individual unconnected fibers, similar to the KISS Accused Products. *See id.* at Q/As 256-64. The undersigned therefore finds that Respondents' solvent testing is persuasive evidence that the KISS Accused Products do not have heat fused connections.

The undersigned further finds that this conclusion is consistent with the description of the manufacturing process for the KISS Accused Products. The Parties agree that during manufacturing, the KISS Accused Products

See RX-1688C at

Q/As 53-54; CX-2095 at Q/A 87. The evidence, however, confirms that neither PBT nor PET will heat fuse at 120°C under those manufacturing conditions. Semi-crystalline polymers like PBT have a melting temperature (Tm) of about 225°C and a glass transition temperature (Tg) of about 55°C. See RX-1688C at Q/As 68, 70; RX-0007C at Q/As 97-99; 102, 105; CX-2095C at Q/A 55. Exceeding the glass transition temperature will cause the non-crystalline regions to become more flexible, but the crystalline regions remain rigid. See RX-1688C at Q/A 67; RX-0007C at Q/As 98, 101. At the glass transition temperature, the material can bend more easily, but remains solid. See RX-1688C at Q/As 68, 72. If the temperature is increased to reach the melting temperature, the crystalline regions will then melt. See id. at Q/A 70. Thus, at temperatures at or above the melting temperature, the polymer will flow and can fuse to other pieces of polymer. See id. The evidence therefore shows that, absent other conditions, PBT and PET must reach their melting temperature in order to be joined to form a single entity. See RX-1688C at Q/A 73. However, because the manufacturing process for the KISS Accused Products

¹⁵ The evidence shows that amorphous PET has a Tg of around 68-69°C and semi-crystalline PET has a Tg of around 77-82°C. See RX-0007C at Q/A 102; RX-1298; CX-2095C at Q/A 55. The evidence also shows that PET has a Tm of about 260°C. See RX-0007C at Q/A 112.

this is further

evidence that they are not joined by applying heat to form a single entity.

For these reasons, the undersigned finds that the KISS Accused Products do not meet the "heat fused" limitations.

ii) "cluster"; "first base"; "second base"; "the first and the second base are included in a common base"; "spaced apart"

According to the language of claim 1, the limitations "cluster," "first base," "second base," "the first and the second base are included in a common base," and "spaced apart" all relate to the "heat fused" limitations. *See* JX-0002, cl. 1. However, because the undersigned found that the KISS Accused Products do not meet the "heat fused" limitations, they cannot meet the "cluster," "first base," "second base," "the first and the second base are included in a common base," and "spaced apart" limitations of claim 1 for at least the same reasons.

iii) Conclusion

Accordingly, for the reasons set forth above, the undersigned finds that the KISS Accused Products do not infringe claim 1 of the '984 patent.

b) Claim 23

While not identical to claim 1, independent claim 23 also recites the term "heat fused." JX-0002, cls. 1, 23. Therefore, for at least the same reasons as set forth above with respect to claim 1, the undersigned finds that Lashify has failed to prove that the KISS Accused Products meet the limitations in claim 23. Accordingly, the undersigned finds that the KISS Accused Products do not infringe claim 23 of the '984 patent.

c) Claims 9 and 27

Claim 9 depends from independent claim 1, and claim 27 depends from independent claim 23. JX-0002, cls. 1, 9, 23, 27. Because the undersigned has found that independent claims 1 and

23 are not infringed by the KISS Accused Products, it is not necessary to determine whether dependent claims 9 or 27 are infringed. *See Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989) ("One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.").

2. Hollyren Accused Products¹⁶

Lashify asserts that the Hollyren Accused Products infringe claims 1, 9, 13, 23, and 27-28 of the '984 patent. CIB at 39. Respondents disagree and assert that the Hollyren Accused Products do not infringe the asserted claims. RIB at 42. Staff agrees with Respondents. SIB at 33-39.

a) Claim 1

Lashify argues that the Hollyren Accused Products meet each and every limitation of claim 1. CIB at 39-42. Respondents argue that the Hollyren Accused Products do not meet limitations 1[a]-[e]. RLUL at 1. Respondents, however, do not dispute that the following portions of those limitations are met: "a plurality of first artificial hairs," "a common base," "the common base," and "forming a lash extension configured to be attached to a user." *Id.* Staff contends that the Hollyren Accused Products do not meet the following limitations: "heat fused," "a first base," "a second base," "a common base," and "spaced apart." SIB at 33-39.

i) "heat fused" (Limitations 1[a] and 1[b])

Lashify asserts that Dr. Iezzi analyzed the Hollyren Accused Products using the same process as the KISS Accused Products. CIB at 39. According to Lashify, "[v]isual inspection showed that the fibers have been joined together to form a single entity, as indicated by deformation or surface characteristics of the fibers, including a change in their diameter." *Id.* Lashify asserts that an exemplary image of the Hollyren DD702 shows the white fiber cores

¹⁶ Staff submits that while Hollyren sells heat-bonded products, the DD702 to DD707 Hollyren Accused Products are Hollyren's glue-based products manufactured using Method One. SIB at 32; *see also* RIB at 42.

surrounded in haloes/rings, which are joined outer surfaces of the fibers themselves. *Id.* at 39-40. Lashify argues that "Dr. Mays' solvent testing does not prove the lack of heat fusion, but instead proves that the lash products were heat fused prior to him destroying the lashes." *Id.* at 40.

Lashify contends that the solvent Dr. Mays used (acetone) is chemically incompatible with the polymer materials in the products. CRB at 19. Lashify argues that the acetone actually dissolved the base polymer itself, destroying the heat-fused connections. *Id.* Lashify also claims that for other samples that did not result in separated fibers, Dr. Mays pulled the base away from the product, destroying them in the process. *Id.* On the other hand, Lashify asserts that Dr. Iezzi's images show deformed and connected fibers, demonstrating heat fusion. *Id.* at 20.

Respondents submit that the Hollyren Accused Products are not made with heat fusion, but rather are made by

RIB at 42.

Respondents assert that Dr. Mays' solvent testing proves a lack of heat fusion. *Id.* at 43. According to Respondents, for the DD702, DD704, and DD706 Hollyren Accused Products, the solvent softened the glue so that individual fibers came apart with little force, if any. *Id.* at 43-44. Respondents contend that the fibers were not deformed or squished, as would be the case if there were heat fusion. *Id* at 44. Respondents submit that Dr. Mays performed similar solvent testing on heat-bonded products, which demonstrated that much more force was required to pull those products apart after using solvent. *Id*. In addition, Respondents note that the acetone did not dissolve any heat fused connections between PBT fibers because PBT is not soluble in acetone. RRB at 17.

Respondents argue that the Hollyren Accused Products

RIB at 44.

Respondents contend that for PBT, which is a semi-crystalline polymer, it cannot be heat fused except at or above the melting temperature. *Id.* at 44-45. Respondents also assert that the Hollyren Accused Products are similar to the Lilac Doe, which Lashify admits does not infringe. *Id.* at 45-46; RRB at 17. In addition, Respondents contend that, when comparing images of the Hollyren Accused Products before and after curling, the connections between fibers do not differ, establishing that the curling process does not result in heat fusion. RIB at 46.

Staff argues that the Hollyren Accused Products do not practice these limitations. SIB at 33. Staff explains that the Hollyren Accused Products are exposed to *i.e.*,

Id. at 33-34. Staff contends that at that temperature, there is no adhesion between PBT fibers. Id. Staff claims that Dr. Mays examined the product samples before and after the curling process, and found that the curling process does not physically change the connections between the fibers, which indicates that it does not cause heat fusion. Id.

