprise controlling the supply of power to the heater assembly according to the selected predetermined heating profile during the second period.

[0113] Preferably, the usage session comprises a plurality of puffs. The first period of the usage session may comprise one or more puffs, preferably a plurality of puffs.

[0114] The method may comprise determining a user puff behaviour based on one or more user puffs of the first period of the usage session. Preferably, the method may comprise assessing the determined user puff behaviour over a plurality of user puffs during the first period.

[0115] The method may comprise determining a mean average puff behaviour for a plurality if user puffs during the first period.

[0116] The determined user puff behaviour during the first period may relate to at least one of: a puff frequency, a puff interval, a puff strength, a puff length, a number of puffs taken, a quantity of aerosol generated per puff or a quantity of aerosol generated during the first period.

[0117] Preferably, the determined user puff behaviour during the first period is at least one of a mean average puff frequency, a mean average puff interval, a mean average puff strength, a mean average puff length or a mean average quantity of aerosol generated per puff.

[0118] The first period may comprise a first period start and a first period end. The first period end may be at least 20 seconds, preferably at least 30 seconds, preferably at least 40 seconds, preferably at least 50 seconds, preferably at least 75 seconds, preferably at least 95 seconds after the first period start.

[0119] The first period end may be a predetermined time after the first period start.

[0120] The method may comprise monitoring the number of puffs that have occurred during the first period. The method may comprise ending the first period when a predetermined of puffs have been detected during the first period. The predetermined number of puffs during the first period may be at least 2 puffs, preferably at least 3 puffs.

[0121] The method may comprise detecting a parameter indicative of a user puff. The method may comprise determining the user puff behaviour based on signals received from a detector used to detect the parameter indicative of a user puff. For example, the method may comprise detecting a puff frequency for the first period, or a puff interval, by measuring the time between subsequent detected user puffs. As another example, the method may comprise detecting the

length of detected user puffs or the strength of detected user puffs. When the user puff behaviour is a mean average user puff behaviour, the method may comprise detecting a plurality of user puffs and determining a mean average user puff behaviour for the detected plurality of user puffs.

[0122] The method may comprise detecting a user puff based on changes in the temperature of a heating element of the heater assembly during a usage session. For example, the method may comprise detecting a user puff based on a drop in the temperature of the heating element. The method may comprise detecting a length or a strength of a user puff based on at least one of a length or a magnitude of the drop in the temperature of the heating element.

[0123] The method may comprise monitoring the electrical resistance of the heating element.

[0124] This may be particularly preferable if the electrical resistance of the heating element is temperature dependent.

[0125] The plurality of predetermined heating profiles may be stored in a memory of control circuitry of the aerosol-generating device.

[0126] The plurality of predetermined heating profiles may comprise a first predetermined heating profile. The plurality of predetermined heating profiles may comprise a second predetermined heating profile. The first and second predetermined heating profiles may be as described in the first aspect.

[0127] The method may comprise selecting the first predetermined profile for the second period if a first user puff behaviour type is detected.

[0128] The method may comprise selecting the second predetermined profile for the second period if a second user puff behaviour type is detected.

[0129] The plurality of predetermined heating profiles may comprise a third predetermined heating profile that is different to the first and second predetermined heating profiles. The method may comprise controlling the supply of power to the heater assembly during the first period according to the third predetermined heating profile.

[0130] Alternatively or additionally, at least one, preferably each, of the plurality of predetermined heating profiles may comprise a first portion that is substantially identical to the first portion of the other predetermined heating profiles. The method may comprise controlling the supply of power to the heater assembly during the first period according to a first portion of one of the plurality predetermined profiles. This may be instead of controlling the supply of power to the heater assembly according to a dedicated third predetermined heating profile for the first period, as described above.

[0131] Features described in relation to one aspect may be applied to other aspects of the disclosure. In particular advantageous or optional features described in relation to the first aspect of the disclosure may be applied to the second or third of the disclosure, and vice versa.

[0132] The invention is defined in the claims. However, below there is provided a non-exhaustive list of non-limiting examples. Any one or more of the features of these examples may be combined with any one or more features of another example, embodiment, or aspect described herein.

[0133] EX1. An aerosol-generating device for generating an aerosol from an aerosol-generating article comprising an aerosol-forming substrate, the aerosol-generating device being configured to generate the aerosol during a usage session comprising a usage session start, a usage session end and at least a first period and a second period between the usage session start and the usage session end, the aerosol-generating device comprising:

[0134] a heater assembly for heating an aerosol-forming substrate;

[0135] a power supply configured to supply power to the heater assembly; and

[0136] control circuitry comprising a memory in which a plurality of predetermined heating profiles are stored that are different to one another;

[0137] wherein the control circuitry is configured to determine a user puff behaviour during the first period of the usage session, to use the determined user puff behaviour to select one of the plurality of predetermined heating profiles, and to control the supply of power to the heater assembly during the second period according to the selected predetermined heating profile.

[0138] EX2. An aerosol-generating device according to example EX1, wherein the control circuitry is configured to assess the determined user puff over a plurality of user puffs during the first period.

[0139] EX3. An aerosol-generating device according to example EX2, wherein the determined user puff behaviour is a mean average puff behaviour for the plurality of user puffs during the first period.

