

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SOLUS ADVANCED MATERIALS CO., LTD.,
Petitioner

v.

SK NEXILIS CO., LTD.,
Patent Owner

Case IPR2024-01460
U.S. Patent No. 10,480,090

**PATENT OWNER'S SUR-REPLY IN SUPPORT OF
PATENT OWNER'S PRELIMINARY RESPONSE**

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Defendants' Motion to Stay, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Oct. 24, 2024)
2002	Plaintiff's Opposition to Defendants' Motion to Stay, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Nov. 7, 2024)
2003	Defendants' Reply in Support of Motion to Stay, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Nov. 14, 2024)
2004	Plaintiff's Sur-Reply in Opposition to Defendants' Motion to Stay, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Nov. 21, 2024)
2005	Amended Docket Control Order, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Jan. 2, 2025)
2006	Federal Court Management Statistics (Sept. 30, 2024)
2007	Complaint, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Nov. 21, 2023)
2008	Results charted from DocketNavigator.com, run on January 5, 2025, for Success of Motion to Transfer Venue for Convenience Decided by Judge Rodney Gilstrap
2009	Order Granting Service Waiver, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Feb. 23, 2024)
2010	Defendants' P.R. 3-3 Invalidity Contentions, <i>SK nexilis Co., Ltd. v. Solus Advanced Materials Co., Ltd. et al.</i> , No. 2:23-cv-00539 (E.D. Tex. Aug. 23, 2024) (including Apps. A3, A12, A18, A19, A23)

Exhibit No.	Description
2011	Appendix B – Secondary References Chart
2012	Overview of U.S. Pat. Appl. Publ. No. 2009/0047539 to Dobashi <i>et al.</i> , accessed January 5, 2025 at: https://worldwide.espacenet.com/patent/search/family/038509458/publication/US2009047539A1?q=US 2009%2F0047539
2013	Overview of U.S. Pat. Appl. Publ. No. 2013/0108922 to Shinozaki <i>et al.</i> , accessed January 5, 2025 at: https://worldwide.espacenet.com/patent/search/family/045402087/publication/US2013108922A1?q=US2013108922A1
2014	Overview of Korean Pat. Appl. Publ. No. KR20120003485A to Toshio <i>et al.</i> , accessed January 5, 2025 at: https://worldwide.espacenet.com/patent/search/family/043050177/publication/KR20120003485A?q=KR 2012%2F0003485
2015	Overview of U.S. Pat. Appl. Publ. No. 2013/0108887 to Kim <i>et al.</i> , accessed January 5, 2025 at: https://patentcenter.uspto.gov/applications/13722585/continuity?application=
2016	Overview of U.S. Pat. Appl. Publ. No. 2006/0191798 to Sano <i>et al.</i> , accessed January 5, 2025 at: https://worldwide.espacenet.com/patent/search/family/033156730/publication/US2006191798A1?q=us 2006%2F0191798
2017	Average Roughness Basics, Michigan Metrology, LLC (2025), accessed at: https://michmet.com/average-roughness-basics/

Petitioner requested authorization to file a reply to Patent Owner's Preliminary Response "to address [discretionary denial] developments that have occurred after petition filing. For instance, Patent Owner's *Fintiv* analysis cites to various decisions that came out after petition filing" EX1041, 2. Petitioner does no such thing. Rather Petitioner primarily makes technical arguments, attempts to fill gaps in its Petition, and seeks to triage misleading statements. The Board should not entertain such gamesmanship and should disregard Petitioner's Reply. Nonetheless, even if the Board considers the totality of Petitioner's Reply, the new arguments do nothing to save its delayed and doomed Petition. The Board should deny institution of the Petition.

I. THE *FINTIV* FACTORS FAVOR DENIAL

Factor 1 is neutral: Parties agree factor 1 is neutral. POPR, 10; Reply, 1.

Factor 2 strongly favors denial: POPR, 10-13. The scheduled trial date remains nearly six months before the projected FWD deadline of April 23, 2026. Petitioner argues the "updated" median time-to-trial (23.0 months) shows "the potential for conflict between the district court case and the instant IPR proceeding is minimal." Reply, 1. But the updated median trial date would be mid-October 2025, i.e., *still before* the November 3, 2025 scheduled trial date. EX2005, 1.

Factor 3 favors denial: POPR, 13-14. The '090 patent was asserted in the *original complaint* filed ten months before the Petition. POPR, 14; EX2007.

Petitioner ignores this fact, obfuscating its lack of diligence in filing the Petition.

Reply, 1 (arguing “the instant Petition was filed within four months of PO’s amended complaint of May 15, 2024.”).

Factor 4 favors institution: In view of Petitioner’s *Sotera* stipulation, factor 4 favors institution. However, the Office’s *Fintiv* Guidance has been rescinded. Under current Office policy, where, as here, the other *Fintiv* factors favor denial, Petitioner’s *Sotera* stipulation does not outweigh these other factors. *See, e.g., Cisco Sys., Inc. v. Estech Sys., Inc.*, IPR2021-00333, Paper 12 at 12-13 (P.T.A.B. July 7, 2021) (denying institution even with *Sotera* stipulation; distinguishing *Sotera*, noting that in *Sotera* the trial date factor was neutral and the investment factor weighed against denial).

