

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

**Before the Honorable Monica Bhattacharyya
Administrative Law Judge**

In the Matter of

**CERTAIN HIGH-STRENGTH ALUMINUM
OR ALUMINUM ALLOY-COATED STEEL,
AND AUTOMOTIVE PRODUCTS AND
AUTOMOBILES CONTAINING SAME**

Inv. No. 337-TA-1402

RESPONDENTS' INVALIDITY CONTENTIONS

Pursuant to Order No. 7 Adopted Procedural Schedule, Respondents VinFast Auto Ltd., VinFast Auto, LLC, VinFast USA Distribution, LLC, Vingroup USA, LLC, and VinFast Trading and Production JSC (collectively, "Respondents") hereby serve their Invalidity Contentions concerning all asserted claims of U.S. Patent Nos. 10,961,602 ("the '602 patent") and 11,326,227 ("the '227 patent") (collectively, the "Asserted Claims" of the "Asserted Patents") on ArcelorMittal ("Complainant"). These contentions set forth Respondents' Initial Invalidity Contentions with respect to the claims currently asserted by Complainant.

I. INTRODUCTORY STATEMENT

The Asserted Claims are neither novel nor non-obvious in view of the prior art and the knowledge of a person of ordinary skill in the art ("POSITA") at the time of the alleged inventions. Instead, the Asserted Claims recite features that were well-known in the field prior to the alleged inventions of the Asserted Patents. Moreover, the Asserted Claims are invalid for indefiniteness, lack of written description, and/or enablement under 35 U.S.C. § 112.

The following contentions are informed by Respondents' current understanding of the Asserted Claims, including Respondents' understanding of how Complainant applied the Asserted

Claims in Complainant's Complaint in this Investigation, without the benefit of claim construction and with discovery ongoing. These Invalidity Contentions may reflect various potential and alternative positions regarding claim construction and scope. These contentions therefore should not be relied upon as a statement of Respondents' claim interpretations and should not be relied upon as any admission regarding the proper scope of the Asserted Claims. These Invalidity Contentions should in no way be deemed admissions (1) as to the proper construction or scope of the Asserted Claims, or (2) that any of the Asserted Claims meet the written description, enablement, or definiteness requirements. Nor do these contentions constitute any admission by Respondents that any accused products, including any current or past versions of those products, are covered by any Asserted Claim.

Any assertion herein that a particular limitation is disclosed by a prior art reference or references may be based in part on Complainant's apparent interpretation of one or more claim elements, as identified in Complainant's Complaint and infringement claim charts in this Investigation, and is not intended to be, and is not, an admission by Respondents that any such construction is supportable or correct.

To the extent that prior art cited for a particular limitation discloses structure and/or composition that is the same or similar in some respects to the alleged structure and/or composition in the accused products as set forth in Complainant's infringement claim charts, Respondents do not concede that those limitations are in fact met by those accused functionalities. However, to the extent Complainant accuses the same or similar structure and/or composition as that disclosed in the prior art, Respondents contend such structure and/or composition is evidence of invalidity.

Respondents further reserve the right to seek to supplement and amend these disclosures based on further investigation, analysis, and discovery, Respondents' consultation with experts

and others, and contentions or rulings on relevant issues such as claim construction and priority dates. Deposing the alleged inventors may reveal information that affects the disclosures and contentions herein. Also, Respondents have not completed third-party discovery. To the extent Respondents obtain deposition testimony, additional documentation, or any other evidence concerning prior art references and/or prior art systems during discovery, Respondents reserve the right to rely on such testimony, documentation, or evidence in expert reports and at any hearing.

Respondents dispute that the Asserted Patents are entitled to the earliest provisional or non-provisional priority dates on the faces of the patents. Respondents reserve the right to move to amend these Invalidity Contentions and/or modify their selection of prior art references if Complainant provides sufficient corroborating evidence to support its priority claim(s). Respondents also reserve the right to amend these Invalidity Contentions and/or to modify the selection of prior art references based on Complainant's service of its infringement contentions, including any supplements and modifications thereto.