[0140] EX4. An aerosol-generating device according to any one of examples EX1 to EX3, wherein the determined user puff behaviour during the first period relates to at least one of a puff frequency, a puff interval, a puff strength, a puff length, a number of puffs taken, a quantity of aerosol generated per puff or a quantity of aerosol generated during the first period.

[0141] EX5. An aerosol-generating device according to any one of the preceding examples, wherein the determined user puff behaviour during the first period is at least one of a mean average puff frequency, a mean average puff interval, a mean average puff strength, a mean average puff length or a mean average quantity of aerosol generated per puff.

[0142] EX6. An aerosol-generating device according to any one of the preceding examples, wherein the first period comprises a first period start and a first period end.

[0143] EX7. An aerosol-generating device according to example EX6, wherein the first period end is at least 20 seconds, preferably at least 30 seconds, preferably at least 40 seconds, preferably at least 50 seconds, preferably at least 75 seconds, preferably at least 90 seconds after the first period start.

[0144] EX8. An aerosol-generating device according to example EX6 or EX7, wherein the first period end is a predetermined time after the first period start.

[0145] EX9. An aerosol-generating device according to example EX8, wherein the predetermined time is at least 20 seconds, preferably at least 30 seconds, preferably at least 40, preferably at least 50 seconds, preferably at least 75 seconds, preferably at least 90 seconds.

[0146] EX10. An aerosol-generating device according to example EX6 or EX7, wherein control circuitry is configured to monitor the number of user puffs that have occurred during first period and is configured such that the first period end is when the control circuitry has detected that a predetermined number of puffs have occurred during the first period.

[0147] EX11. An aerosol-generating device according to example EX10, wherein the predetermined number of user puffs during the first period is at least 2 puffs, preferably at least 3 puffs.

[0148] EX12. An aerosol-generating device according to any one of examples EX6 to EX11, wherein the first period start corresponds to the usage session start.

[0149] EX13. An aerosol-generating device according to any one of examples EX6 to EX12, wherein the second period comprises a second period start and a second period end.

[0150] EX14. An aerosol-generating device according to example EX13, wherein the second period start corresponds to the first period end.

[0151] EX15. An aerosol-generating device according to example EX13 or EX14, wherein the second period end corresponds to the usage session end.

[0152] EX16. An aerosol-generating device according to any one of examples EX6 to EX15, wherein the control circuitry is configured to select the predetermined heating profile for the second period at the first period end.

[0153] EX17. An aerosol-generating device according to any one of the preceding examples, wherein the usage session end corresponds to an end of the selected predetermined heating profile.

[0154] EX18. An aerosol-generating device according to any one of the preceding examples, further comprising a detector configured to detect a parameter indicative of a user puff.

[0155] EX19. An aerosol-generating device according to example EX18, wherein the control circuitry is configured to determine the user puff behaviour during the first period of the usage session based on signals received from the detector.

[0156] EX20. An aerosol-generating device according to example EX18 or EX19, wherein the control circuitry is configured to detect a user puff based on changes in the detected parameter.

[0157] EX21. An aerosol-generating device according to any one of examples EX18 to EX20, wherein the parameter the detector is configured to detect is at least one of flow, pressure, temperature or aerosol quantity.

[0158] EX22. An aerosol-generating device according to any one of examples EX18 to EX21, wherein the detector comprises a sensor.

[0159] EX23. An aerosol-generating device according to example EX22, wherein the sensor comprises a pressure sensor, a flow sensor, a temperature sensor or an aerosol quantity sensor.

[0160] EX24. An aerosol-generating device according to any one of examples EX18 to EX23, wherein the heater assembly comprises a heating element and the heating element forms the detector.

[0161] EX25. An aerosol-generating device according to example 24, wherein the control circuitry is configured to detect a user puff based on changes in the temperature of the heating element during the usage session.

[0162] EX26. An aerosol-generating device according to example EX24 or EX25, wherein the control circuitry is configured to monitor the electrical resistance of the heating element.

[0163] EX27. An aerosol-generating device according to any one of the preceding examples, wherein the plurality of predetermined heating profiles comprises a first predetermined heating profile and a second predetermined heating profile.

[0164] EX28. An aerosol-generating device according to example EX27, wherein the control circuitry is configured to select the first predetermined profile for the second period if a first user puff behaviour type is detected.

[0165] EX29. An aerosol-generating device according to example EX28, wherein the first user puff behaviour type comprises an interval between puffs being greater than 20 seconds, preferably greater than 22 seconds, preferably greater than 24 seconds, preferably greater than 26 seconds, preferably greater than 28 seconds, preferably greater than 30 seconds, preferably greater than 32 seconds, preferably greater than 34 seconds.

[0166] EX30. An aerosol-generating device according to any of examples EX27 to EX29, wherein the control circuitry is configured to select the second predetermined profile for the second period if a second user puff behaviour type is detected.

[0167] EX31. An aerosol-generating device according to example 30, wherein the second user puff behaviour type comprises the interval between puffs being less than 34 seconds, preferably less than 32 seconds, preferably less than 30 seconds, preferably less than 28 seconds, preferably less than 26 seconds, preferably less than 24 seconds, preferably less than 22 seconds, preferably less than 20 seconds.