Factor 5 favors denial: Petitioner contends factor 5 is neutral. Reply, 2. But Board precedent makes clear that when the parties are the same, factor 5 favors denial. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (P.T.A.B. Dec. 1, 2020).

Factor 6 favors denial: Petitioner’s extensive discussion of the merits in factor 6 is improper. *See Sotera*, IPR2020-01019, Paper 12 at 20 n.13 (not considering the parties’ Reply merits arguments related to factor 6). Even if Petitioner’s grounds did meet the higher “compelling merits standard” (they do

not), the *Fintiv* Guidance Memo has been rescinded. Thus, the merits are simply one factor for consideration in determining whether to exercise discretion.

Petitioner's asserted grounds fall well short of meeting even the reasonable likelihood standard for institution. That Petitioner had to resort to art *previously considered by the Office* further demonstrates that factor 6 favors denial.

Petitioner's extensive and revised merits arguments—introduced in its Reply under the guise of being discretionary denial developments—are inappropriate, unpersuasive, and just plain wrong. **First**, Petitioner still misunderstands—or deliberately mischaracterizes—the claimed peak count roughness (Rpc). Reply, 2-3. Rpc cannot be directly obtained from surface roughness parameters Petitioner references. *See, e.g.*, POPR, 35-39. Petitioner's renewed emphasis on Rsm ignores that Rsm relates to distance between peaks and does not consider criteria-line crossing determinations (unlike Rpc). Reply, 2-3; *see* POPR, 35. Petitioner ignores the DIN standard's preferred (and only) reference length of 10 mm, EX1019, 20, which is *different* from the claimed conditions for the '090 patent's sampling length (4 mm). POPR, 35-36. Petitioner now asserts that the standard's "NOTE 2" "recommendation" can set +/- 0.5 μm as a "minimum height . . . of . . . peaks and . . . valleys . . . which should be taken into account," rather than the default height discrimination for Rsm. EX1019, 10; *see* Reply, 2. And Petitioner ignores the

standard's Rsm calculation requires *spacing discrimination* (e.g., 1% of sampling length) rather than effective peak measurement. *See* Reply, 2; EX1019, 20.

Petitioner's attempt to infer Rpc from Rsm fails for the same reasons Applicant explained during prosecution. POPR, 35, citing EX1002, 61-63 (showing Rpc cannot be determined from "distance between peaks"). Petitioner sets *manufactured* criteria lines in its attempts, using unrelated parameters, e.g., Shinozaki's Ra, Pet., 15-16, or rewritten peak-to-valley height, Pet., 17.

Second, Petitioner seemingly *discards all but roughly eight pages* of its Petition in its Reply, focusing on its catch-all "result-effective variable" rationale. Reply, 3-4; Pet., 23-30, 50, 69-70. But Rpc is not a recognized result-effective variable. POPR, 45-53. Only the '090 patent explains the criticality of the claimed Rpc ranges. EX1001, 5:46-55; *see also* POPR, 51.

In each ground, *see, e.g.*, Pet., 27, 28, 30, 53, 61, 70, Petitioner's focus on individual references provides no actual combination/modification. And Petitioner's declarant's myriad parameters/conditions affecting copper foil surface characteristics belies any expected success. *See* EX1003, ¶67 (noting at least *twelve specific* parameters without explaining how to arrive at the claimed Rpc features). POPR, 62; *see also* POPR, 62-63 (additional examples).

Finally, while Petitioner points to "similar roughness characteristics" for each side of the foil, Reply, 3, the references relate to Rz/Ra features, not Rpc. *See*,

e.g., POPR, 26-27. Weighing all *Fintiv* factors, the Petition should be denied.

II. § 325(D) FAVORS DENIAL

After failing to do so in the Petition, Petitioner now belatedly acknowledges that its *leading primary reference* (Shinozaki) was previously considered and applied in a rejection by the Office. Reply, 5. But the Petition contained no allegation of Examiner-error—an impossibility given Petitioner did not acknowledge that Shinozaki had been previously considered. *See Ecto World, LLC v. RAI Strategic Holdings, Inc.*, IPR2024-01280, Paper 10 at 11-12 (P.T.A.B. Mar. 6, 2025)(denying institution where Board found that Petitioner “failed to address the second prong of *Advanced Bionics*, much less show that the Examiner erred in a manner material to patentability.”). And nothing changes the fact that after Applicant’s arguments related to the Rpc features, the Office agreed that the art of record—including Shinozaki—“fail to teach or suggest the combination of limitations of claim 1.” EX1002, 42.

Petitioner still fails to address the fact that Dobashi’s (Ground 3) counterpart was cited in an IDS and was considered. POPR, 19. Indeed, in a separate Reply, Petitioner acknowledges that “most (if not all) of Dobashi’s peaks will fail to be counted as SAE peaks.” IPR2024-01462, Paper 9, 4. Petitioner also fails to address that Sano, Griesi, and the Petition’s arguments applying them are substantially similar to those made and overcome during prosecution. POPR, 20-23.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S
SUR-REPLY IN SUPPORT OF PATENT OWNER'S PRELIMINARY
RESPONSE** was served electronically via e-mail on March 10, 2025, in its
entirety on the following counsel of record for Petitioner:

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