Because Respondents are continuing to search for and analyze relevant prior art, Respondents reserve the right to seek to revise, amend, and/or supplement the information provided herein, including identifying, charting, and/or relying upon additional prior art references, relevant disclosures, and bases for Invalidity Contentions. Additional prior art, disclosures, and invalidity grounds, whether or not cited in this disclosure and whether known or not known to Respondents, may become relevant as investigation, analysis, and discovery continue. Respondents are currently unaware of the extent, if any, to which Complainant will contend that limitations of the Asserted Claims are not disclosed in the prior art. To the extent that such an issue arises, Respondents reserve the right to identify and rely upon other references or portions of references regarding the allegedly missing limitation(s).

Additionally, Respondents reserve the right to present additional prior art references and/or disclosures under 35 U.S.C. §§ 102 (a), (b), (e), and/or (g), and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity under 35 U.S.C. §§ 102 (c), (d), or (f), to the extent that such discovery or investigation yields information forming the basis for such invalidity.

Furthermore, to the extent Complainant asserts the doctrine of equivalents, a “doctrine of equivalents theory cannot be asserted if it will encompass or ‘ensnare’ the prior art.” *Jang v. Boston Sci.*, 872 F.3d 1275, 1285 (Fed. Cir. 2017). To the extent Complainant asserts the doctrine of equivalents for any of the claimed limitations, it would ensnare the prior art for the reasons, and based on the evidence, discussed below and in the accompanying charts. Respondents reserve the right to use these disclosures as well as further discovery and disclosures for purposes of non-infringement arguments.

II. IDENTIFICATION OF PRIOR ART

A. Prior Art Listing

Subject to Respondents’ reservation of rights, Respondents identify each item of prior art that anticipates or renders obvious one or more of the Asserted Claims below in the tables below. Although Respondents have identified particular publications, Respondents incorporate by reference any other publications of the same subject matter including prior publications, issued patents, and foreign counterparts.

Patent Number / Patent Publication	Country of Origin	Date of Issue/Publication
WO 2008/053273	WIPO	May 8, 2008
JP 2000204463	Japan	July 25, 2000
JP 2004244704	Japan	Sept. 2, 2004
KR 10-1033084	Korea	July 5, 2005

Patent Number / Patent Publication	Country of Origin	Date of Issue/Publication
FR 2,833,504	France	June 20, 2003
US 6,296,805	United States	July 9, 1999
US 2006/0185774	United States	Nov. 28, 2005
WO 02/103073	WIPO	June 14, 2002
US 2004/0009366	United States	June 24, 2003
US 2004/0238080	United States	Dec. 2, 2004
Korean Patent Pub. No. 20050067968A	Korea	July 5, 2005

Author, Title, Publisher	Date of Publication
Cornette, D., et al., <i>High Strength Steels for Automotive Safety Parts</i> , SAE Technical Paper Series – 2001 World Congress, Detroit, MI, March 2001 (“Cornette”)	March 2002
Volkswagen AG, <i>Alloyed Quenched and Tempered Steel 22MnB5 Uncoated or Pre-coated</i> , TL 4225	May 2006
Mult, E.H., <i>Determination of the process window for hot stamping</i> , FOSTA – Research Association for Steel Application, Oct. 2006	Oct. 2006
DVS-Vortrag, <i>Formgehartete Blech emit Also-Schicht</i> , Oct. 2014	Oct. 2014
Lachmann, <i>Entwicklungen hochfester Stahlblechqualitäten und fugetechnische Aspekte für den Einsatz im Automobilbau</i> , Jan. 2005	Jan. 2005
Engels, <i>Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels</i> , May 2006 (“Engels”)	May 2006
Wilsius, <i>Status and future trends of hot stamping of USIBOR 1500 P</i> , Erlanger Workshop, 2006	2006
Garcia-Aranda, <i>Thermomechanical study and numerical modeling of hot stamping of the Usibor 1500</i> , Dec. 31, 2009	Dec. 31, 2009
GM Material Specification Metals, <i>Low Carbon, Heat-Treatable Boron Steel – Uncoated or Aluminized Pre-Coated</i> , Nov. 2005	Nov. 2005
Hein, <i>Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation</i> , 2006 (“Hein”)	2006
Stamping Journal, <i>Hot-stamping boron-alloyed steels for automotive parts</i> , Dec. 2006	Dec. 2006
Bleck et al., <i>Hot Stamping of Ultra High Strength Steels</i> , Nov. 2007	Nov. 2007