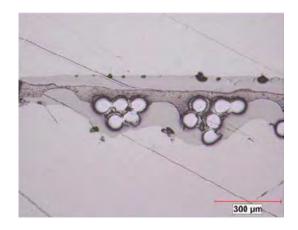
Moreover, Staff claims that Dr. Iezzi's testing results are unreliable because he did not include control samples. *Id.* Staff criticizes Dr. Iezzi's testing because, without attempting to first remove the glue in the base, he instructed the laboratory to pull out individual fibers from the product using tweezers. *Id.* Staff asserts that "[t]he failure to remove the glue base means that the results could have been caused by other factors, such as the forceful pulling of the fibers from the hardened glue." *Id.* Staff explains that any alleged deformation or broken fibers could be due to the fracture of hardened glue. *Id.* at 34-35. On the other hand, Staff contends that Dr. Mays' solvent testing showed a lack of heat fused connections. *Id.* at 35. Staff asserts that Dr. Mays used

acetone, which dissolved the base and the adhesive used to bond individual fibers together for the exemplary DD703, DD705, and DD707 Hollyren Accused Products, but did not affect the PBT fibers. *Id.* Staff claims that after removal of the acetone, only separated individual fibers could be seen. *Id.* For the DD702, DD704, and DD706 Hollyren Accused Products, Staff similarly argues that the solvent did not dissolve the glue, but softened it so that individual fibers came apart easily. *Id.* at 36. Staff also explains that for the heat-bonded control samples, much more force was required to pull apart the artificial hairs, and in fact, when attempting to pull out individual fibers, Dr. Mays pulled out three fibers connected together. *Id.*

Staff submits that Dr. Iezzi's cross-sectional photos of the Hollyren Accused Products are not persuasive evidence of heat fusion. SIB at 36-38. Staff instead points to Dr. Mays' opinion that the images are typical of what one would expect to see for glued PBT artificial lashes. *Id.* at 37. Staff also criticizes Lashify's use of an "exemplary" image of the DD702 Hollyren Accused Product because "the presence of adhesive coupled with gaps in between several fibers undermine any conclusion that 'merging' has occurred, much less merging of each and every fiber to at least one other adjacent fiber in the same cluster of artificial hairs." *Id.* at 38.

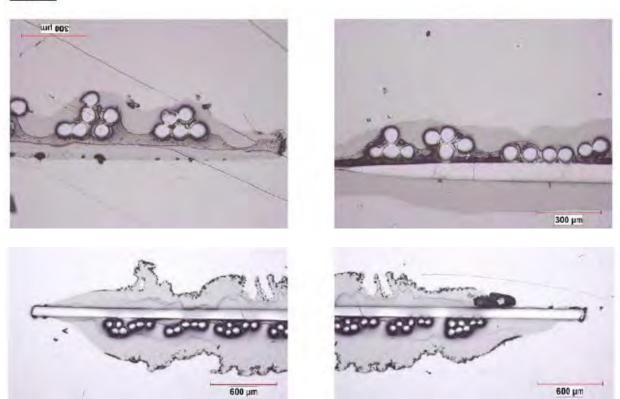
Similar to the KISS Accused Products, the undersigned finds that the Hollyren Accused Products do not meet the "heat fused" limitations. Like before, Lashify's brief points to an "exemplary image" of the DD702 Hollyren Accused Product (reproduced below)¹⁷ that allegedly shows "a plurality of hairs/fibers, and each of the fibers have been joined, using heat, to the adjacent fibers to form a single entity." *See* CIB at 39.

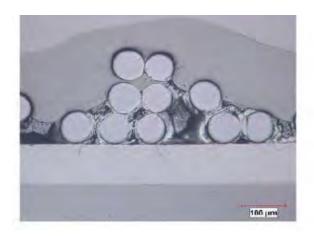
¹⁷ Although rotated in a different orientation, the undersigned believes that the image in Lashify's brief is the top left image of the DD702, as presented in Dr. Iezzi's witness statement. *Compare* CIB at 39, *with* CX-2095 at Q/A 541.

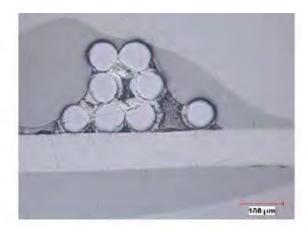


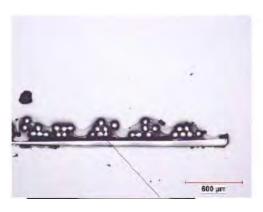
CX-2095C at Q/A 541. This image, however, appears in Dr. Iezzi's witness statement along with other cross-sectional images of the DD702 Hollyren Accused Products, as shown below.

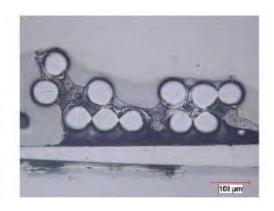
DD702











Id. Similarly, Dr. Iezzi's witness statement includes cross-sectional images of the other Hollyren Accused Products. *See id.*

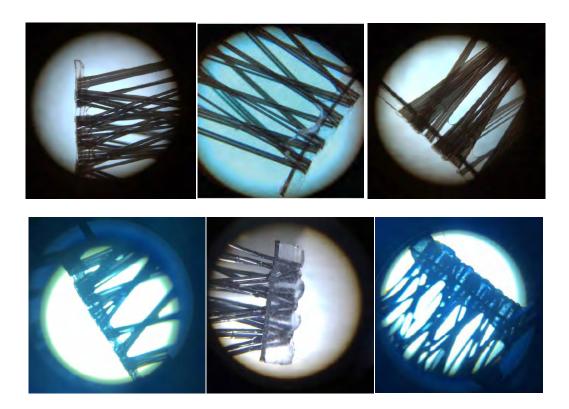
While some of these images could arguably show the material of one fiber merging with the material of an adjacent fiber, other images clearly do not show any merging. *See id.* In fact, several of these images (examples shown below) show fibers with well-defined boundaries.



See id. Thus, contrary to Lashify's assertion, these images provide inconclusive evidence of whether the fibers are joined to form a single entity. Nor does Dr. Iezzi explain the inconsistencies

in the images. *See id.* He merely states, for example, that "[t]he fibers are joined as a single entity from the application of heat during the manufacture process," and that "[t]he joined fibers are visible in the visual inspection, and in the enhanced Eurofins images, they are not joined by glue, but by applying heat to the fibers so that they changed form and merged with each other." *Id.* Without explaining how the inconsistent images lead to the same conclusion, the undersigned finds Dr. Iezzi's analysis is incomplete and not persuasive. In contrast, Dr. Mays presents convincing testimony that these images are typical of what one would expect to see for glued PBT artificial lashes. *See* RX-0007C at Q/As 175-78. For example, Dr. Mays explained that PBT does not exist as a melt at room temperature, and thus, even if it were melted above 225°C, it "will crystallize on returning to room temperature." *See id.* (explaining that the images would not show a ring because PBT is a thermoplastic that will retain its shape and form when the temperature cools down).

Close up images of the Hollyren Accused Products (reproduced below: top row from left to right – DD702, DD703, DD704; bottom row from left to right – DD705, DD706, DD707) also show that the fibers are glued together.



RX-1355 at 8, 21, 31, 35, 48; RX-0007C at Q/A 173.

