EXHIBIT 1005

REDACTED PURSUANT TO PROPOSED PROTECTIVE ORDER FOR THE REASONS SPECIFIED IN THE CONCURRENTLY FILED MOTION TO SEAL

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

NORTH SAILS GROUP, LLC
Petitioner

v.

TEAM NEW ZEALAND LIMITED
Patent Owner

_____

Declaration of Per Andersson in Support of
Petition for Post-Grant Review of U.S. Patent No. 12,110,089

Declaration of Per Andersson in Support of
Petition for Post-Grant Review of U.S. Patent No. 12,110,089

I, Per E. Andersson, hereby declare that:

1. I am employed by North Sails Group, LLC ("North Sails") as the General Manager at North Sails 3Di production facility in Minden, Nevada. I have access to the internal books and records as well as testing information of North Sails.

2. I completed my schooling with a focus in science in the Country of Sweden where I grew up. I also completed my mandatory military service in the Swedish Navy as a radio signal officer and boat captain. During summer school vacations I started my sail making career as an apprentice sail maker at The Rebell Sailmakers in Stockholm under the tuition of Johan Larsvall of KTH (Stockholm Institute of Technology).

3. After leaving Sweden in 1980, I landed a sailmaking job in Perth Western Australia and eventually ended up joining Hood Sailmakers ("Hood") in Auckland, New Zealand. At this time, the Hood brand was one of the top sailmaking brands in the world. Employment at Hood led me into professional sailing along with putting my sailmaking focus on sail design.

4. The Hood New Zealand employment eventually brought me to the Hood main office in Marblehead, Massachusetts, U.S. After sail design involvement with the first New Zealand America's Cup Challenge in Perth, Australia and several years of involvement with IOR Maxi Yachts as the lead designer, I eventually got recruited

by Sobstad Sails, which had its head office in the U.S.

5. While at Sobstad Sails, I was instrumental in the sail design effort for the 1992 America's Cup with the winning America³ (pronounced "America cubed") Team. I also did sail design for the winning boats in the 1993-1994 Whitbread Round the World Race, *Yamaha* and *Endeavour New Zealand.* As sailor and sail designer in the IOR Maxi class and IOR 50 class, I was a member of World Championship winning teams.

6. In 1996, I was part of the founding team of Quantum Sails, headquartered in Annapolis, Maryland U.S. In my position as the Vice President and lead sail designer, I spearheaded sail development for the company. During my 11 year tenure at Quantum Sails, we built the brand to become one of the strongest sail making brands in the U.S. and eventually in the world.

7. In 2007, North Sails recruited me to join them and within six months I became the U.S. design manager stationed in Annapolis, Maryland. In 2010, I was promoted to Vice President and International Design Manager. I also packed up my family and moved to Minden, Nevada, to be more involved in the development of the 3Di product and be closer to production in the most sophisticated sailmaking facility in the world.

8. In 2017, I took on the role of general manager of the North Sails 3Di

manufacturing facility in Minden. Since my appointment in 2017, we have matured the 3Di product to where it has played a major role in the last two America's Cups in which Emirates Team New Zealand has dominated using North Sails' 3Di product. We have also dominated the Vendée Globe, single-handed, non-stop, non-assisted round-the-world sailing race with the 3Di product for the last three races.

9. A copy of my Curriculum Vitae is submitted herewith as EX1006.

10. I have read and understand U.S. Patent No. 12,110,089 to Collie ("Collie′089" EX1001). I have also read, understood, and agree with the Declaration of Daniel G. Neri (EX1003) also submitted in this proceeding, including Mr. Neri's definition of a person of ordinary skill in the art ("POSITA").

11. Because of my training as a sail designer, my participation as a sail designer in the development of the North Sails 3Di product, and my 14 years working in the factory where the 3Di sails are manufactured, I consider myself, and others consider me, an expert in all matters related to the design and manufacture of sails, the properties of the materials, and the application of the materials to create sail structures, including 3Di sails.

12. I understand the structural and design concepts the Collie′089 claims describe. The limitations of the Collie'089 claims are set forth in attached Table 3, starting with claim 1 and continuing sequentially through claim 23. Sails meeting the

limitations of Collie′089 were designed and manufactured by North Sails Nevada and North Sails New Zealand beginning in 2019, using North Sails exclusive 3Di manufacturing processes. Production of sails with the same design concepts, sold to the America's Cup syndicate known as Team New Zealand Limited (or "Team New Zealand") has been continuous from Q-2 2019 through to Q-3 2024. The same sail design concept was used by Team New Zealand in the 2024 America's Cup race in Barcelona.

13. On August 7, 2018, North Sails Group, LLC and Team New Zealand Limited, entered into a formal written agreement for the sale of sails made by North Sails to Team New Zealand for the purpose of racing in the upcoming America's Cup race. Under this agreement, Team New Zealand would purchase sails every few months. EX1036 lists the headsails (typically identified by the letter J plus a number (1, 2, or 3) indicating the wind conditions the sails were designed for) and mainsails (identified by the letter M plus a number (1 or 2) indicating the wind conditions the sails were designed for) that were sold to Team New Zealand during this time period. [redacted] of those sails had shipping or invoice dates before the claimed December 17, 2020 priority date of Collie'089, including [redacted] were designed and shipped more than a year before the Collie'089 priority date, [redacted].