[0168] EX32. An aerosol-generating device according to any one of examples EX18 to EX31, wherein the control circuitry is configured to determine the puff behaviour type by measuring the interval between detected puffs or by measuring the puff frequency.

[0169] EX33. An aerosol-generating device according to example EX32, wherein the control circuitry is configured to measure the puff frequency by measuring the number of puffs in a period and dividing by the length of that period.

[0170] EX34. An aerosol-generating device according to example EX33, wherein the period is the first period.

[0171] EX35. An aerosol-generating device according to any one of examples EX27 to EX34, wherein both the first predetermined heating profile and the second predetermined heating profile have a duration longer than 1 minute, preferably, longer 2 minutes.

[0172] EX36. An aerosol-generating device according to any one of examples EX27 to EX35, wherein the first predetermined heating profile has a longer duration than the second predetermined heating profile.

[0173] EX37. An aerosol-generating device according to example EX36, wherein the first predetermined heating profile has a duration that is at least 30% longer than the second heating profile, preferably at least 40% longer, preferably at least 50% longer, preferably at least 75% longer.

[0174] EX38. An aerosol-generating device according to any one of examples EX27 to EX37, wherein the first predetermined heating profile has a duration of no more than 18 minutes, preferably no more than 15 minutes, preferably no more than 12 minutes, preferably no more than 10 minutes.

[0175] EX39. An aerosol-generating device according to any one of examples EX27 to EX38, wherein the first

predetermined heating profile has a duration longer than 5 minutes, preferably longer than 6 minutes, preferably longer than 8 minutes.

[0176] EX40. An aerosol-generating device according to any one of examples EX27 to EX39, wherein the second predetermined heating profile has a duration of no more than 8 minutes, preferably no more than 6 minutes, preferably no more 4 minutes.

[0177] EX41. An aerosol-generating device according to any one of examples EX27 to EX40, wherein the second predetermined heating profile has a duration longer than 1 minute, preferably longer than 2 minutes.

[0178] EX42. An aerosol-generating device according to any one of examples EX27 to EX41, wherein the plurality of predetermined heating profiles comprises a third predetermined heating profile that is different to the first and second predetermined heating profiles.

[0179] EX43. An aerosol-generating device according to example EX42, wherein the control circuitry is configured to control the supply of power to the heater assembly during the first period according to the third predetermined heating profile.

[0180] EX44. An aerosol-generating device according to example EX42 or EX43, wherein the first period comprises a first start and a first period end, the first period end is a predetermined time after the first period start.

[0181] EX45. An aerosol-generating device according to example EX44, wherein the third predetermined heating profile has the same duration as the predetermined time.

[0182] EX46. An aerosol-generating device according to example EX44 or EX45, wherein the third predetermined heating profile comprises a third profile start.

[0183] EX47. An aerosol-generating device according to example EX46, wherein the third profile start corresponds to the first period start.

[0184] EX48. An aerosol-generating device according to any one of examples EX27 to EX41, wherein at least a first portion of the first predetermined heating profile is substantially identical to a first portion of the second predetermined heating profile.

[0185] EX49. An aerosol-generating device according to example EX48, wherein the first portion of the first predetermined heating profile corresponds to the first portion of the second predetermined heating profile.

[0186] EX50. An aerosol-generating device according to example EX49, wherein the first portion of each of the first and second predetermined heating profiles is an initial portion of the respective heating profile.

[0187] EX51. An aerosol-generating device according to any one of examples EX48 to EX50, wherein the first period comprises a first period start and a first period end, wherein the first period end is a predetermined time after the first period start, and wherein the first portion of the or each of the first or second predetermined heating profiles has the same duration as the predetermined time.

[0188] EX52. An aerosol-generating device according to any one of examples EX48 to EX51, wherein the control circuitry is configured to control the supply of power to the heater assembly during the first period according to the first portion of one of the plurality of predetermined heating profiles.

[0189] EX53. An aerosol-generating device according to any one of examples EX48 to EX51, wherein the first predetermined heating profile and the second predetermined heating profile each comprise a second portion.

[0190] EX54. An aerosol-generating device according to example EX53, wherein the control circuitry is configured to control the supply of power to the heater assembly according to a second portion of the selected predetermined heating profile during the second period.

[0191] EX55. An aerosol-generating device according to example EX53 or EX54, wherein the second portion of the selected predetermined heating profile is subsequent to the respective first portion.

[0192] EX56. An aerosol-generating device according to any one of examples EX53 to EX55, wherein the control circuitry is configured to control the supply of power to the heater assembly according to the respective second portion of the selected predetermined heating profile throughout the second period.

[0193] EX57. An aerosol-generating device according to any one of examples EX53 to EX56, wherein the second portion of the first predetermined profile is different to the second portion of the second predetermined heating profile.

[0194] EX58. An aerosol-generating device according to any one of examples EX53 to EX57, wherein the second portion of each of the first and second predetermined heating profiles starts immediately following an end of the respective first portion.

[0195] EX59. An aerosol-generating device according to any one of examples EX53 to EX58, wherein the control circuitry is configured such that the selection to control the supply of power to the heater assembly during the second period comprises selecting to supply power according to a second portion of one of the predetermined heating profiles.