In addition, Dr. Mays performed solvent testing, which supports the conclusion that there is no heat fusion in the Hollyren Accused Products. Dr. Mays immersed the products in acetone or xylene. See RX-0007C at Q/As 132-45; RX-1355. For the DD703, DD705, and DD707 Hollyren Accused Products, the acetone dissolved the glue after only 15-20 minutes. See RX-0007C at Q/As 137, 139. For example, below are images of the DD703 Accused Product showing that individual fibers had separated after being soaked in acetone.

¹

¹⁸ PBT and PET are not soluble in either acetone or xylene and thus "the fibers are unaffected by exposure to this solvent." *See* RX-0007C at Q/As 137, 144. Lashify incorrectly asserts that Dr. Mays admitted that acetone dissolved PBT and PET. *See* CIB at 33 n.230. Rather, Dr. Mays consistently testified that PBT fibers are unaffected by exposure to acetone. *See* RX-0007 at Q/As 130, 137, 144. In addition, while Lashify criticizes Dr. Mays for not citing any literature supporting his position, Lashify does not cite any literature showing that PBT will dissolve in acetone. The only document mentioned by Lashify refers to chemical resistance, which Dr. Mays testified is different from solvent. Mays, Tr. at 372:2-10, 403:24-404:5. Nor does Lashify present any testimony from its own expert opining that acetone can dissolve PBT.



Id. at Q/A 140.

For the DD702, DD704, and DD706, the xylene softened the glue such that individual fibers came apart. *See id*. Below are images of those products showing that individual fibers came apart easily (with gentle agitation from tweezers or fingers) after being soaked in xylene.



RX-1355 at 6, 20, 34; RX-0007C at Q/A 137. Dr. Mays' solvent testing therefore showed that the fibers are only connected by glue and that there are no heat fused connections. *See id.* at Q/As 132-145. In other words, there is no heat fusion because nothing other than the glue is holding the fibers together and they are not joined to form a single entity. *See id.*

To validate this solvent testing, Dr. Mays performed control tests on the heat-bonded Worldbeauty TGSS and TSD lashes. *See* RX-0007C at Q/A 142. For those products, Dr. Mays

was not able to pull out an individual lash after soaking in acetone. *See id.*; RX-1355 at 63-73. Testing on the heat-bonded PUIE lash also showed that those fibers were not affected after an acetone soak. *See* Mays, Tr. at 401:1-403:24; RX-1355 at 53-59. The undersigned therefore finds that Respondents' solvent testing is persuasive evidence that the Hollyren Accused Products do not have heat fused connections.

The undersigned further finds that this conclusion is consistent with the description of the manufacturing process for the Hollyren Accused Products. The evidence shows that the Hollyren Accused Products

See RX-0007C at Q/As 52, 59. As discussed above with respect to the KISS Accused Products, the evidence confirms that See supra at V.B.1.a.i. Thus,

this is additional evidence that those products are not joined by applying heat to form a single entity. See RX-0007C at Q/As 148, 150-52.

Accordingly, the undersigned finds that the Hollyren Accused Products do not meet the "heat fused" limitations.

¹⁹ Lashify criticizes Hollyren's manufacturing information, alleging that it did not produce any documents describing the manufacturing process. CRB at 18 (complaining that Dr. Mays relies on Hollyren's interrogatory responses). Dr. May's testimony, however, cites to exhibits in evidence. *See, e.g.*, RX-0007C at Q/As 59-61. In addition, if Lashify needed additional information regarding Hollyren's manufacturing process to prove infringement, it was Lashify's responsibility to pursue that during discovery.

ii) "cluster"; "first base"; "second base"; "the first and the second base are included in a common base"; "spaced apart"

According to the language of claim 1, the limitations "cluster," "first base," "second base," "the first and the second base are included in a common base," and "spaced apart" all relate to the "heat fused" limitations. *See* JX-0002, cl. 1. However, because the undersigned found that the Hollyren Accused Products do not meet the "heat fused" limitations, they cannot meet the "cluster," "first base," "second base," "the first and the second base are included in a common base," and "spaced apart" limitations of claim 1 for at least the same reasons.

iii) Conclusion

Accused Products do not infringe claim 1 of the '984 patent.

b) Claims 23 and 28

While not identical to claim 1, independent claims 23 and 28 also recite the term "heat fused." JX-0002, cls. 1, 23, 28. Therefore, for at least the same reasons as set forth above with respect to claim 1, the undersigned finds that Lashify has failed to prove that the Hollyren Accused Products meet those limitations in claims 23 and 28. Accordingly, the undersigned finds that the Hollyren Accused Products do not infringe claims 23 or 28 of the '984 patent.

c) Claims 9, 13, and 27^{20}

Claims 9 and 13 depend from independent claim 1, and claim 27 depends from independent claim 23. Because the undersigned has found that independent claims 1 and 23 are not infringed by the Hollyren Accused Products, it is not necessary to determine whether dependent claims 9, 13, or 27 are infringed. *See Wahpeton Canvas Co.*, 870 F.2d at 1552 n.9.

²⁰ For claim 13, Respondents assert that "the term 'the base' lacks antecedent basis, and thus this claim is invalid as indefinite." RIB at 48. However, because Respondents did not previously raise this issue during the *Markman* proceedings, it is hereby waived. *See* Ground Rule 6.

3. Worldbeauty Glue-Based Accused Products²¹

Lashify asserts that the Worldbeauty Accused Products²² infringe claims 1, 9, 13, 23, and 27-28 of the '984 patent. CIB at 45. Respondents disagree and assert that the Worldbeauty Glue-Based Accused Products do not infringe the asserted claims. RIB at 49. Staff agrees with Respondents. SIB at 41-47.

a) Claim 1

Lashify argues that the Worldbeauty Accused Products meet each and every limitation of claim 1. CIB at 45-49. Respondents argue that the Worldbeauty Glue-Based Accused Products do not meet limitations 1[a]-[e]. RLUL at 1. Respondents, however, do not dispute that the following portions of those limitations are met: "a plurality of first artificial hairs," "a common base," "the common base," and "forming a lash extension configured to be attached to a user." *Id.* Staff contends that the Worldbeauty Glue-Based Accused Products do not meet the "heat fused" limitation. SIB at 41-43.

i) "heat fused" (Limitations 1[a] and 1[b])

Lashify claims that Dr. Iezzi confirmed, through visual inspection, that the fibers have been joined together to form a single entity because of deformation or surface characteristics of the fibers. CIB at 45. According to Lashify, exemplary images of the DIY C3 and GPC S3 show the material of each fiber merged with the adjacent fiber. *Id.* at 46. Lashify argues that "Lilac has also marketed its products, which are produced by Worldbeauty, as being bonded with 'innovative heat

²¹ Worldbeauty sells two types of eyelash products: (i) glue-based, which are manufactured using Method One ("Worldbeauty Glue-Based Accused Products"), and (ii) heat-bonded, which are manufactured using Method Two ("Worldbeauty Heat-Bonded Accused Products"). RIB at 49; SIB at 40. The Worldbeauty Glue-Based Accused Products are the DIY, GPB, and GPC product lines. *Id*. The Worldbeauty Heat-Bonded Accused Products are the TGSS and TSD (E Lash). *Id*.

²² In its briefing, Lashify does not differentiate between the two types of Worldbeauty Accused Products. *See* CIB at 45-51.

fuse technology." *Id.* at 46-47. In response to Dr. Mays' solvent testing, Lashify claims that it merely proves that the lash products were heat fused prior to him destroying the lashes. *Id.* at 47.