14. As the general manager of North Sails' 3Di factory, I was present when the first sail designs pertaining to Collie′089 were discussed between Burns Fallow, representing North Sails New Zealand, and Team New Zealand, and members of the North Sails factory staff. Mr. Fallow was and is an employee of North Sails New Zealand and of Team New Zealand. The North Sails factory staff provided Mr. Fallow with information related to the modulus, tensile, and shrinkage properties of the tapes he was interested in using, and the staff contributed guidance regarding preparation of the structural files for production. The designs that were used were a natural application of earlier work done by Tom Whidden at North Sails, which are discussed in his declaration. (EX1007), which I have read, understood, and agree with.

15. The first sail order submitted by Team New Zealand that featured all of the characteristics described in the Collie′089 claims was received by the North Sails factory in February of 2019. The completed structures were then shipped from the factory in Minden, Nevada to North Sails New Zealand for the addition of finishing details and then to the Team New Zealand headquarters in Aukland, New Zealand on March 19, 2019. This sail was North Sails' order numbers [redacted]. The sail order is actually two sail orders because this is a twin-skin mainsail of the type used in the AC75 boats that compete in America's Cup races. This sail was designed to be used on a Farrier 25 trimaran (see EX1036 entries for

[redacted]).

16. Even though the Collie′089 claims seem to describe a sail made with panels cut from rolls of cloth (i.e., the "first material" or "second material"), today's high performance sails are all unitary composite structures like the 3Di sails produced by North Sails. A 3Di sail is typically made up of 18 plies (layers) of tape, each tape being either 150mm or 200mm wide. The tapes are comprised of fiber spread to the level of individual filaments which are suspended in a very light film of resin with the fibers running longitudinally in the direction of the length of the tapes. The tape types vary based on the type and amount of fiber that is used. The fiber types used in 3Di construction include [redacted]. The tapes are deposed in a variety of angles on each ply of the structure to address anticipated loads that the sails will experience during use, which are calculated by the sail design software provided to the designer by North Sails. The direction of the tapes dictates the direction of the fibers embedded in the tapes in the completed sail. Typically, the tapes in the different plies may run in many different directions. It should be noted that the tapes in a given ply often overlap to some extent, providing areas of higher tape density than would result from non-overlapping tapes.

17. To understand the construction of the 3Di sail made and sold to Team

New Zealand, including those sold to team New Zealand more than a year prior to the December 17, 2020 priority date claimed by Collie'089, the POSITA needs to examine the taping report for those sails. The taping report illustrates the plies of tape covering each area of the sail and each page of the taping report includes information regarding the type of material in the ply illustrated, as well as illustrating how the tapes are positioned in each ply. Attached Table 3 shows each of claims 1-7 and 9-23 of Collie'089 and illustrates how the sails sold to Team New Zealand by North Sails more than one year prior to the December 17, 2020 priority date of Collie'089 meet the limitations of the Collie'089 claims.

18. [redacted] These plies can be ignored for the purpose of examining the relative tensile properties of the structure as it relates to Collie′089, as explained below.

19. All of the sails sold to Team New Zealand had substantially the same design as claim 1 of Collie'089, including a head, a tack, a luff, and a luff region that is more elastic than the remainder of the sail, in which the remainder of the sail has a stiffness that falls within the range of 2 to 20 times stiffer than the luff region. North Sails [redacted] is used as a representative example of a mainsail (e.g., as in Collie'080 claim 2), and the taping report for this sail is found in EX1034.

[redacted] is used as an example of a headsail (a jib; e.g., as in Collie'089 claim 3), and the taping report for this jib is found in EX1035. While I will discuss the sails of order numbers [redacted] in detail below, the foregoing discussion applies equally to all of the sails in EX1036, which were sold more than a year before the December 17, 2020 priority date of Collie'089.

20. The images above show three pages of the taping report for North Sails order number [redacted], which was a mainsail made for an AC75 class boat that raced in the America's Cup. This is the first of several mainsails manufactured by North Sails and sold to the Team New Zealand America's Cup syndicate beginning in June of 2019 (18 months prior to the claimed December 17, 2020 priority date based

on the Collie provisional patent application Serial No. 63/127,127), and are exemplary of the other sails sold to Team New Zealand. All of the mainsails were twin-skin sails with two identical sail skins (e.g., as in claim 22 of Collie'089) and are shown with two order numbers, one for each skin, in EX1036. [redacted] This is true for all of the sails in EX1036.

21. [redacted] This is true for all of the sails in EX1036, although the specifics of the reinforcements differ for the jibs relative to the mainsail.

22. [redacted]

23. The remaining plies contain the tapes that make up the materials or regions described in Collie′089. The first material covers the luff region of the sail.

[redacted]

24. It is evident from this illustration that the first material extends towards the leech of the sail (to the right) more in the middle of the sail than in the tack

(bottom left) and head (top) areas, e.g., as in Collie′089 claim 12. The first material in this sail extends approximately 25% to 30% of the width of the sail towards the leech, e.g., as in Collie′089 claim 11 (about 10% to about 50%). [redacted]

25. The so-called second material of Collie'089 claim 1, covering the remainder of the sail, comprises tapes on ply numbers 6 and 12. Other plies of the remainder of the sail are discussed in paragraphs 39 and 40 below, and comprise plies 7 and 11. [redacted]

[redacted]

26. Collie'089 claim 1 specifies that the average stiffness of the second material is 2-20 times that of the first material. The sail of order number [redacted] from EX1036 satisfies this claim since the second material modulus [redacted] Therefore, claim 1 is anticipated by the sail of [redacted] and the other sails of EX1036, because these sails meet all of the limitations of Collie'089 claim 1.