[0196] EX60. An aerosol-generating device according to any one of examples EX53 to EX59, wherein the control circuitry is configured such that the selection to control the supply of power to the heater assembly during the second period comprises selecting to continue to supply power according to the predetermined heating profile of the first period or to supply power according one of the other predetermined heating profiles.

[0197] EX61. An aerosol-generating device according to any one of the preceding examples, wherein the aerosol-generating device is configured for generating aerosol from an aerosol-forming substrate comprised in an aerosol-generating article.

[0198] EX62. An aerosol-generating device according to example EX61, wherein the aerosol-generating article comprises a wrapper circumscribing the aerosol-forming substrate.

[0199] EX63. An aerosol-generating device according to example EX62, wherein the aerosol-forming substrate is a solid aerosol-forming substrate.

[0200] EX64. An aerosol-generating device according to any one of the preceding examples, wherein the aerosol-generating device comprises a device housing defining a cavity for receiving the aerosol-forming substrate.

[0201] EX65. An aerosol-generating system comprising the aerosol-generating device of any one of the preceding examples and one or more aerosol-generating articles comprising a rod of aerosol-forming substrate.

[0202] EX66. An aerosol-generating system according to example EX65, wherein the rod of aerosol-forming substrate comprises one of more flavourants.

[0203] EX67. An aerosol-generating system according to examples EX66, wherein the rod of aerosol-forming substrate comprises a plurality of flavourants.

[0204] EX68. An aerosol-generating system according to example EX68, wherein the rod of aerosol-forming substrate comprises one or more flavourants is one or more of: clove, ginger, mint, rosemary, star anise, and tea.

[0205] EX69. An aerosol-generating system according to example EX68, wherein the rod of aerosol-forming substrate comprises clove.

[0206] EX70. A method of controlling power supplied to a heater assembly of an aerosol-generating device for generating an aerosol from an aerosol-forming substrate during a usage session comprising a usage session start, a usage session end and at least a first period and a second period between the usage session start and the usage session end, the method comprising:

[0207] determining a user puff behaviour during the first period of the usage session;

[0208] using the determined user puff behaviour to select one of a plurality of predetermined heating profiles that are different to one another; and

[0209] controlling the supply of power to the heater assembly according to the selected predetermined heating profile during the second period.

[0210] Examples will now be further described with reference to the figures in which:

[0211] FIG. **1** is a schematic illustration of a cross-section of a first embodiment of an aerosol-generating system comprising an aerosol-generating device according to the present disclosure and aerosol-generating article;

[0212] FIG. **2** is a schematic illustration of a cross-section of the aerosol-generating article of FIG. **1** shown separately from the aerosol-generating device;

[0213] FIG. **3** is a graph representing first and second predetermined heating profiles stored in the memory of control circuitry of the aerosol-generating device of FIG. **1**;

[0214] FIG. **4** is a flow chart representing a method of controlling power supplied to a heater assembly of the aerosol-generating device of FIG. **1** during a usage session;

[0215] FIG. **5** is a graph of the temperature of a heater element of the heater assembly of the aerosol-generating device during a usage session in which a user follows a first user puff behaviour; and

[0216] FIG. **6** is a graph of the temperature of a heater element of the heater assembly of the aerosol-generating device during a usage session in which a user follows a second user puff behaviour.

[0217] FIG. **1** is a schematic of a cross sectional view of a first aerosol-generating device **100**. The aerosol-generating device **100** comprises a cavity **10** defined by a device housing **11**. The cavity **10** is tubular and has at an upstream end a base **12**. The cavity **10** is configured for receiving an aerosol-generating article **200**.

[0218] An aerosol-generating article **200** is received in the cavity **10**. The aerosol-generating article **200** is shown separately from the aerosol-generating device **100** in FIG. **2**. FIG. **2** is also a schematic of a cross sectional view of the aerosol-generating article **200**.

[0219] The aerosol-generating article **200** comprises a rod of aerosol-forming substrate **212** and a downstream section **214** at a location downstream of the rod of aerosol-forming substrate **212**. The downstream section **214** comprises a hollow tubular element **220** and a mouthpiece element **204**.

[0220] The aerosol-generating article **200** comprises an upstream wrapper **244** circumscribing the aerosol-forming substrate **212** and the hollow tubular element **220**.

[0221] The aerosol-generating article **200** also comprises a tipping wrapper **252** circumscribing the hollow tubular element **220** and the mouthpiece element **204**. The tipping wrapper **252** overlies the portion of the upstream wrapper **244** that overlies the hollow tubular element **220**. In this way, the tipping wrapper **252** effectively joins the mouthpiece element **204** to the rest of the components of the aerosol-generating article **200**. In this example, the width of the tipper wrapper **252** is about 26 millimetres.

[0222] The aerosol-generating article **200** has an overall length of about 45 millimetres and an outer diameter of about 7.2 mm.

[0223] The rod of aerosol-forming substrate **212** comprises a shredded tobacco material. In this example, the rod of aerosol-forming substrate **212** also comprises clove. The rod of aerosol-forming substrate **212** comprises 150 milligrams of a shredded tobacco material comprising from 13 percent by weight to 16 percent by weight of glycerine. The density of the aerosol-forming substrate is about 300 mg per cubic centimetre. The RTD of the rod of aerosol-forming substrate **212** is between about 6 to 8 mm H2O. The rod of aerosol-forming substrate **212** also includes 52 milligrams of clove. The rod of aerosol-forming substrate **212** is individually wrapped by a plug wrap (not shown).