Respondents claim that Dr. Mays' solvent testing showed that the Worldbeauty Glue-Based Accused Products are not heat fused. ²³ RIB at 50. According to Respondents, after being exposed to acetone for up to 12 hours, the glue in the samples either dissolved or softened, and the fibers were easily pulled out. *Id.* Respondents assert that images of the Worldbeauty Glue-Based Accused Products show that they are similar to the Lilac Doe product that Lashify admits does not infringe. *Id.* Respondents criticize Lashify's infringement allegations as inconsistent because they accuse the Worldbeauty C1 and not the Lilac Doe, even though they are the same product. *Id.* at 50-51.

Staff submits that, like the KISS and Hollyren Accused Products, the Worldbeauty Glue-Based Accused Products are not heat fused. SIB at 41. Staff explains that

Id. According to Staff, after 12 hours in solvent, the glue softened and individual PBT fibers could be pulled out from the adhesive and separated from the bottom of the product. Id. at 42. Staff points to the GPC-S3 "where the artificial hairs fell apart from their glued base after soaking in acetone." Id. Similarly, Staff claims that in the DIY C5, acetone softened the glue and the single fibers were gently removed to show no deformation. Id. Staff argues that Lashify chose the best exemplary cross-sectional image for one Worldbeauty Glue-Based Accused Product to argue that there are heat fused connections in all of the Worldbeauty Glue-Based Accused Products. Id. at 43. However, Staff points out that even in this exemplary image, "the presence of adhesive coupled with a large gap between four fibers in the top row and two fibers in the bottom

²³ Respondents submit that

row undermine any conclusion that 'merging' has occurred, much less merging of each and every fiber to at least one other adjacent fiber in the same cluster of artificial hairs." *Id.* Staff also submits that Lashify admitted that the Lilac Doe/C1 has "sole adhesive connections." ²⁴ *Id.* In addition, Staff argues that if the Lilac Doe (which is the same as Worldbeauty's C1 product) is non-infringing, then the other Worldbeauty Glue-Based Accused Products are similarly non-infringing. SRB at 19.

Similar to the Hollyren Accused Products, the undersigned finds that the Worldbeauty Glue-Based Accused Products do not meet the "heat fused" limitations. As with his testing of the Hollyren Accused Products, Dr. Mays conducted solvent testing on the Worldbeauty Glue-Based Accused Products. *See* RX-0007C at Q/As 138-45; RX-1355 at 74-107, 122-45, RX-1356 at 2-18, 39-148. He exposed the samples to acetone, causing the glue to either dissolve or soften such that the fibers could easily be pulled out. *See id.* Below are images of the GPC Worldbeauty Glue-Based Accused Product after soaking in acetone.



RX-0007C at Q/A 140. These images demonstrate that there are no heat fused connections in the Worldbeauty Glue-Based Accused Products. Moreover,

²⁴ The Lilac Doe is the Worldbeauty C1 Glue-Based Accused Product renamed and sold by Lilac. *See* SRB at 19; RX-0007C at Q/As 90, 169-72. While Lashify criticizes Respondents' comparison of the Accused Products to the Lilac Doe, Lashify does not present any evidence that the Lilac Doe is not the same product as the Worldbeauty C1 Glue-Based Accused Product. *See* CRB at 21.

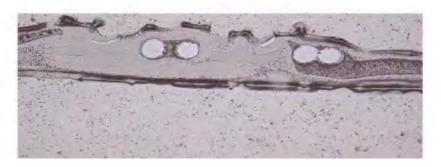
As discussed above, because

this is further evidence that the Worldbeauty Glue-

Based Accused Products are not joined by applying heat to form a single entity. *See* RX-0007C at Q/As 147-52.

In addition, the images in Dr. Iezzi's report do not show fibers that have been joined to form a single entity. For example, below are some images of the Worldbeauty Glue-Based Accused Products from Dr. Iezzi's witness statement.

DIY C1



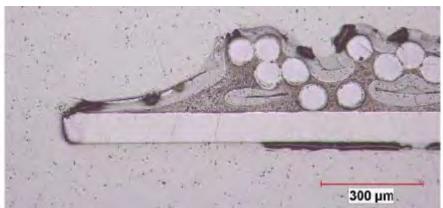


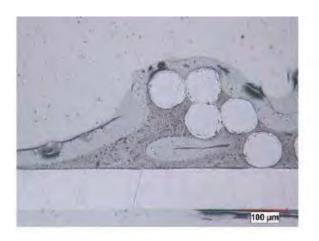


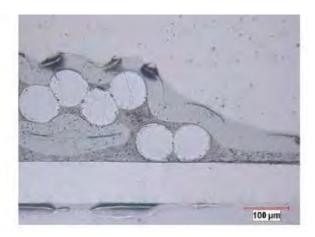


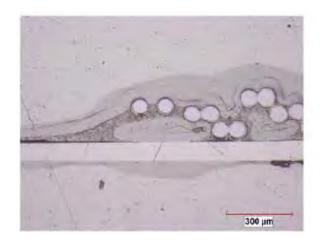


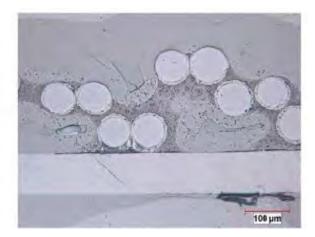


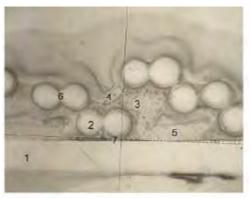








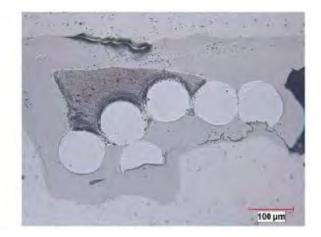


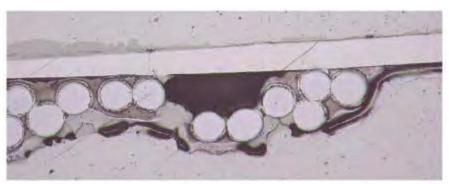


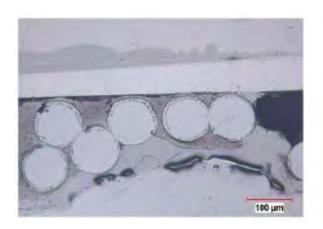
DIY C3

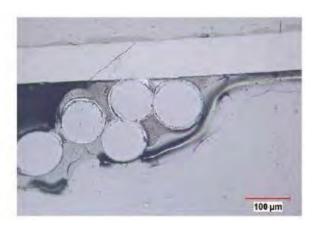


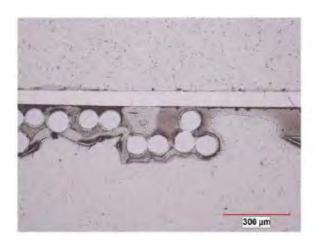








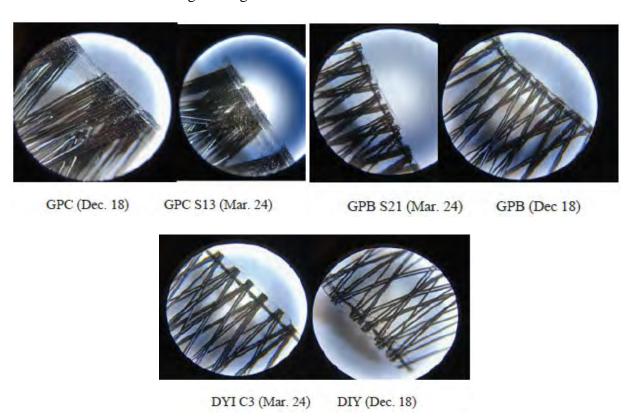






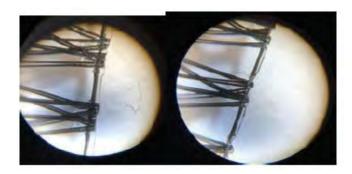
CX-2095C at Q/A 571. As can be seen in these images, many of the fibers have well-defined boundaries and are not merged with the adjacent fiber. *See id*.