27. Table 3 attached to this Declaration lays out all of the limitations of Collie'089 claims 1-7 and 9-23, and illustrates how these claim limitations are met by the sails sold by North Sails to Team New Zealand, listed in EX1036, more than one year prior to the December 17, 2020 priority date for the patent. For completeness, I will also explain further how each claim is anticipated, again primarily using mainsail [redacted] and headsail [redacted] as illustrative examples. The anticipation of claim 1 by these sails is explained above.

28. Claim 2 specifies that the sail in a mainsail, and is anticipated because several of the sails listed in EX1036 sold to Team New Zealand more than a year before the priority date are mainsails. See, for example, [redacted].

29. Claim 3 specified that the sail is a headsail, and is anticipated by the headsails (jibs) listed in EX1036 sold to Team New Zealand more than a year before the priority date of Collie'089, because these headsails meet all the limitations of claim 1. See, for example, [redacted] from EX1036. The illustration below shows plies 4 and 6 of headsail [redacted], taken from the taping report of that sail found in EX1035.

North Sails order number [redacted] is a headsail. This order was manufactured and sold in October 2019. The layers shown above, captured from the taping report of that sail are illustrative of the same construction concepts [redacted], with the blue in ply 4 representing the region of the first material and the red in ply 6 representing the region of the second material. The other limitations of claim 1, such as the ratio of elasticity between the first and second materials, are met [redacted]

[redacted]

30. Claim 4 specifies a range of failure strain for the first material of 2.5% to 30%, and is anticipated because the tapes used for the luff region of [redacted], and the other sails in EX1036 [redacted]

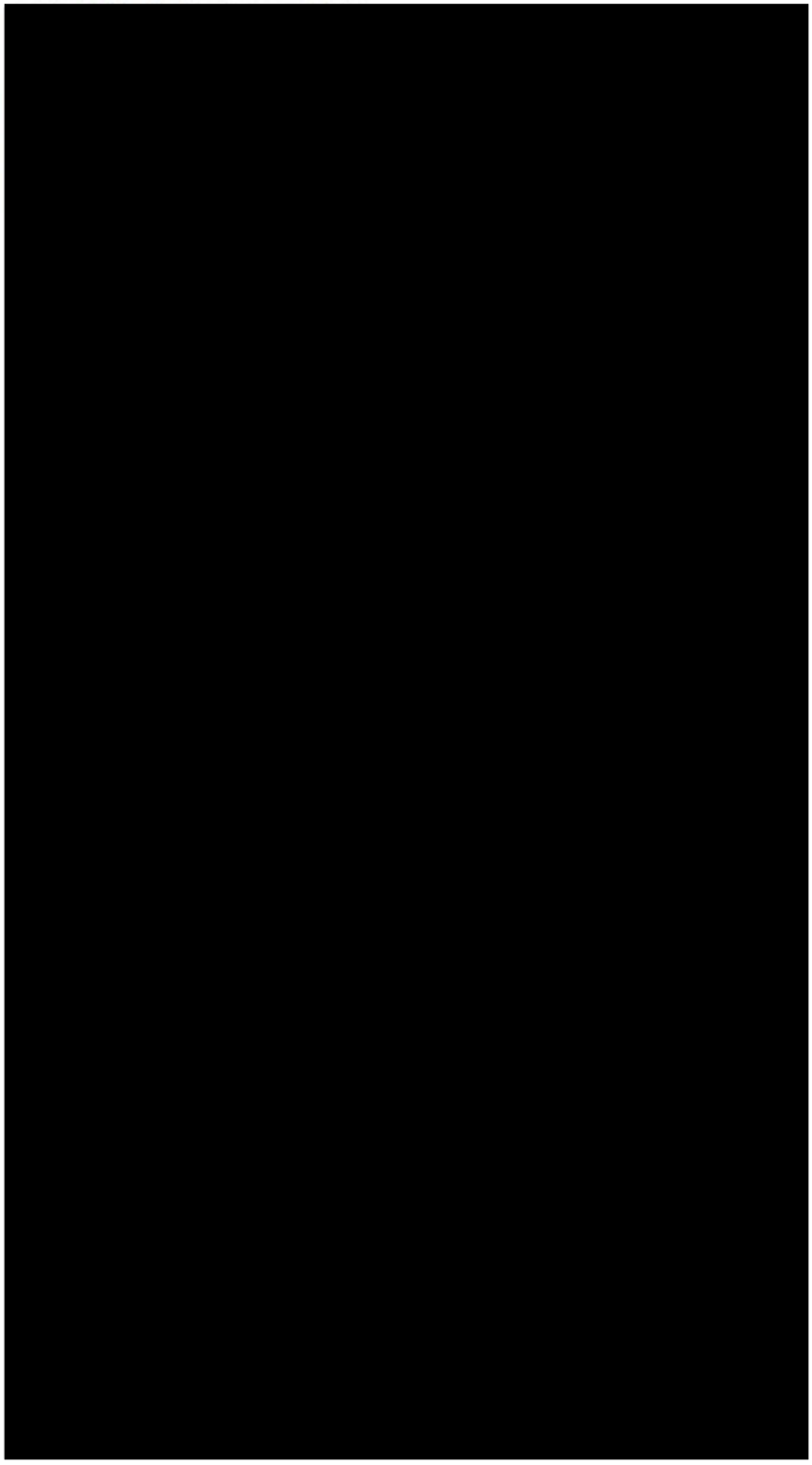
31. Claim 5 specifies a ratio of failure strain of the first material to the second material of 2 to 10 times, and is anticipated by the sails of EX1036, including [redacted], because the failure strain of the tapes of the first material (luff region) is [redacted] (the reminder of the sail), based on the failure strain values discussed in paragraphs 24 and 25, above.