[0224] The hollow tubular element **220** is located immediately downstream of the rod **212** of aerosol-forming substrate. The hollow tubular element **220** is in longitudinal alignment with the rod **212** of aerosol-forming substrate. The upstream end of the hollow tubular element **220** abuts the downstream end of the rod **212** of aerosol-forming substrate.

[0225] The hollow tubular element **220** defines a hollow section of the aerosol-generating article **10**. The hollow tubular element does not substantially contribute to the overall RTD of the aerosol-generating article. In more detail, an RTD of the hollow tubular element **220** is about 0 mm H2O.

[0226] The hollow tubular element **220** is provided in the form of a hollow cylindrical tube made of cardboard. The hollow tubular element **220** defines an internal cavity **222** that extends all the way from an upstream end of the hollow tubular element **20** to a downstream end of the hollow tubular element **220**. The internal cavity **222** is substantially empty, and so substantially unrestricted airflow is enabled along the internal cavity **22**. The hollow tubular element **220** does not substantially contribute to the overall RTD of the aerosol-generating article **200**.

[0227] In this example, the hollow tubular element **220** has a length of about 21 millimetres, an external diameter of about 7.2 millimetres, and an internal diameter of about 6.7 millimetres. Thus, a thickness of a peripheral wall of the hollow tubular element **20** is about 0.25 millimetres.

[0228] The aerosol-generating article **200** comprises a ventilation zone **230** provided at a location along the hollow tubular element **20**. In this example, the ventilation zone **230** is provided at a location that is about 16 millimetres from the downstream end **218** of the article **200**. The ventilation zone **230** is provided at a location of about 12 mm downstream from the downstream end of the rod **122** of aerosol-forming substrate. In this example, the ventilation zone **230** is provided at a location of about 9 millimetres upstream from

the upstream end of the mouthpiece element **204**. The ventilation zone **230** comprises a circumferential row of openings or perforations circumscribing the hollow tubular element **220**. The perforations of the ventilation zone **230** extend through the wall of the hollow tubular element **220**, in order to allow fluid ingress into the internal cavity **22** from the exterior of the article **200**. A ventilation level of the aerosol-generating article **210** is about 16 percent.

[0229] The ventilation zone **230** may also comprise a circumferential row of perforations provided on the upstream wrapper **244**. The perforations of the upstream wrapper **244** overlap the perforations provided on the hollow tubular element **220**. Accordingly, the upstream wrapper **244** overlies the perforations of the ventilation zone **230** provided on the hollow tubular element **220**.

[0230] The mouthpiece element **204** extends from the downstream end of the hollow tubular element **220** to the downstream or mouth end of the aerosol-generating article **200**. The mouthpiece element **204** has a length of about 7 mm. An external diameter of the mouthpiece element **204** is about 7.2 mm. The mouthpiece element **204** comprises a low-density, cellulose acetate filter segment. The RTD of the mouthpiece element **204** is about 8 mm H2O. The mouthpiece element **204** may be individually wrapped by a plug wrap (not shown).

[0231] An aerosol-generating device **100** together with an aerosol-generating article **200**, as shown in FIG. **1**, may be referred to as an aerosol-generating system.

[0232] The aerosol-generating device **100** of the aerosol-generating system comprises a heater assembly comprising a heating element **110**. The heating element **110** surrounds the cavity **10** along a portion of the cavity in which the aerosol-forming substrate of the aerosol-generating article **200** is received. In an alternative embodiment, the heating element **110** forms a portion of the housing **11** that defines the part of the cavity that receives the aerosol-forming substrate. The heating element **110** is a resistive heating element.

[0233] An airflow channel **120** extends from an air inlet **122** of the aerosol-generating device **100**. Upstream of the cavity, the airflow channel **120** is primarily defined by an airflow channel wall **124**. Downstream of the airflow channel wall **124**, the airflow channel **120** passes through an air outlet defined in the base **12** of the cavity. The airflow channel **120** then extends through the cavity **10**. When an aerosol-generating article **200** is received in the cavity **10**, the airflow channel **120** passes through the aerosol-generating article **200** and extends through a mouthpiece **204**.

[0234] The aerosol-generating device **100** further comprises a power supply **130** in form of a rechargeable battery for powering the heating element **110** controllable by control circuitry **132**.

[0235] The power supply is connected to the control circuitry **132** and the heating element **110** via electrical wires and connections that are not shown in the Figures. The aerosol-generating device may comprise further elements, not shown in the Figures, such as a button for activating the aerosol-generating device.

[0236] A usage session of the aerosol-generating device **100** is initiated following a user of the aerosol-generating device turning the device on, for example using the button or switch on the aerosol-generating device. The usage session comprises a usage session start which corresponds to the point at which the aerosol-generating device **100** is initiated, and a usage session end which corresponds to the point at which the aerosol-generating device **100** is switched off.

[0237] Initiation of the aerosol-generating device **100** at the usage session start causes the control circuitry **132** to supply electrical power from the power supply **130** to the heating element **110** such that an electrical current passes through the heating element **110** causing the heating element **110** to heat up. Heat is transferred to the aerosol-forming substrate such that volatile compounds are vaporised from the aerosol-forming substrate.