Close up images of the Worldbeauty Glue-Based Accused Products (reproduced below) also show that the fibers are glued together.



RX-0007C at Q/A 89; see also id. at Q/As 172-73.

Lashify undercuts its position by admitting that the Lilac Doe does not have heat fused connections and has sole adhesive connections. *See* RX-1277C at 11-12; RX-1285C at 8. The Lilac Doe is the same as the Worldbeauty DIY C1 Glue-Based Accused Product. *See* RX-0007C at Q/As 90, 169-72. For example, Dr. Mays presents close up images (reproduced below) of the Lilac Doe (left) and Worldbeauty DIY C1 Glue-Based Accused Product (right) showing they are the same and that both have solely adhesive connections.



RX-0007C at Q/As 169-71. Lashify provides no explanation for why the Worldbeauty DIY C1 Glue-Based Accused Product would infringe when the Lilac Doe does not.

Accordingly, the undersigned finds that the Worldbeauty Glue-Based Accused Products do not meet the "heat fused" limitations.

ii) Conclusion

Accordingly, for the reasons set forth above, the undersigned finds that the Worldbeauty Glue-Based Accused Products do not infringe claim 1 of the '984 patent.

b) Claims 23 and 28

While not identical to claim 1, independent claims 23 and 28 also recite the term "heat fused." JX-0002, cls. 1, 23, 28. Therefore, for at least the same reasons as set forth above with respect to claim 1, the undersigned finds that Lashify has failed to prove that the Worldbeauty Glue-Based Accused Products meet those limitations in claims 23 and 28. Accordingly, the

undersigned finds that the Worldbeauty Glue-Based Accused Products do not infringe claims 23 or 28 of the '984 patent.

c) Claims 9, 13, and 27

Claims 9 and 13 depend from independent claim 1, and claim 27 depends from independent claim 23. Because the undersigned has found that independent claims 1 and 23 are not infringed by the Worldbeauty Glue-Based Accused Products, it is not necessary to determine whether dependent claims 9, 13, or 27 are infringed. See Wahpeton Canvas Co., 870 F.2d at 1552 n.9.

4. Worldbeauty Heat-Bonded Accused Products²⁵

a) Claim 1

Lashify argues that the Worldbeauty Accused Products²⁶ meet each and every limitation of claim 1. CIB at 45-49. Respondents argue that the Worldbeauty Heat-Bonded Accused Products do not meet limitations 1[a]-[e]. RLUL at 1. Respondents, however, do not dispute that the following portions of those limitations are met: "having a first heat fused connection," "a plurality of first artificial hairs," "a common base," "the common base," and "forming a lash extension configured to be attached to a user." *Id.* Staff contends that the Worldbeauty Heat-Bonded Accused Products do not meet the "second cluster" limitation. SIB at 44-47.

i) "first cluster" and "second cluster" (Limitations 1[a]-[e])

Lashify argues that Dr. Iezzi's images show separate clusters of artificial fibers in the Worldbeauty Heat-Bonded Accused Products. CIB at 47. Lashify claims that Dr. Mays admitted

Worldbeauty does not infringe." RIB at 55. Respondents present this cursory argument in one paragraph of its initia post-hearing brief. See id. In addition, the only evidence presented by Respondents is testimony that

ee JX-0059C at 129:4-130:14; RX-1214C; RX-12³¹ C RX-1232C, RX-1233C, RX-1234C. The undersigned finds that st evidence is insufficient to prove that

²⁵ Respondents argue that

As previously mentioned, Lashify does not differentiate between the two types of Worldbeauty Accused Products.

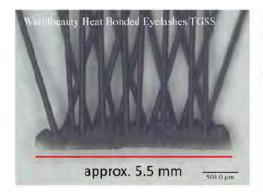
that he pulled out clusters during his solvent testing. CRB at 23. Lashify explains that it does not matter that the products have up to 90 fibers. *Id.* at 24. Rather, Lashify asserts that the layout of the hairs matters, and images of the products show group of fibers. *Id.*

Respondents assert that the Worldbeauty Heat-Bonded Accused Products contain separate clusters not connected to each other. RIB at 51. Respondents explain that the

which Ms. Lotti acknowledged were single clusters. *Id.* at 51-52. Respondents submit that the TGSS and TSD have up to 90 fibers within a single cluster, which is the typical range for a cluster as described in the '984 patent. *Id* at 52. In addition, Respondents assert that the TGSS and TSD are similar to the PUIE and RR-0.05-20D, which Ms. Lotti admitted are single separate clusters. *Id.* at 53. Moreover, Respondents assert that Dr. Iezzi could not even determine how many clusters are in the TGSS or TSD. *Id.* at 54-55.

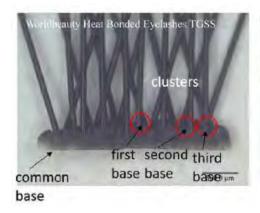
Staff contends that the Worldbeauty Heat-Bonded Accused Products are structurally similar to the non-accused Worldbeauty Wispies, which Ms. Lotti admitted were single clusters. SIB at 44-45. According to Staff, each cluster of the TGSS has about 20 hairs and each cluster of TSD (E Lash) has more than 20 but less than 90 hairs. *Id.* at 45. Staff asserts that this is within the typical range described in the specification of the '984 patent for a single cluster. *Id.* Thus, Staff concludes that the TGSS and TSD (E Lash) are "single clusters, albeit with thicker and denser artificial hairs." *Id.* Staff asserts that the Worldbeauty Heat-Bonded Accused Products are similar to Wispies, Hollyren's RR-0.05-20D, and the PUIE lash disclosed in Figure 1 of the '984 patent, which are all single clusters. *Id.* Staff notes that even Dr. Iezzi could not determine how many clusters are in the Worldbeauty Heat-Bonded Accused Products. *Id.*

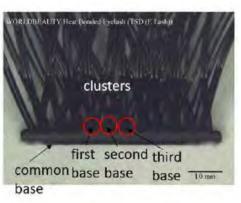
The undersigned finds that the Worldbeauty Heat-Bonded Accused Products have both a first cluster and a second cluster. ²⁷ *See* JX-0002, cl. 1. The term "cluster(s)" was construed as "group(s) [of artificial hairs/eyelashes/fibers]." ²⁸ Order No. 26 at 25. Close up images of the TGSS and TSD (as shown below) show at least two clusters or groups of fibers in each product.





CX-2095C at Q/A 584. For example, Dr. Iezzi annotates images of the Worldbeauty Heat-Bonded Accused Products to show where clusters can be found (as shown below). ²⁹





²⁷ Respondents and Staff argue that the prosecution history supports their positions because Lashify allegedly relinquished subject matter directed to single heat fused clusters. *See* RIB at 54; SIB at 46-47. However, because the undersigned finds that the Worldbeauty Heat-Bonded Accused Products are not single clusters, this argument is moot. ²⁸ While the Parties refer to the number of fibers in the Worldbeauty Heat-Bonded Accused Products to support their positions, the undersigned notes that neither claim 1 nor the construction for the term "cluster(s)" limits the first or second clusters to having a specific number of fibers. *See* JX-0002, cl. 1.