Author, Title, Publisher	Date of Publication
Wang Z.D. et al., <i>Influence of Hot Deformation on Continuous Cooling Bainitic Transformation in a Low Carbon Steel</i> , April 1998	April 1998
International Organization for Standardization, <i>Metallic materials – Conversion of hardness values</i> , Nov. 2003	Nov. 2003
Graul Declaration, Sept. 2014	Sept. 2014
Laurent J.P., <i>Warmumformbare vorbeschichtete ultrahochfeste Bor-Stahle .. Eine Losung fur das Festigkeits- E3 Umformbarkeits-Dilemma?</i> , 2004	2004
Merklein, M. et al., <i>Einflussgroben im Presshartprozess</i> , Nov. 2005	Nov. 2005
Suehiro, M. et al., <i>Properties of Aluminum-coated Steels for Hot-forming</i> , Nippon Steel, July 2003	July 2003
Ravier P. et al., <i>Hot Stamping Experiment and Numerical Simulation of Pre-coated USIBOR1500 Quencable Steels</i> , 2003	2003
Somani M. et al., <i>Dimensional Changes and Microstructural Evolution in a B-bearing Steel in the Simulated Forming and Quenching Process</i> , 2001	2001
Wang C. et al, <i>The high-temperature oxidation behavior of hot-dipping Al-Si coated on low carbon steel</i> , Dec. 2005	Dec. 2005
Usinor Auto, Steel Information USIBOR Heat-treatable manganese-boron steel, bare or precoated – General Description	Feb. 2, 2003
Vaissiere L et al., <i>Development of Pre-Coated Boron Steel for Applications on PSA Peugeot Citroen and RENAULT Bodies in White</i> , July 2002 (“Vaissiere”)	July 2002
Winkel, J, <i>Quenching for press hardening of steel in automotive construction</i> , 2004	2004

Additionally, the prior art references cited by Respondents include references that are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, issued U.S. Patents, foreign applications, or issued foreign patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. For example, where a claim chart cites a published patent application that ultimately issued as a patent with substantially the same written

description, Respondents may rely upon the published patent application and/or the issued patent as prior art.

Respondents also reserve the right to later rely upon all references or portions of references discussed herein and/or provided in the Notice of Prior Art to supplement or amend the disclosures contained herein. Also, to the extent not expressly mentioned herein, Respondents incorporate by reference (1) any and all prior art contained or identified in documents produced by Complainant to one or more Respondents in this case; (2) any and all additional materials regarding or bearing upon invalidity in Complainant's or any third party's possession or control that have not been produced to date, to the extent that any exist; and (3) any prior art of which any named inventor of the Asserted Patent is aware and/or on which they contend the alleged invention of the Asserted Patents build or improve. Respondents may also rely upon the disclosures of the references cited and/or discussed during the prosecution of the Asserted Patents and foreign counterparts and/or the assertions presented regarding those references.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102 (g), as evidenced by the named inventor(s), author(s), organization(s), and publisher(s) involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Respondents further intend to rely on admissions of the named inventors concerning the prior art, including statements found in the Asserted Patents, their prosecution histories, related patents, and/or patent applications, any deposition testimony, and any papers filed by, or evidence submitted by, Complainant in conjunction with this Investigation. For systems and products that are disclosed, Respondents also intend to rely on additional

information describing those same systems and products, including information received from third parties in response to subpoenas.

B. System Prior Art

Respondents identify the following references as related to, partially describing, and/or evidence of certain prior art systems:

'602 and '227 Patents

System	Relevant Dates
Volkswagen Passat ¹	2006
Volvo XC 90	2002 to 2015

Fact discovery is ongoing, and Respondents have not completed their investigation into, search for, and analysis of relevant prior art systems. Respondents therefore reserve the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional prior art systems, should Respondents' continued investigation, search, and analysis yield additional relevant information. Respondents reserve the right to present additional items of prior art, including prior art systems, under 35 U.S.C. §§ 102 and/or 103 located during the course of such discovery or further investigation and to assert contentions of invalidity under, for instance, (pre-AIA) 35 U.S.C. § 102 (c), (d), or (f) to the extent that such discovery or investigation yield information forming the basis for such contentions of invalidity. This includes, for instance, the issuance of subpoenas to third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art cited herein, including but not limited to prior art systems, and/or additional or superior prior art. These third parties may include,

¹ Exhibits A-09 and B-09 are claim charts detailing the structure and/or composition of the high strength steel incorporated in the 2006 Volkswagen Passat. On information and belief, the operation described therein is exemplary of all products with the high strength steel used in the 2006 Volkswagen Passat.

without limitation, any relevant authors, inventors, developers, designers, corporate entities with knowledge, or assignees.