32. Claim 6 specifies an average Young's Modulus of about 1 to about 60 GPa for the first material, and is anticipated by the sail of order number [redacted], because the sails sold to Team New Zealand had a first material with a Young's Modulus [redacted].

33. Claim 7 specifies that the first material has an average elasticity that is at least about 100% to about 2400% higher (i.e., 2 to 25 times greater) than an average

elasticity of the second material, and is anticipated by the sail of orders number [redacted]

34. Claim 9 depends on claim 6 and specifies that there are sailcloth fibers in the luff region of the sail which extend in an angle greater than or equal to about 15 degrees free from fibres parallel to the luff of the sail, and is anticipated by the sail of [redacted] and the other sails in EX1036, because base claim 6 is anticipated (see paragraph 32, above), and the headsails sold to Team New Zealand have sail fibers extending at greater than or equal to 15 degrees relative to the luff as [redacted], as shown and discussed in paragraphs 23 and 24, above. In addition, headsail [redacted] includes a luff region meeting this requirement, as shown in the illustration below from EX1035:



angle of about 15 degrees or greater from the luff.

35. Claim 10 depends on claim 1 and specifies that the first material extends at least 50% to about 95% of a distance between the head and tack of the sail. Claim 10 is anticipated by the sail of [redacted] and the other sails in EX1036, because claim 1 is anticipated, and as can be seen in the drawings above discussed in paragraphs 23-24 for this sail, [redacted], based on measurements made on the images in the taping report. With the reinforcement layers included, the luff region [redacted] of the distance between the head and the tack (see paragraphs 21-22, above). Similarly, the first material of [redacted] discussed above for claim 3, [redacted]

36. Claim 11 depends on claim 1, and specifies that the first material extends up to about 10% to about 50% of a width of the sail towards a leech of the sail. Claim 11 is anticipated by the sail of [redacted] and the other sails in EX1036, because claim 1 is anticipated and, as can be seen in the drawings in paragraphs 23-25 [redacted]

[redacted]

37. Claim 12 depends on claim 9, and specifies that the first material extends towards a leech of the sail to a greater extent in the middle of the sail relative to a height of the sail compared to the luff regions towards the head and tack of the sail. Claim 12 is anticipated [redacted], and the other sails of EX1036, because claim 9 is anticipated (see paragraph 34), and as can be seen in the drawings discussed above in paragraphs 23-24, 29, and 34 for these sails, [redacted]

38. A third region is described by claim 13 (a third region having elasticity less than other regions, extending along at least a portion of the margin between the luff and remainder of the sail), claim 14 (third region extends from tack to head) and claim 15 (the third region comprises carbon).

39. The third region material of sail [redacted]

40. The tapes in these two plies, reproduced above, cover the third region material and the remainder of the sail. Red lines have been added to the image of ply 11 (above left) to indicate boundaries of the third material region. [redacted]

[redacted]

Therefore, since claim 1 is anticipated, and the third region is less elastic than the other regions of the sail, claim 13 is anticipated by the sail of [redacted] and the other sails of EX1036, which have the same design.

41. Claim 14 depends on claim 13 and specifies that the third region extends from the head to the tack of the sail. Claim 14 is anticipated by the sail of [redacted] and the other sails of EX1036 which have the same design, because claim 13 is anticipated, and [redacted]

42. Claim 15 depends on claim 13, and specifies that the third region comprises carbon. Claim 15 is anticipated because claim 13 is anticipated, and the tapes used to make the third region the sail [redacted]

43. Claim 16 depends on claim 1 and specifies that the first material comprises a gradient of reducing elasticity in a direction from luff to leech, as defined by its: (i) failure strain, **or** (ii) average Young's Modulus, **or** (iii) both (i) and (ii)is anticipated by the sail [redacted] and the other headsails in EX1036, because as shown in the images below, ply numbers 17 and 15 combine to fill in one layer of the first material of the luff region of the headsail of order number ONZ-3404-001. Ply 17 (orange, left) uses tape type 935120 which comprises 100% polyester fiber and ply 15 uses tape type 935159 which comprises 80% polyester and 20% aramid fibers. The failure strain of type 935120 is 6.9% and the failure strain of type 935159 is 5.9%. Lower failure strain means less elasticity. Thus, these two plies together constitute the gradient of reducing elasticity in the luff region in the direction from luff toward the leech, as required by claim 16. In addition, tape 935120 has a Young's Modulus of 8 GPa, while tape 935159 has a Young's Modulus of 13. Thus, the luff region of ONZ-3404-001 also has a gradient of reducing elasticity in the direction from luff to leech based on Young's Modulus. Consequently, claim 16 is anticipated by ONZ-3404-001.