²⁹ Although Dr. Iezzi testified that one cannot determine how many total clusters there are (*see* Iezzi, Tr. at 120:11-121:6), that does not mean that one cannot identify at least a first and second cluster in each of these products.

Id. at Q/A 571. The undersigned therefore finds that Lashify has proven, by a preponderance of the evidence, that the Worldbeauty Heat-Bonded Accused Products meet these limitations.³⁰

ii) The Remaining Limitations

Lashify asserts that each of the first artificial hairs is connected to at least one adjacent artificial hair to form a cluster, and that this connection defines a base of the first cluster. CIB at 47. Lashify contends that the clusters of artificial fibers protrude or extend away from the common base. *Id.* at 48. According to Lashify, the bases/roots of the clusters are included in the overall base of the lash extension. *Id.* Lashify also asserts that the clusters are placed at intervals and arranged with distance between them. *Id.* at 48-49. In addition, Lashify states that "the Worldbeauty products include many clusters that are 'spaced apart' from each other along the common base, including even the leftmost cluster and the rightmost cluster in the product." *Id.* at 49.

Respondents assert that, "[s]imilar to the [Hollyren Products], the accused Worldbeauty products do not have 'a first base,' 'a second base,' and 'a common base,' because the alleged bases have no third dimension and have no discernible boundaries." RIB at 55. Respondents also argue that images also show that the Worldbeauty Heat-Bonded Accused Products do not have clusters spaced apart. *Id*.

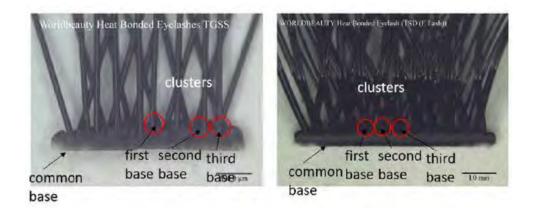
Staff contends that like the KISS Accused Products and Hollyren Accused Products, the Worldbeauty Heat-Bonded Accused Products do not meet the "a first base," "a second base," and "a common base" limitations. SIB at 47. Staff explains that since the Worldbeauty Heat-Bonded

oreover, Respondents provide no information about the manufacturing

Respondents' comparison between the TGSS/TSD lashes and the Wispies lashes is not persuasive. Respondents assert that
See RIB at 51-52. However.

Accused Products are single clusters, "each cluster necessarily will not have a second base, a common base, and spaced apart first and second clusters." *Id*.

The undersigned found above that the Worldbeauty Heat-Bonded Accused Products have a first cluster and a second cluster. In addition, the heat fused connections that form the first and second clusters also define the "first base" and "second base," as shown in the images below. *See* JX-0002, cl.1.



CX-2095C at Q/A 571. Those images show that the "first base" and "second base" are included in the "common base" and that the "first cluster" and "second cluster" extend from the "common base." *See id.* at Q/As 571-73. Further, the images show that the "first cluster" and "second cluster" are "spaced apart from each other along the common base." *See id.* at Q/As 571, 574. In other words, the clusters are arranged with distance between them. *See id.* The undersigned therefore finds that the Worldbeauty Heat-Bonded Accused Products meet the remaining limitations of claim 1.

iii) Conclusion

Accordingly, the undersigned finds that Lashify has met its burden to prove that the Worldbeauty Heat-Bonded Accused Products infringe claim 1 of the '984 patent.

b) Claim 9

Claim 9, which depends from independent claim 1, recites the additional limitation "wherein each of the first artificial hairs or each of the second artificial hairs is formed of a polybutylene terephthalate (PBT)." JX-0002, cl. 9. Respondents do not dispute that Worldbeauty Heat-Bonded Accused Products meet the additional limitations of claim 9. *See* RLUL at 1; *see also* CX-1781C at 22-23. However, Lashify presents evidence that while the TSD is made of PBT, the TGSS is made of PET. *See* CX-2095C at Q/As 48, 576; CDX-0003 at 12. Thus, the undersigned finds that the TSD Worldbeauty Heat-Bonded Accused Product infringes claim 9 of the '984 patent, but that the TGSS Worldbeauty Heat-Bonded Accused Product does not.

c) Claim 13

Claim 13, which depends from independent claim 1, recites the additional limitation "wherein the base has a thickness between about 0.05 millimeters and about 0.15 millimeters." JX-0002, cl. 13. Lashify argues that the TSD has a measured thickness within the 0.05-0.15 mm range. CIB at 49. Respondents contend that "the measurement is wrong because it measured only the narrow end that is not representative of the thickness of the base." RIB at 56. Staff agrees with Respondents that Dr. Iezzi's measurements are not accurate. SIB at 47-48.

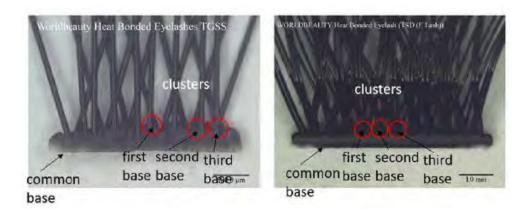
The undersigned agrees with Staff and Respondents. Dr. Iezzi's measurement appears to be of the string at the end of the lash, not necessarily the thickness of the base. *See* CX-2095C at Q/A 577. Accordingly, the undersigned finds that the Worldbeauty Heat-Bonded Accused Products³¹ do not infringe claim 13.

³¹ In addition, the undersigned notes that Dr. Iezzi only measured the TSD Worldbeauty Heat-Bonded Accused Product, not the TGSS. *See* CX-2095C at Q/A 577.

d) Claim 23

Lashify asserts that the Worldbeauty Accused Products infringe claim 23. CIB at 49-51. Respondents argue that the Worldbeauty Heat-Bonded Accused Products do not infringe claim 23 for the same reasons as claim 1. RIB at 56. However, Respondents do not dispute the following limitations: "a plurality of first artificial hairs having a plurality of first proximal end portions and a plurality of first distal end portions, the first proximal end portions being heat fused together," "a common base," and "forming a lash extension that is configured to be attached to a user." RLUL at 1. Staff agrees with Respondents that the Worldbeauty Heat-Bonded Accused Products do not infringe claim 23. SIB at 48.

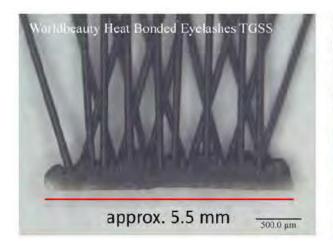
The undersigned found above that the Worldbeauty Heat-Bonded Accused Products meet the "first cluster," "second cluster," and "spaced apart" limitations of claim 1. In addition, the images below show that the "first cluster" and "second cluster" are heat fused to a "common base."

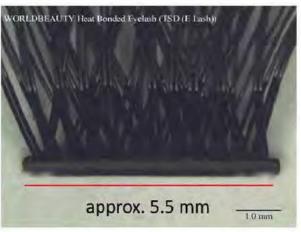


CX-2095C at Q/A 571. Accordingly, for the reasons above, and at least for the same reasons as claim 1, the undersigned finds that the Worldbeauty Heat-Bonded Accused Products infringe claim 23 of the '984 patent.

e) Claim 27

Claim 27, which depends from claim 23, recites the additional limitation "wherein the base has a length in a range between about 4 millimeters and about 8 millimeters." JX-0002, cl. 27. Respondents do not dispute that the Worldbeauty Heat-Bonded Accused Products meet the additional limitations of dependent claim 27. *See* RLUL at 1. As shown below, Lashify presents evidence that the Worldbeauty Heat-Bonded Accused Products meet this limitation.





