

CLAIMS:

1. A drag-inducing mat, comprising:
 - a main body configured to accommodate a rider, wherein the main body comprises a rider surface configured to face the rider and an opposing surface configured to face a slide surface; and
 - a sipe array defined within the opposing surface, wherein the sipe array includes a plurality of sipes that extends from a first lateral edge of the main body to a second lateral edge of the main body to selectively induce friction between the main body and the slide surface based on force applied to the sipe array by the rider.
2. The drag-inducing mat of claim 1, wherein the main body comprises one or more handles coupled to the rider surface of the main body, and wherein the sipe array is defined within the opposing surface in an area configured to receive pressure transmitted through the main body from forearms of the rider as the rider grasps the handles.
3. The drag-inducing mat of claim 1, wherein each sipe of the plurality of sipes extends through 10 percent to 25 percent of a thickness of the main body.
4. The drag-inducing mat of claim 1, wherein sipe walls of each sipe of the plurality of sipes are configured to primarily contact one another when the drag-inducing mat is not compressed by the rider.
5. The drag-inducing mat of claim 1, wherein at least one sipe wall of the plurality of sipes is configured to at least partially contact the slide surface in response to the drag-inducing mat being compressed against the slide surface by the rider.
6. The drag-inducing mat of claim 1, wherein each sipe of the plurality of sipes comprises a first sipe wall, a second sipe wall, and an inner profile extending

therebetween, and wherein the first sipe wall, the second sipe wall, and the inner profile are vulcanized, cauterized, or melted.

7. The drag-inducing mat of claim 1, wherein each sipe of the plurality of sipes comprises a linear shape, a zig-zag-shape, or an arrow-shape.

8. The drag-inducing mat of claim 1, wherein the plurality of sipes is arranged along a first direction, wherein the drag-inducing mat comprises an additional plurality of sipes that is arranged along a second direction, crosswise to the first direction.

9. The drag-inducing mat of claim 1, wherein the plurality of sipes is defined within a portion of the opposing surface corresponding to an expected elbow position of the rider, and wherein the drag-inducing mat enables the rider to adjust the friction induced between the main body and the slide surface by adjusting a weight applied to the portion of the opposing surface.

10. The drag-inducing mat of claim 1, wherein the sipe array comprises a through-hole formed at an internal end of each sipe of the plurality of sipes, and wherein the sipe array is formed within the main body via an injection molding process.

11. The drag-inducing mat of claim 1, comprising:
a first layer having the rider surface;
a second layer having the opposing surface, wherein the plurality of sipes extends through a full thickness of the second layer; and
a flexible membrane positioned between the first layer and the second layer to prevent propagation of the plurality of sipes from the second layer to the first layer.

12. A method of forming a drag-inducing mat, the method comprising:
positioning a mat adjacent to a cutting assembly, wherein the mat comprises a main body having a rider surface and an opposing surface;

moving the mat relative to the cutting assembly to define a sipe array within the opposing surface, wherein the sipe array comprises a plurality of sipes that extends from a first lateral edge of the main body to a second lateral edge of the main body; and

forming the drag-inducing mat by coupling at least one handle to the rider surface of the main body at a position that enables forearms of a rider grasping the at least one handle to transmit force from the rider surface to the sipe array defined in the opposing surface during a ride.

13. The method of claim 12, wherein moving the mat relative to the cutting assembly forms each sipe of the plurality of sipes with sipe walls that are configured to contact one another when the sipe array is uncompressed, and wherein the method comprises vulcanizing the sipe walls.

14. The method of claim 12, wherein moving the mat relative to the cutting assembly forms each sipe of the plurality of sipes as a substantially straight line.

15. The method of claim 12, wherein moving the mat relative to the cutting assembly comprises moving the mat in a lateral direction relative to the main body while the cutting assembly does not move in the lateral direction.

16. The method of claim 12, wherein the cutting assembly comprises a blade, a heated blade, or a hotwire.

17. The method of claim 12, wherein the mat is a composite mat, and wherein the method comprises segmenting the composite mat into a plurality of mats after moving the composite mat relative to the cutting assembly.

18. A water ride system, comprising:
a plurality of drag-inducing mats configured to accommodate a plurality of riders on a slide of the water ride system, wherein each drag-inducing mat of the plurality of

drag-inducing mats comprises a respective main body having a slide-facing surface, a rider-facing surface, and at least one handle coupled to the rider-facing surface, and wherein the plurality of drag-inducing mats comprises:

- a first set of the plurality of drag-inducing mats that each comprise a first respective sipe array defined from a first lateral edge to a second lateral edge of the slide-facing surface of the respective main body, wherein the first respective sipe array is configured to induce a first amount of drag when compressed by a respective rider of the plurality of riders; and

- a second set of the plurality of drag-inducing mats that each comprise a second respective sipe array defined from the first lateral edge to the second lateral edge of the respective main body, wherein the second respective sipe array is configured to induce a second amount of drag, different than the first amount of drag, when compressed by the respective rider of the plurality of riders.

19. The water ride system of claim 18, wherein the first respective sipe array of the first set of the plurality of drag-inducing mats comprises more sipes than the second respective sipe array of the second set of the plurality of drag-inducing mats, and wherein the first amount of drag is higher than the second amount of drag.

20. The water ride system of claim 18, wherein the respective main body of the first set of the plurality of drag-inducing mats comprises:

- a first layer having the rider-facing surface; and

- a second layer having the slide-facing surface, wherein the second layer is coupled to the first layer, and wherein the first respective sipe array is defined through a full thickness of the second layer.