44. Claim 17 depends on claim 16, and specifies that the first material comprises polyester. Claim 17 is anticipated by the headsails listed in EX1034, because claim 16 is anticipated,

45. Claim 18 depends on claim 16, and specifies that the first material of the luff region comprises polyester in combination with one or more of aramid and

UHMWPE. Claim 18 is anticipated [redacted], because claim 16 is anticipated, [redacted]

46. Claim 19 depends on claim 1, and specifies that a difference in elasticity is achieved by a lesser material thickness in the luff region compared with the remainder of the sail. Claim 19 is anticipated by [redacted] This can be seen in the computer rendering below of a slice from the luff to the leech (left to right) in the center of the sail. [redacted]

[redacted]

47. Claim 20 depends on claim 1, and specifies that an orientation of a material in the luff region is different from an orientation of a material in the remainder of the sail, such that the luff region has a higher degree of elasticity compared to the remainder of the sail. Claim 20 is anticipated [redacted], and the other sails of EX1036, because claim 1 is anticipated, and the orientation of at least some tapes in the luff region differ from the orientation of some of the tapes in the remainder of the sail. [redacted] It has already been noted that the luff regions of the sails are more elastic than the remainders of the sails.

48. Claim 21 depends on claim 1, and specifies that the luff region does not comprise any carbon fibres oriented within 15 degrees of parallel to the luff, and

wherein the remainder of the sail does comprise carbon fibres oriented within 15 degrees of parallel to the luff. [redacted]

49. Claim 22 depends on claim 1, and specifies that the sail is a twin-skin mainsail having two skins defining the sail, wherein each skin has a luff region extending along the luff, and wherein each 1uff region has a higher degree of elasticity compared to a remainder of the respective skin. Claim 22 is anticipated by the mainsails of EX1036, because claim 1 is anticipated, and all of these mainsails of EX1036 are twin-skin mainsails with identical skins that have luff regions that are more elastic than the remainder of the respective sail skins, as discussed above with respect to claim 1 (see, e.g., paragraphs 19-26 above).

50. Claim 23 is essentially the same as claim 1, except that it specifies that the relative stiffness of the remainder of the sail and the luff region is in a luff direction and increases the higher number for the stiffness ratio from 20 to 25. Claim

23 is anticipated by all of the sails in EX1036 for the same reasons given for claim 1 discussed above, and because the relative stiffness of the remainder of the sail compared to the luff region that I discussed with regard to claim 1 was stiffness in the direction of the luff.

51. It is my understanding that none of sails sold to Team New Zealand are covered by claim 8.

52. In summary, as shown in EX1036, North Sails produced and sold at least 23 sails that embodied the same concepts described above [redacted].

53. An additional 13 sails listed in EX1036 have shipping or invoice dates between the claimed priority date and February 26, 2021. No significant changes were made in the designs or manufacture of the sails after the claimed priority date.

54. As can be understood from the discussion above, Collie′089, which has Team New Zealand as the applicant, was written to cover sails that were sold by North Sails to Team New Zealand more than a year before the Collie′089 provisional

application was filed. Even Team New Zealand believes that Collie'089 covers the sails sold by North Sails.

55. EX1038 is an email sent to Burns Fallow at his North Sails email account that is kept in the ordinary course of business. [redacted]

I, PER E. ANDERSSON the undersigned declarant, further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18, United States Code.

Dated: June 24, 2025

Per E. Andersson

TABLE 3

Claim of Collie U.S. Pat. No. 12,110,089	**Citations to Sails Sold by North Sails Group More than One Year Before the Earliest Claimed Priority Date of Collie'089**
	As shown in **EX1036**, [redacted] North Sails Group more than a year before the claimed December 17, 2020 priority date of Collie'089. All of the sails were 3Di composite sails of substantially the same design, and North Sails' [redacted] is used as the representative example of a mainsail, below. 3Di sails are prepared by laying down layers (plies) of tapes on a sail mold. The tapes comprise fibers running the length of the tapes embedded in a resin. After all the tapes are laid down on the sail mold, the resulting mass of tapes is cured to produce a unitary sail made up of many layers of fibers embedded in a cured polymeric matrix. The fibers in the sails follow the patterns of the tapes that were used to make the sail. [redacted] which shows the layout of tapes making up the sail, and the types of tapes used, is found in **EX1034**. [redacted] is used as a representative headsail (a jib), and the taping report for this sail is found in **EX1035**. Discussions of stiffness and elasticity, below, refers to stiffness or elasticity in the direction of the luff.