CX-2095C at Q/As 584, 591. Thus, the undersigned finds that the Worldbeauty Heat-Bonded Accused Products infringe claim 27 of the '984 patent.

f) Claim 28

While Lashify asserts that the Worldbeauty Accused Products infringe claim 28, Dr. Iezzi only presented evidence related to the TSD product. *See* CIB at 51; CX-2095C at Q/As 592-97.

Respondents argue that the Worldbeauty Heat-Bonded Accused Products do not infringe claim 28 for the same reasons as claim 13. RIB at 56. However, Respondents do not dispute the following limitations: "a base," "heat fused artificial hairs," and "forming a lash extension that is configured to be attached to a user." RLUL at 1. Staff agrees with Respondents that the TSD Worldbeauty Heat-Bonded Accused Product does not infringe claim 28. SIB at 48.

The undersigned found above that the Worldbeauty Heat-Bonded Accused Products do not meet the "wherein the base has a thickness between about 0.05 millimeters and about 0.15 millimeters" limitation of claim 13. Thus, the Worldbeauty Heat-Bonded Accused Products also do not meet that limitation in claim 28. Accordingly, for at least the same reasons as claim 13, the undersigned finds that the Worldbeauty Heat-Bonded Accused Products do not infringe claim 28 of the '984 patent.

5. Lilac Accused Products

Lashify asserts that the Lilac Accused Products³² infringe claims 1, 23, and 27 of the '984 patent. CIB at 51. Respondents disagree and assert that the Lilac Accused Products do not infringe the asserted claims. RIB at 56-59. Staff agrees with Respondents. SIB at 48-50.

a) Claims 1, 23, and 27

The Lilac Accused Products are sourced from Worldbeauty and are made using the same Method One process. RIB at 56-57; SIB at 48. Thus, at least for the same reasons as the Worldbeauty Glue-Based Accused Products, the Lilac Accused Products do not meet the "heat fused" limitations. *See supra* at Section V.B.3.a.i. Accordingly, the undersigned finds that the Lilac Accused Products do not infringe claims 1, 23, or 27 of the '984 patent.

b) Induced Infringement

Lashify alleges that "Lilac's actions . . . induced its supplier, Worldbeauty, to directly infringe the asserted claims of the '984 patent, including by making and importing the infringing lashes into the United States." CIB at 54. However, the undersigned has found hereinabove that none of the Lilac Accused Products directly infringe the '984 patent. Lashify therefore cannot, as

³² The Lilac Accused Products (*i.e.*, Lilac Lash and Originals) are the same as the Worldbeauty C3 and S21 Glue-Based Accused Products. CIB at 52. In addition, the Lilac Feather is the same as the Worldbeauty C2 Glue-Based Accused Product. *See* CIB at 52; RIB at 6; SIB at 48; CX-2095C at Q/A 141.

a matter of law, prove indirect infringement. *See Novartis Pharm. Corp. v. Eon Labs Mfg. Inc.*, 363 F.3d 1306, 1308 (Fed. Cir. 2004) ("When indirect infringement is at issue, it is well settled that there can be no inducement or contributory infringement absent an underlying direct infringement.").

C. Technical Prong of the Domestic Industry Requirement³³

Lashify asserts that its Domestic Industry Products³⁴ ("DI Products") satisfy the technical prong of the domestic industry requirement for claims 1, 9, 13, 23, and 27-28 of the '984 patent. CIB at 54. Respondents contend that Lashify has failed to show that its DI Products satisfy the "heat fused" limitation of the '984 patent. RIB at 59. Staff agrees with Respondents that the technical prong is not satisfied by the DI Products. SIB at 2, 52-58.

1. Claim 1

Lashify argues that the DI Products practice claim 1. CIB at 55-59. Respondents argue that the DI Products do not practice the "heat fused" limitation of claim 1. RIB at 59. Respondents, however, do not dispute that the DI Products meet the following limitations: "a plurality of first artificial hairs," "a common base," "the common base," and "forming a lash extension configured to be attached to a user." RLUL at 1. Staff agrees with Respondents that the DI Products are not "heat fused." SIB at 52.

³³ Both Staff and Respondents assert that Lashify failed to demonstrate that the DI Products analyzed by Dr. Iezzi were representative of the other DI Products. *See* SIB at 50-51; SRB at 21-24; RRB at 24-25. However, because the undersigned finds below that the evidence presented by Lashify fails to prove that the DI Products practice any claims of the '984 patent, this argument is moot.

³⁴ Dr. Iezzi explains that Lashify's Domestic Industry Products include the following: (1) Lashify Control Kit; (2) Lashify's Gossamer Lash Extensions: Amplify (A), Bold (B), Curl (C), Drama (D), Extreme (E), Extra Extreme (EE), Fluffy (F), and their variations, such as Prismatics; (3) Lashify's Fuse Control Wands; (4) Lashify's Bonds; and (5) Lashify's Removers. *See* CX-2095C at Q/A 21; CDX-0003 at 8.

a) "heat fused" (Limitations 1[a] and 1[b])

Lashify submits that one of its manufacturers, uses to heat
fuse lashes a CIB at 54-55. Lashify also submits that its other manufacturer,
, uses a technique that includes
"" Id.
at 55. According to Lashify, visual inspection shows that the fibers in the DI Products have been
joined together to form a single entity. CIB at 56. Lashify asserts that Dr. Iezzi's images show a
plurality of hairs/fibers that have been joined using heat. Id. Lashify claims that the images show
white cores of the fibers surrounded by haloes/rings that that are joined outer surfaces of the fibers.
Id. at 56-57. Lashify argues that Respondents' solvent testing is unreliable because it suggests that
the DI Products manufactured by are not heat fused, when
<i>Id.</i> at 57.

Respondents argue that Dr. Wanat tested the PBT fibers used in the DI Products by heating them and confirmed that they do not heat fuse at the temperatures used to make the DI Products. RIB at 59. Respondents argue that Dr. Iezzi failed to test any control samples and failed to compare his results to known glue-only or known heat fused products. *Id.* at 60. In contrast, Respondents contend that Dr. Wanat conducted solvent testing on various DI Products (A-14, B-10, C-12)³⁵ showing no evidence of heat fusion. *Id.* at 60-61. Respondents explain that Dr. Wanat also tested control samples and the DI Products "all behaved exactly like Control Sample 3, which was glued together but with no heat at all applied." *Id.* at 61. Respondents assert that for those samples, the mineral spirits removed the glue without damage to the individual fibers, and there was no

³⁵ Respondents assert that the A, B, C, and D DI Products are all made by a substantially identical manufacturing process. RIB at 61.

g because Dr. Iezzi admitted that is the application of heat. *Id.* at 61-62.