III. PRIORITY

A. The '602 and '227 Patents

The '602 and '227 patents purport to claim priority to application PCT/IB2006/004019 ("PCT Application"), filed on October 30, 2006. In order for a patent to gain the benefit of the filing date of an earlier application, "each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. 112." *Zenon Environmental, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed. Cir. 2007); *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997). "[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Ariad Pharms. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2012) (en banc). As such, "a description that merely renders the invention obvious does not satisfy the requirement." *Id.* at 1352. Respondents reserve the right to dispute that the '602 and '227 patents are entitled to priority earlier than their filing dates.

IV. ANTICIPATION AND OBVIOUSNESS

A. Claim Charts for Prior Art References

Pursuant to Order No. 7 Adopted Procedural Schedule, and subject to Respondents' reservation of rights, Respondents identify in the attached Prior Art Invalidity Charts (attached hereto as **Exhibits A-01 to A-14 and B-01 to B-14** prior art references that anticipate the Asserted Claims under at least 35 U.S.C. §§ 102 (a), (b), (e), and/or (g), either expressly or inherently, and/or render obvious the Asserted Claims under 35 U.S.C. § 103 either alone or in combination with other references. A list of **Exhibits A-01 to A-14 and B-01 to B-14** is provided below:

Exhibit	Reference
A-01	Engels et al., “Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels” (2006) (“Engels”) alone and/or in view of One or More Prior Art References
A-02	U.S. Patent Publication No. Hein et al., “Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation” (2006) (“Hein”) alone and/or in view of One or More Prior Art References
A-03	U.S. Patent 6,296,805 (“Laurent”) alone and/or in view of One or More Prior Art References
A-04	Japanese Patent Application Publication No. JP/2000/204463 (“Masahiro”) alone and/or in view of One or More Prior Art References
A-05	Suehiro et. al, Properties of Aluminum-Coated Steels for Hot-Forming (“Suehiro II”) alone and/or in view of One or More Prior Art References
A-06	WO 02/103073 A2 (“Suehiro”) alone and/or in view of One or More Prior Art References
A-07	U.S. Patent Application Publication No. 2004/0009366 (“Takagi”) alone and/or in view of One or More Prior Art References
A-08	U.S. Patent Publication No. 2004/0238080 (“Vandeputte”) alone and/or in view of One or More Prior Art References
A-09	2006 Volkswagen Passat VIN# WVWAK73C66P041049 (“Passat 1049”) alone and/or in view of One or More Prior Art References
A-10	Korean Patent Publication No. 20050067968A (“Young”) alone and/or in view of One or More Prior Art References
A-11	Japanese Patent Publication No. JP/2004/244704 (“Maki”) alone and/or in view of One or More Prior Art References
A-12	U.S. Patent Publication No. US 2006/0185774 (“Nishibata”) alone and/or in view of One or More Prior Art References
A-13	Developments of High-Strength Sheet Steel Qualities and Joining Technology Aspects for Use in Automobiles (“Lachmann”) alone and/or in view of One or More Prior Art References
A-14	Cornette et al., “High Strength Steels for Automotive Safety Parts,” SAE Technical Paper Series 2001-01-0078 (2001) (“Cornette”) alone and/or in view of One or More Prior Art References
B-01	Engels et al., “Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels” (2006) (“Engels”) alone and/or in view of One or More Prior Art References
B-02	U.S. Patent Publication No. Hein et al., “Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation” (2006) (“Hein”) alone and/or in view of One or More Prior Art References
B-03	U.S. Patent 6,296,805 (“Laurent”) alone and/or in view of One or More Prior Art References
B-04	Japanese Patent Application Publication No. JP/2000/204463 (“Masahiro”) alone and/or in view of One or More Prior Art References
B-05	Suehiro et. al, Properties of Aluminum-Coated Steels for Hot-Forming (“Suehiro II”) alone and/or in view of One or More Prior Art References