TABLE 3

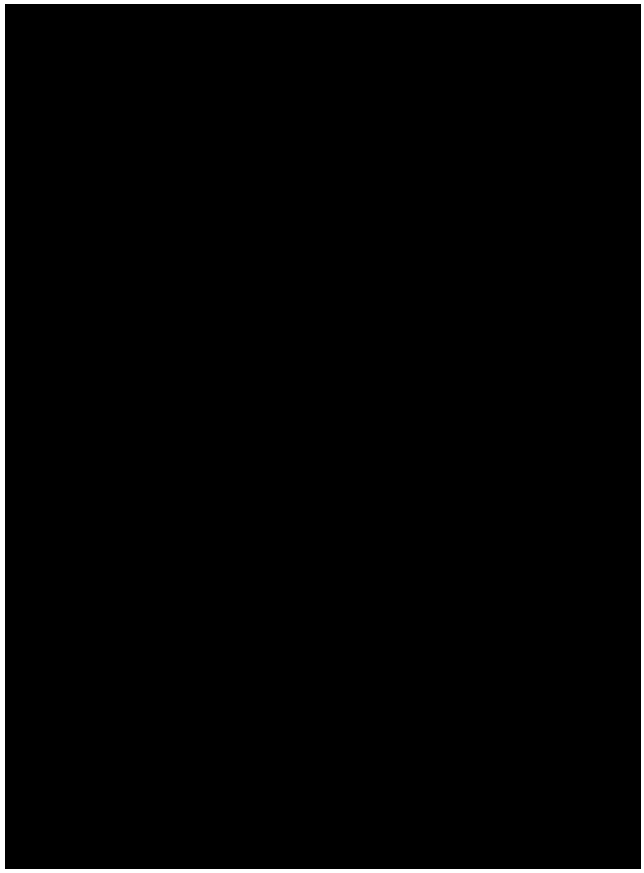
Claim 1	
A sail comprising a head, a tack, a luff extending between the head and the tack; and a luff region extending along the luff; wherein the luff region has a higher degree of elasticity compared to a remainder of the sail,	[redacted] The images below are from **EX1034** unless otherwise specifically indicated **.** The first image is annotated to identify features of a sail. 

TABLE 3

	[redacted] Therefore, the luff region is more elastic than the remainder of the sail.

TABLE 3

wherein the luff region of the sail includes a first material	The luff region includes [redacted], the first material.
and a remainder of the sail includes at least a second material,	[redacted] the second material, which covers the remainder of the sail.
wherein the first material and the second material are different, and	[redacted], the first material, [redacted]
wherein an average stiffness of the second material is in a range of 2-20	[redacted]

TABLE 3

times higher than an average stiffness of the first material.	Therefore, claim 1 is anticipated.
Claim 2	
The sail of claim 1, wherein the sail is a mainsail.	Order number [redacted] is a mainsail. Therefore, claim 2 is anticipated.
Claim 3	
The sail of claim 1, wherein the sail is a headsail.	[redacted] The images above are from **EX1035** showing two plies from North Sails order number [redacted], which is a headsail. This order was manufactured and [redacted]. The layers shown above, captured from the taping report of that sail are illustrative of the same construction concepts used for [redacted]

TABLE 3

	[redacted] The other limitations of claim 1, such as the ratio of elasticity between the first and second materials, are met, [redacted] Therefore, claim 3 is anticipated by the headsail of [redacted]
Claim 4	
The sail of claim 1, wherein the first material has a failure strain of at least about 2.5% to about 30%.	[redacted] Therefore, claim 4 is anticipated by [redacted]
Claim 5	
The sail of claim 1, wherein the first material has a failure strain of at least about 2 to about 10 times the failure strain of the second material.	[redacted] [redacted] and, therefore, claim 5 is anticipated by [redacted]
Claim 6	
The sail of claim 1, wherein the first material has	

TABLE 3

an average Young's Modulus of about 1 to about 60 GPa.	Order number [redacted] and order number [redacted] Therefore, claim 6 is anticipated by [redacted]
Claim 7	
The sail of claim 1, wherein the first material has an average elasticity that is at least about 100% to about 2400% higher than an average elasticity of the second material.	Order number [redacted] and order number [redacted] use [redacted] Elasticity is inversely related to Young's modulus. [redacted] Therefore, claim 7 is anticipated by [redacted]
Claim 8	
The sail of claim 1, wherein there is an absence of sail fibres, or sailcloth fibres, that extend in a direction parallel, or at least substantially parallel, to the luff in the luff region of the sail.	It is believed that the sails listed in **EX1036** are not covered by this claim.

TABLE 3

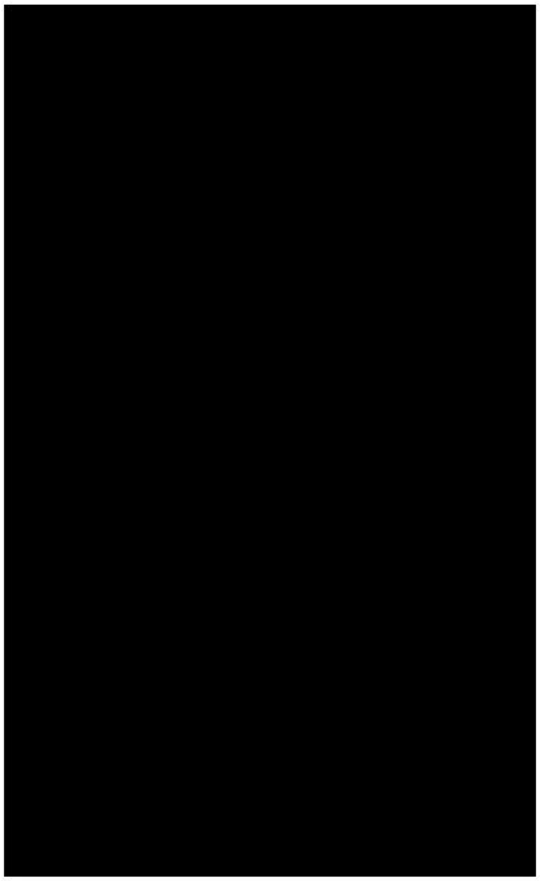
Claim 9	
The sail of claim 6, wherein there are sail fibres, or sailcloth fibres, in the luff region of the sail, the sail fibres, or sailcloth fibres, extending in a line that leaves an angle of greater or equal than about 15 degrees free from fibres relative to a direction parallel to the luff of the sail.	 North Sails [redacted] is a headsail. This order was manufactured and sold in October 2019. The layer shown above (ply 5), captured from the taping report of that sail (**EX1035**) is illustrative of the same construction concepts used [redacted] In addition, in the luff region (first material) plies of [redacted] discussed above for claim 1, [redacted]