As for the E, EE, and F DI Products manufactured by Respondents argue that none of the manufacturing steps identified by Dr. Iezzi indicate that any melting would take place. *Id.* at 62; RRB at 23. Respondents also assert that the ultramicrotomy images of the various DI Products, as compared to control samples, do not show any heat fusion RIB at 62-63. In fact, Respondents contend that "the tested DI Products behaved exactly like Control Sample 1, which was glued together but with no heat at all applied." *Id.* at 63. Respondents explain that there were no haloes/rings around the fibers, the fibers had well-defined boundaries, and there were no signs of heat fused connections. *Id.*

Staff argues that not every one of the DI Products practices the "heat fused" limitation. SIB at 52. As with the Accused Products, Staff asserts that Dr. Iezzi's testing is unreliable. *Id.* Staff disputes Lashify's claim that for some of the DI Products manufactured by amounts to heat fusion. *Id.* Rather, Staff argues that is not the application of heat, but instead, is the application of energy that causes friction that results in heat. *Id.*

As for other DI Products manufactured by , Staff asserts that none of the manufacturing steps indicate that any melting would take place. *Id.* at 53. Staff contends that Dr. Wanat's solvent testing confirms a lack of heat fusion. *Id.* at 54. For example, Staff explains that solvent tests on the Gossamer A14 showed that the fibers are only connected via glue. *Id.* at 54-56. According to Staff, the evidence is similar for other exemplary Gossamer B and C DI Products. *Id.* at 56-57. In addition, Staff argues that images created using ultramicrotomy also show no heat

fusion. *Id.* at 57. For example, Staff submits that images of the A-14, B-10, C-10, and Prismatic DI Products show fibers that are separated with well-defined boundaries, just like the non-heat fused control samples. *Id.* at 57-58.

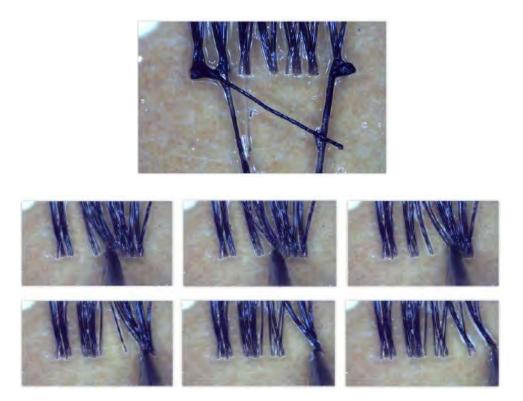
As to the C10 DI Product manufactured by the undersigned finds that the process does not amount to heat fused connections. The term "heat fused" was construed at "joined by applying heat to form a single entity." *See* Order No. 26 at 18.

Is not applying heat, but rather, is applying energy. *See* RX-1688C at Q/A 561; RX-0479 at 7

See also CX-2095C at Q/A 74.

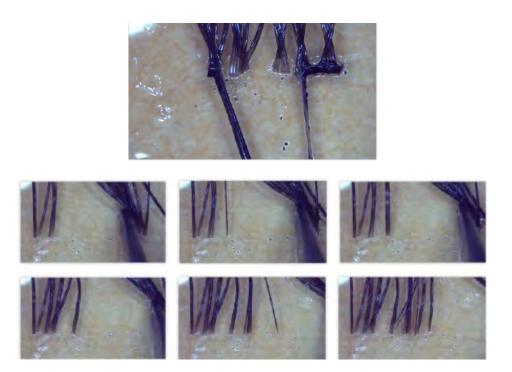
Moreover, while could cause friction, which could result in heat, the evidence does not show that the performed by results in heat that would cause the fibers to join to form a single entity.

This is confirmed by solvent testing performed by Dr. Wanat on the A14, B10, and C12 DI Products. *See* RX-1688C at Q/As 564-94. For example, as shown in the images below, after being soaked in mineral spirits, the glued base of the A14 DI Product softened, allowing it to be removed from the fibers. Once removed, there were no heat fused connections between individual fibers.



RX-1688C at Q/As 564-74. Similar results can be seen for the B10 and C12 DI Products, as shown in the images below.



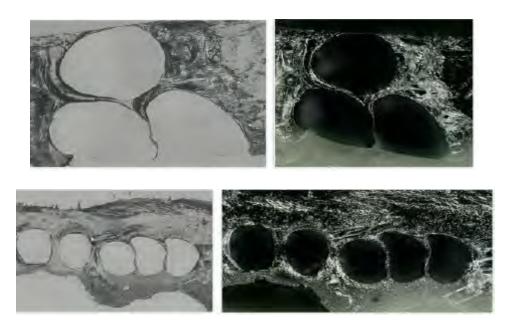


RX-1688C at Q/As 575-94.

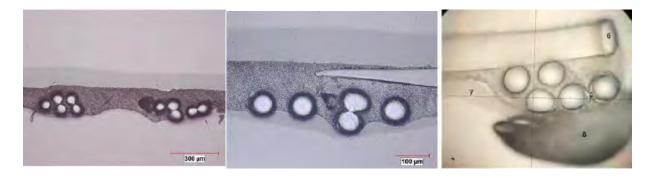
In addition, ultramicrotomy images of the A14, B10, and C10 DI Products show a lack of heat fusion. *See* RX-1688C at Q/As 322-32. For example, as shown in the image below, the A14 DI Product has separate fibers with well-defined boundaries.



RX-1688C at Q/As 322-23. Similarly, images of the B10 and C10 DI Products also show separate fibers with well-defined boundaries.

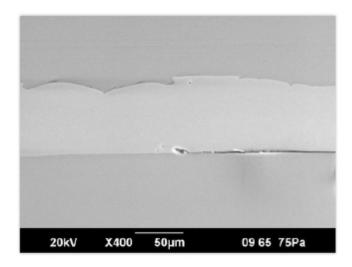


RX-1688C at Q/As 324-25. Moreover, even some of Dr. Iezzi's images of the C10 show separate individual fibers.

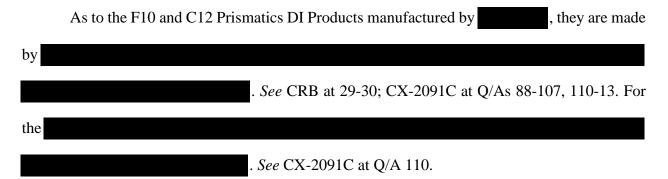


See CX-2095C at Q/A 649.

As previously discussed with respect to the KISS Accused Products, these images are in stark contrast with those of a known heat fused product – the PUIE lashes. Reproduced below is a cross-sectional image of the PUIE lash showing that in a known heat fused product, the fibers have been completely melted and fused together to form one entity.

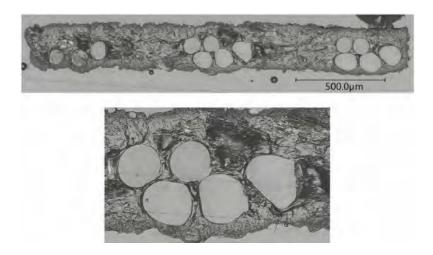


RX-1688C at Q/As 319-21. Unlike the images of the A14, B10, and C10 DI Products, one cannot discern any individual fibers in this image. *See id*. Thus, the undersigned finds that Lashify fails to prove that the C DI Products meet the "heat fused" limitations.



For the C12 Prismatics, none of Ms. Lotti's testimony regarding the manufacturing steps indicate that there would be heat fused connections. For example, the evidence shows that heats the lashes in the at around CX-2091C at Q/A 111. However, as previously discussed, semi-crystalline polymers like PBT, which have a Tm of about 225°C, must reach their melting temperature in order to be joined to form a single entity, absent other conditions. *See supra* at Section V.B.1.a.i. Thus, because the manufacturing process for the C12 Prismatics DI Products only , this is evidence that they are not joined by applying heat to form a single entity.

This conclusion is confirmed by images of the C12 Prismatics DI Product (reproduced below) that show individual separate fibers that are not connected.



RX-0215 at 82. Even Dr. Iezzi's images of the Prismatics shows individual fibers with well-defined boundaries.