[0238] During a usage session, a user will puff on the mouthpiece **204** of the received aerosol-generating article **200** a plurality of times. During each user puff, inhalation on the mouthpiece **204** of the received aerosol-generating article **200** results in air being drawn through the airflow channel **120** towards the user's mouth. During a puff, air will be drawn from outside of the aerosol-generating device into the airflow channel **120** through air inlet **122**, through the air inlet defined in the base **12** of the cavity **10** and into the cavity. Because the aerosol-generating article **200** is received in the cavity **10**, the air drawn into the cavity **10** will enter the aerosol-generating article **200** at its distal end **216**. Thus, the air passes through the aerosol-forming substrate **212**. In doing so, volatile compounds generated by the heating of the substrate **212** will become entrained in the air. As the air continues towards the mouth end of the aerosol-generating article **200**, the volatile compounds cool to form an aerosol which is then inhaled by a user of the device.

[0239] The control circuitry **132** comprises a memory in which a plurality of predetermined heating profiles that are different to one another are stored. As described in more detail below, the control circuitry **132** is configured to control the supply of power to the heater assembly according to one or more of the predetermined heating profiles throughout the usage session. In particular, a first predetermined heating profile and a second predetermined heating profile are stored in the memory of the control circuitry **132** and the control circuitry **132** is configured to select one of the first and second predetermined heating profiles based on a determined puff behaviour.

[0240] The predetermined heating profiles are effectively instructions for the control circuitry to control the supply of power to the heater assembly such that heating element is heated with reference to a plurality of target temperatures. Each predetermined heating profile comprises information relating to values for the target temperatures, the order of the target temperatures and the length of time that the control circuitry is configured to supply power to the heater assembly with respect to each individual target temperature. Each predetermined heating profile is configured to ensure consistent aerosol generation throughout a usage session assuming a particular user puff behaviour.

[0241] FIG. **3** is a graph **300** representing first and second predetermined heating profiles stored in the memory of the control circuitry **132**. Graph **300** is schematic and is not drawn to scale.

[0242] Graph **300** comprises time on the x axis **302** and temperature on the y axis **304** and shows a full usage session with the usage session start being at t=0 seconds. The usage session is split into a first period **306** and a second period **308***a*, **308***b*.

[0243] The first period comprises a first period start at t=0 seconds and further comprises a first period end which corresponds to a second period start such that the first and second period are sequential.

[0244] The first predetermined heating profile is represented by **310** on graph **300** and the second predetermined heating profile is represented by **312**. Each of the first and second predetermined heating profiles comprise four target temperatures. The target temperature is changed in a stepwise manner as the usage session progresses.

[0245] An initial target temperature for each of the first and second predetermined heating profiles throughout the first period **306** is the same such that an initial portion of the first predetermined heating profile is identical to an initial portion of the second predetermined heating profile.

[0246] The initial target temperature for each of the first and second predetermined heating profiles is higher than subsequent target temperatures of the predetermined heating profiles. In this way, when either the first or second predetermined heating profile is selected, power is supplied to the heater assembly to rapidly increase the temperature of the heating element at the start of the usage session.

[0247] The first predetermined heating profile **310** is different to the second predetermined heating profile **312** after the first period **306**. In particular, each of the second to fourth target temperatures of the first heating profile **310** are lower than the respective second to fourth target temperatures of the second heating profile **312**. Furthermore, the first predetermined heating profile **310** comprises heating the heating element to each of the second to fourth target temperatures for longer than the respective second to fourth target temperature of the second heating profile **312**.

[0248] The first predetermined heating profile **310** is suitable for a different user puff behaviour to the second predetermined heating profile **312**. In particular, the longer and cooler first predetermined heating profile **310** is suitable for a user puff behaviour having a longer mean average puff interval and lower mean average puff frequency than a second user puff behaviour.

[0249] The second period comprises a second period end which corresponds to the usage session end. Because the first predetermined heating profile is longer that the second predetermined heating profile, the second period is different depending on which predetermined heating profile is selected. In particular, the second period **308***a* on the graph **300** corresponds to the second period when the first predetermined heating profile is selected and the second period **308***b* corresponds to the second period when the second predetermined heating profile is selected.

[0250] FIG. **4** is a flow diagram of a method of controlling power supplied to the heater assembly of the aerosol-generating device **100** during a usage session. FIG. **5** is a graph **500** of the temperature of the heater element **110** during a usage session in which a user follows a first user puff behaviour and in which the method of FIG. **4** is applied. Graph **500** is schematic and is not drawn to scale.

[0251] Like graph **300**, graph **500** comprises time on the x axis **502** and temperature on the y axis **504** and shows a full usage session with the usage session start being at t=0 seconds. The usage session is split into a first period **506** and a second period **508***a*.

[0252] Step **402** of the method of controlling power supplied to the heater assembly of the aerosol-generating device **100** during a usage session comprises supplying to the heater assembly during the first period **506** according to the initial portion of the first predetermined heating profile. As described in relation to FIG. **3**, the target temperature during the first period **306**,**506** is high and so the temperature of the heating element **100** rapidly increases to an operation temperature at the start of the first period **506** such that aerosol is generated for a user to inhale during a user puff.