TABLE 3

	Therefore, claim 9 is anticipated [redacted]
Claim 10	
The sail of claim 1, wherein the first material extends at least 50% to about 95% of a distance between the head and tack of the sail.	The first material in orders number [redacted] extend at least about 95% of the distance between the head and tack as shown in the images above for claim 1 and claim 3. Therefore, claim 10 is anticipated by [redacted]
Claim 11	
The sail of claim 1, wherein the first material extends up to about 10% to about 50% of a width of the sail towards a leech of the sail.	The first material in order number [redacted] extends about 25% to 30% of a width of the sail towards the leech of the sail as shown above for claim 1. Similarly, the first material of [redacted] (see claim 3) extends at least about 10% to 20% of the width of the sail toward the leech. Therefore, claim 11 is anticipated by [redacted]
Claim 12	
The sail of claim 9, wherein the first material extends towards a leech of the sail to a greater	The first materials in [redacted] extend towards the leech to a greater extent in the middle of the sail

TABLE 3

extent in the middle of the sail relative to a height of the sail compared to the luff regions towards the head and tack of the sail.	relative to the height of the sail as shown above for claim 1 and claim 3. Therefore, claim 12 is anticipated [redacted]
Claim 13	
The sail of claim 1, wherein the sail includes a third region having an elasticity less than other regions of the sail, this third region extending along at least a portion of a margin of the luff region between the luff region and the remainder of the sail.	[redacted] The area of the third material is highlighted with red outline on ply 11 for clarity. The stiffness (inverse of elasticity) is a function of the tape type and the number of layers of the tape. [redacted]

TABLE 3

	[redacted] it therefore has the lowest elasticity of the three regions. Therefore, claim 13 is anticipated by [redacted].
Claim 14	
The sail of claim 13, wherein the third region extends from the head to the tack of the sail.	The third region extends from the head to the tack on order number [redacted] as shown above for claim 13. Therefore, claim 14 is anticipated [redacted]
Claim 15	
The sail of claim 13, wherein the third region comprises carbon.	The tapes used for the third region on order number [redacted] Therefore, claim 15 is anticipated [redacted]

TABLE 3

Claim 16	
The sail of claim 1, wherein the first material comprises a gradient of reducing elasticity in a direction from luff to leech, as defined by its: (i) failure strain, **or** (ii) average Young's Modulus, **or** (iii) both (i) and (ii).	[redacted] Thus, the luff region of [redacted] also has a gradient of reducing elasticity in the direction from luff to leech based on Young's Modulus. [redacted] Therefore, claim 16 is anticipated [redacted]
Claim 17	
The sail of claim 16, wherein the first material comprises polyester.	North Sails [redacted]

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	Therefore, claim 17 is anticipated [redacted]
Claim 18	
The sail of claim 16, wherein the first material comprises polyester in combination with one or more of aramid and UHMWPE.	[redacted] North Sails [redacted] also includes the same tape type in the luff region (first material), as discussed for claim 3. Therefore, claim 18 is anticipated [redacted]
Claim 19	
The sail of claim 1, wherein a difference in elasticity is achieved by a lesser material thickness in the	

TABLE 3

luff region compared with the remainder of the sail.	The material in the luff region consists of fewer layers of material with a lower modulus rating [redacted] compared to the area behind and adjacent to the luff region and in the remainder [redacted] The slice from luff to leech in the center of the sail of [redacted] shown above, highlights the density differences between different regions of the sail, where the roughly vertical lines indicate tape edges [redacted] A lower tape density means a thinner material in the luff region relative to the remainder of the sail, because the amount of tape fibers in a given portion of a sail is directly proportional to the thickness of the sail in that region, which imparts a higher elasticity to the luff region compared to the remainder of the sail. [redacted]
Claim 20	
The sail of claim 1, wherein an orientation of a material in the luff region is different from an orientation of a material in the remainder of the	Claim 20 is anticipated by [redacted] and the other sails of EX1036, because claim 1 is anticipated, and the orientation of at least some tapes in the luff region differ from the orientation of some of the tapes in the remainder of the sail.