B-06	WO 02/103073 A2 (“Suehiro”) alone and/or in view of One or More Prior Art References
B-07	U.S. Patent Application Publication No. 2004/0009366 (“Takagi”) alone and/or in view of One or More Prior Art References
B-08	U.S. Patent Publication No. 2004/0238080 (“Vandeputte”) alone and/or in view of One or More Prior Art References
B-09	2006 Volkswagen Passat VIN# WVGAK73C66P041049 (“Passat 1049”) alone and/or in view of One or More Prior Art References
B-10	Korean Patent Publication No. 20050067968A (“Young”) alone and/or in view of One or More Prior Art References
B-11	Japanese Patent Publication No. JP/2004/244704 (“Maki”) alone and/or in view of One or More Prior Art References
B-12	U.S. Patent Publication No. US 2006/0185774 (“Nishibata”) alone and/or in view of One or More Prior Art References
B-13	Developments of High-Strength Sheet Steel Qualities and Joining Technology Aspects for Use in Automobiles (“Lachmann”) alone and/or in view of One or More Prior Art References
B-14	Cornette et al., “High Strength Steels for Automotive Safety Parts,” SAE Technical Paper Series 2001-01-0078 (2001) (“Cornette”) alone and/or in view of One or More Prior Art References

As shown in the attached charts, and in the analysis below, each Asserted Claim is anticipated by, and/or obvious in view of, one or more items of prior art identified in these disclosures, alone or in combination. Tables identifying ways in which the prior art references cited herein anticipate and/or render obvious the Asserted Claims are provided below. In addition to the attached charts, additional prior art that may be used for obviousness combinations is identified throughout these Invalidity Contentions.

As a general matter, all portions of each prior art item are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Supporting citations are nevertheless provided, but do not necessarily represent every location where a particular claim term may be found in the prior art item. Any reference to a figure in cited text incorporates by reference that figure itself, and any citation to a figure incorporates by reference any description of that figure in a reference. Identified in the attached claim charts and below are exemplary portions of the references based on presently available information and Complainant’s

current allegations. The references, however, may contain additional support for particular claim limitations. Respondents expressly reserve the right to rely on additional or different portions of the prior art items other than those specifically cited in these claim charts and/or below, other documents subject to discovery, and its expert reports to provide context and/or to aid in understanding the cited portions of the references. Respondents additionally reserve the right to supplement and/or amend these charts.

As noted above, these claim charts are based on Respondents' understanding of the claim constructions applied by Complainant, even though Respondents do not necessarily agree with those constructions and reserves the right to dispute them. To the extent certain claim elements are indefinite under 35 U.S.C. § 112(2), as identified and described herein, the claim charts attempt to apply the prior art to the extent Respondents can understand the claim constructions applied by Complainant as found in Complainant's infringement claim charts. By doing so, however, Respondents do not concede that these claim elements are definite or that one of skill in the art would have been informed with reasonable certainty about the scope of the claim element under *Nautilus Inc. v. Biosig Instrument, Inc.*, 134 S. Ct. 2120 (2014). To the extent any limitation is deemed not to be met exactly by an item of prior art, Respondents contend that the difference would have been obvious to a person of ordinary skill in the art/or and within the knowledge of one skilled in the art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Respondents do not admit or concede that such element is not expressly or inherently disclosed by the reference at issue.

B. Anticipation, Obviousness, and the State of the Art

Much of the art identified in the attached exhibits/charts reflects common knowledge and the state of the art at the time of the alleged priority date of the Asserted Patents. Respondents

may rely on additional citations, references, expert testimony, and other material to provide context or to aid in understanding the cited portions of the references and/or cited features of the systems. Respondents may also rely on expert testimony explaining relevant portions of references, relevant hardware or software products or systems, and other discovery regarding these subject matters. Additionally, Respondents may rely on other portions of any prior art reference for purposes of explaining the background, state of the art and general technical subject area of the reference.

Where an individual reference is cited with respect to all elements of an Asserted Claim, Respondents contend that the reference anticipates the claim under 35 U.S.C. §§ 102 (a), (b), (e), and/or (g) and also renders obvious the claim under 35 U.S.C. § 103, both by itself in view of the knowledge of a person of ordinary skill in the art and in combination with the other cited references to the extent the reference is not found to disclose one or more claim elements. A single prior art reference, for example, can establish obviousness where the differences between the disclosures within the reference and the claimed invention would have been obvious to one of ordinary skill in the art: “Combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness.” *Boston Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009). To the extent Complainant contends that an embodiment within a particular item of prior art does not fully disclose all limitations of a claim, Respondents accordingly reserve the right to rely on other embodiments in that prior art reference, or other information, to show single reference obviousness under 35 U.S.C. § 103 (a).