[0253] The initial portion of the first and second predetermined heating profiles are identical. So, in an alternative example, step **302** of the method comprises controlling power supplied to the heater assembly during the first period **506** according to the initial portion of the second predetermined heating profile. The graph **500** would look identical during the first period **506** regardless of whether the first or second predetermined heating profile is followed initially.

[0254] Step **404** of the method comprises determining a user puff behaviour during the first period **506** of the usage session. Specifically, the user puff behaviour is the mean average interval between puffs during the first period.

[0255] The mean average interval between puffs is determined by detecting individual user puffs during the first period by detecting a temporary drop in the temperature of the heating element **110**. The drop in the temperature of the heating element **110** is caused by the air drawn through the aerosol-generating device **100** during a user puff having a cooling effect on the heating element **110** in use. As such, puffs are indicated by the troughs **510** in FIG. **5**. The troughs **510** can be used to identify individual puffs.

[0256] The interval between subsequent individual puffs can be determined once the individual puffs have been identified by measuring the time between the start of the subsequent individual puffs. Because the first period is long enough for three or more puffs to occur, several puff intervals for subsequent puffs can be calculated throughout the first period. The mean average of those puff intervals can then be calculated. The mean average for the first period **506** is 36 seconds.

[0257] In this example, the control circuitry **132** is configured to perform step **402** and **404** of the method **400**. The aerosol-generating device **100** comprises a temperature sensor (not shown) configured to measure the temperature of the heating element **110**. The control circuitry **132** is configured to receive signals from the temperature sensor and detect a user puff based on changes (specifically, reductions) in the temperature of the heating element **1110**. The control circuitry is then configured to calculate the mean average puff interval based on a determined interval between subsequent puffs.

[0258] In an alternative example, the heating element **110** comprises a material having an electrical resistance that is temperature dependent. For example, the heating element **110** is preferably made of a material which increases in resistance when the temperature resistance increases and where the relationship between resistance and temperature is substantially linear, at least in the operational temperature range of the heating element **110**. In this example, the control circuitry **132** is configured to monitor the electrical resistance of the heating element **110**. The electrical resistance can then be used to infer or calculate a temperature of the heating element **110**. In particular, the control circuitry is configured to detect a user puff based on a drop in the resistance of the heating element **110** representative of a drop in the temperature of the heating element **110**.

[0259] Step **406** of the method comprises using the determined user puff behaviour for the first period to select one of a plurality of predetermined heating profiles stored in the memory of the control circuitry **132** for the second period. In particular, step **406** of the method comprises comparing the determined mean average puff interval for the first period **506** determined in step **404** of the method with a predetermined threshold value. If the determined mean average puff interval is greater than the predetermined threshold value than the first predetermined heating profile is selected. If the determined mean average puff interval is less than or equal to the predetermined threshold value then the second predetermined heating profile is selected.

[0260] In this example, the predetermined threshold value is 25 seconds. The determined mean average puff interval for the first period **506** is 36 seconds (i.e. greater than the predetermined threshold value). So, the first predetermined heating profile is selected in step **406** of the method.

[0261] Step **408** of the method comprises controlling the supply of power to the heating assembly according to the selected predetermined heating profile until the end of second period. So, as the first predetermined heating profile was selected in step **406** in the example of FIG. **5**, the method comprises continuing to control the supply of power to the heating assembly according to the first predetermined heating profile in the second period.

[0262] The graph **500** of FIG. **5** shows the outcome of the method of FIG. **4** when a user follows a first user puff behaviour. FIG. **6** instead shows a graph **600** of the temperature of the heater element **110** during a usage session in which a user follows the second user puff behaviour and in which the method of FIG. **4** is applied. Graph **600** is schematic and is not drawn to scale.

[0263] Steps **402** and **404** of the method **400** are the same as described above. However, the puff interval in FIG. **6** is shorter than in FIG. **5**. As such, the mean average puff interval determined at step **404** of the method is shorter when the user follows the second user puff behaviour than the first user puff behaviour. The mean average puff interval for the second user puff behaviour of FIG. **6** in the first period is 20 seconds.

[0264] 20 seconds is less than the predetermined threshold and so, at step **406** of the method, the second predetermined heating profile is selected. Step **408** of the method comprises controlling the supply of power to the heating assembly according to the second predetermined heating profile during the second period. In particular, step **408** of the method comprises controlling the supply of power to the heating assembly according to a portion of the second predetermined heating profile following the initial portion. This is the portion that corresponds to the portion of second predetermined heating profile of the second period **308***b* in FIG. **3**.

[0265] Because the second predetermined heating profile is shorter than the first predetermined heating profile, the usage session in FIG. **6** is shorter than the usage session of FIG. **5**. Similarly, a second period **508***b* of FIG. **6** is shorter than a second period **508***a* of FIG. **5**.

[0266] In the example described above, step **402** of the method comprises supplying to the heater assembly during the first period **506** according to the initial portion of the first (or second) predetermined heating profile. In an alternative example, a first, a second and a third predetermined heating profile are each stored in the memory of the control circuitry **132**.