TABLE 3

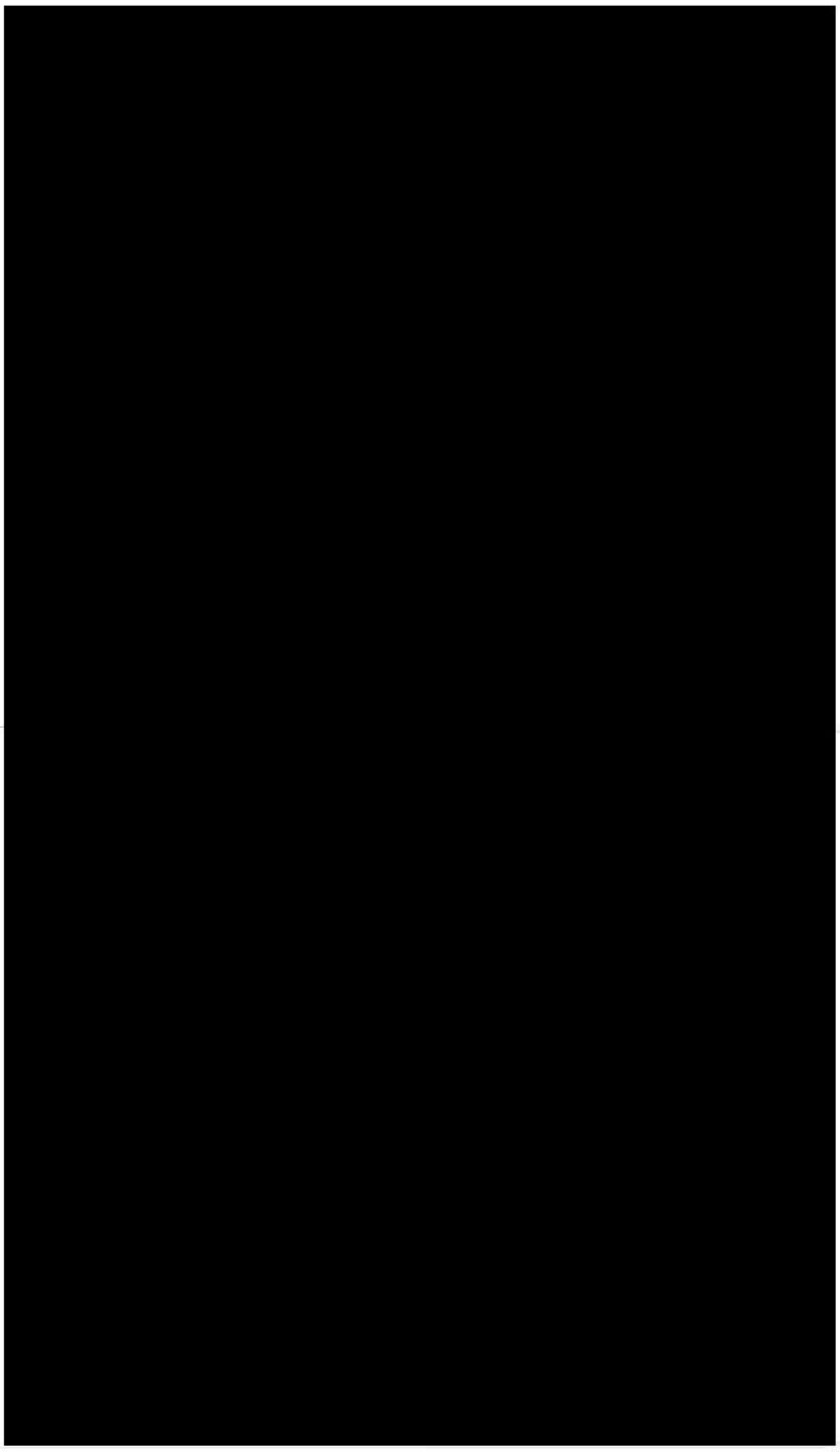
sail, such that the luff region has a higher degree of elasticity compared to the remainder of the sail.	

TABLE 3

	[redacted] [redacted] [redacted] Therefore, claim 20 is anticipated [redacted]
Claim 21	
The sail of claim 1, wherein the luff region does not comprise any carbon fibres oriented within 15 degrees of parallel to the luff, and wherein the remainder of the sail does comprise carbon fibres oriented within 15 degrees of parallel to the luff.	[redacted] [redacted] Therefore, claim 21 is anticipated [redacted]

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Claim 22	
The sail of claim 1, wherein the sail is a twin skin mainsail having two skins defining the sail, wherein each skin has a luff region extending along the luff, and wherein each luff region has a higher degree of elasticity compared to a remainder of the respective skin.	North Sails order number [redacted] is a twin skin mainsail. As stated for claim 1, the luff region is more elastic than the remainder of the sail, [redacted] Therefore, claim 22 is anticipated.
Claim 23	
A sail comprising a head, a tack, a luff extending between the head and the tack; and a luff region extending along the luff; wherein the luff region has a higher degree of elasticity compared to a remainder of the sail, wherein in a	Claim 23 and Claim 1 are essentially the same and all the explanations for claim 1 apply here with the remainder of the sail being [redacted] For the reasons claim 1 is anticipated above, claim 23 is anticipated.

TABLE 3

luff direction, a ratio of a stiffness of regions outside the luff region and the stiffness of the luff region is in a range of 2-25 times greater.	