[0267] The third predetermined heating profile has a duration corresponding to the duration of the first period **506** and is identical to the initial portion of the first and second predetermined heating profiles described in relation to FIG. **3**.

[0268] The first and second predetermined heating profiles of this example do not include the initial portion and correspond to the portions of the first and second predetermined heating profiled described in relation to FIG. **3** for the second period **308***a*, **308***b* respectively.

[0269] In this alternative example, step **402** of the method comprises supplying to the heater assembly during the first period **506** according to the third predetermined heating profile, step **406** comprises using a determined user puff behaviour for the first period to select one of the first and second predetermined heating profiles for the second period and step **408** comprises controlling the supply of power to the heating assembly according to the selected predetermined heating profile until the end of second period.

[0270] In the examples described above, the first period has a fixed duration of 100 seconds. Of course, other durations for the first period could be used but it is advantageous for the first period to last for several puffs.

[0271] In some alternative examples, the first period is not fixed. Instead, the first period end is when the control circuitry has detected that a predetermined number of puffs have occurred since the first period start. In particular, the predetermined number of puffs is three puffs. The method of controlling power supplied to the heater assembly of the aerosol-generating device **100** during a usage session in this example is fundamentally the same as that described in relation to FIG. **4**. The only difference is that the first period has a dynamic, rather than fixed, length.

1.-14. (canceled)

15. An aerosol-generating device for generating an aerosol from an aerosol-generating article comprising an aerosol-forming substrate, the aerosol-generating device being configured to generate the aerosol during a usage session comprising a usage session start, a usage session end, and at least a first period and a second period between the usage session start and the usage session end, the aerosol-generating device comprising:

a heater assembly configured to heat the aerosol-forming substrate;

a power supply configured to supply power to the heater assembly; and

control circuitry comprising a memory in which a plurality of predetermined heating profiles are stored that are different from one another,

wherein the control circuitry is configured to determine a user puff behaviour during the first period of the usage session, to use the determined user puff behaviour to select one of the plurality of predetermined heating profiles, and to control the supply of power to the heater assembly during the second period according to the selected predetermined heating profile,

wherein the usage session end corresponds to an end of the selected predetermined heating profile,

wherein the first period start corresponds to the usage session start and the second period end corresponds to the usage session end,

wherein the second period of the usage session comprises a plurality of user puffs,

wherein the plurality of predetermined heating profiles comprises a first predetermined heating profile and a second predetermined heating profile, and

wherein the first predetermined heating profile has a longer duration than the second predetermined heating profile.

16. The aerosol-generating device according to claim **15**, wherein the determined user puff behaviour during the first period relates to at least one of a puff frequency, a puff interval, a puff strength, a puff length, a number of puffs taken, a quantity of aerosol generated per puff, or a quantity of aerosol generated during the first period.

17. The aerosol-generating device according to claim **15**, wherein the first period comprises a first period start and a first period end.

18. The aerosol-generating device according to claim **17**, wherein the first period end is at least 20 seconds after the first period start.

19. The aerosol-generating device according to claim **15**, further comprising a detector configured to detect a parameter indicative of a user puff.

20. The aerosol-generating device according to claim **15**, wherein the plurality of predetermined heating profiles comprises a first predetermined heating profile and a second predetermined heating profile.

21. The aerosol-generating device according to claim **20**, wherein the control circuitry is further configured to select the first predetermined profile or the second predetermined profile based on a comparison of the detected user puff behaviour with a predetermined threshold stored in a memory of the control circuitry.

22. The aerosol-generating device according to claim **21**, wherein the predetermined threshold for the user puff behaviour stored in the memory is a threshold for a puff interval, a mean average puff interval, a puff frequency, or a mean average puff frequency.

23. The aerosol-generating device according to claim **22**, wherein the predetermined threshold corresponds to a puff interval of between 20 seconds and 34 seconds.

24. The aerosol-generating device according to claim **20**, wherein the first predetermined heating profile has a duration that is at least 30% longer than the second heating profile.

25. The aerosol-generating device according to claim **15**, wherein the aerosol-generating device is further configured to generate aerosol from the aerosol-forming substrate in the aerosol-generating article.

26. The aerosol-generating device according to claim **25**, wherein the aerosol-generating article comprises a wrapper circumscribing the aerosol-forming substrate.

27. The aerosol-generating device according to claim **25**, wherein the aerosol-forming substrate is a solid aerosol-forming substrate.

28. A method of controlling power supplied to a heater assembly of an aerosol-generating device for generating an aerosol from an aerosol-forming substrate during a usage session comprising a usage session start, a usage session end, and at least a first period and a second period between the usage session start and the usage session end, the method comprising:

determining a user puff behaviour during the first period of the usage session;

using the determined user puff behaviour to select one of a plurality of predetermined heating profiles that are different to one another; and

controlling the supply of power to the heater assembly according to the selected predetermined heating profile during the second period,

wherein the usage session end corresponds to an end of the selected predetermined heating profile,

wherein the first period start corresponds to the usage session start and the second period end corresponds to the usage session end,

wherein the second period of the usage session comprises a plurality of user puffs,

wherein the plurality of predetermined heating profiles comprises a first predetermined heating profile and a second predetermined heating profile, and

wherein the first predetermined heating profile has a longer duration than the second predetermined heating profile.

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