To the extent any limitation is deemed not to be met exactly by an item of prior art, Respondents contend that the difference would have been obvious to a person of ordinary skill in the art and within the knowledge of one skilled in the art at the time of the alleged invention. Thus, the claimed invention would have been obvious both in light of the single reference alone and/or

in light of combined references. Respondents do not admit or concede that the element is not expressly or inherently disclosed by the reference at issue.

Where an individual reference is cited with respect to fewer than all elements of an Asserted Claim, Respondents contend that the reference renders obvious the claim under 35 U.S.C. § 103 (a) in view of each other reference and combination of references that discloses the remaining claim element(s). “Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or non-obviousness of the subject matter is determined.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007), quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966). Exemplary motivations to combine references are discussed below. Respondents reserve the right to rely upon any references or assertions identified herein in connection with Respondents’ contention that each Asserted Claim is invalid under 35 U.S.C. § 103 and to rely upon expert testimony addressing such references and assertions. The fact that prior art is identified to anticipate the Asserted Claims presents no obstacle in also relying on that reference as a basis for invalidity based on obviousness. It is established that “a rejection for obviousness under § 103 can be based on a reference which happens to anticipate the claimed subject matter.” *In re Meyer*, 599 F.2d 1026, 1031 (C.C.P.A. 1979). To the extent any cited prior art item may not fully disclose a limitation of an Asserted Claim or is alleged by Complainant to lack disclosure of the limitation, such limitation is present and identified in another prior art item as shown in these contentions.

Discovery is in the early stages, and Complainant has not provided full documentation with respect to any alleged pre-filing invention dates or with respect to claim limitations that are allegedly lacking or not obvious in the prior art. Respondents therefore reserve the right to further

streamline and reduce the number of anticipation or obviousness references relied upon with respect to a given Asserted Claim and to exchange or otherwise modify the specific references relied upon for anticipation and within each obviousness combination for each Asserted Claim. Each limitation of the Asserted Claims was well-known to those of ordinary skill in the art before the alleged priority date for the Asserted Patent, as explained in detail throughout these contentions.

C. Obviousness and Motivations to Combine – 35 U.S.C. § 103

Each prior art reference may be combined with one or more other prior art references (*e.g.*, as described herein and in each of **A-01** to **A-14** and **B-01** to **B-14**, which identify exemplary combinations of references) to render obvious the Asserted Claims in combination, as explained in more detail below and in the attached claim charts. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patents and related applications.

For each Asserted Patent, a person of ordinary skill would have been motivated to combine the identified prior art based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the attached claim charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. The suggested obviousness combinations described below and in the attached claim charts are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Complainant contends that any of the prior art fails to disclose one or more limitations of the Asserted Claims, Respondents reserve the right to identify other prior art references that, when

combined with the prior art, would render the claims obvious despite an allegedly missing limitation. Respondents will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of ordinary skill in the art would have been motivated to combine the prior art references for each Asserted Patent (*e.g.*, as identified herein and in **A-01** to **A-14** and **B-01** to **B-14**, which provide exemplary combinations of references). As the United States Supreme Court held in *KSR International*, “[t]he combination of familiar elements according to the known methods is likely to be obvious when it does not more than yield predictable results.” 550 U.S. at 416. The Supreme Court further held:

[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417.

The Court has further held that “in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 420. It is sufficient that a combination of elements was “obvious to try”:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Id. at 421. “In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.* Finally, the Supreme Court recognized that “[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their

value or utility.” *Id.* at 419. All of the following rationales recognized in *KSR International* support a finding of obviousness with respect to each of the obviousness combinations disclosed herein:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of a known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine the prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed more specifically below. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. Rather, the discussion below is preliminary in nature and simply provides more explanation of these specific rationales.

Respondents further contend that certain prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Respondents reserve the right to rely

on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the earliest alleged priority date for the Asserted Patents as identified by Complainant, as well as before the proper priority date, as detailed below. The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Subject to the foregoing, Respondents identify the following exemplary reasons that skilled artisans would have combined elements of the prior art to render obvious the Asserted Claims.

1. Motivations identified during prosecution

Respondents hereby expressly incorporate by reference any statements and reasons set forth by the Examiner or admitted to by the Applicant during prosecution of the Asserted Patents and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

Respondents further reserve the right to rely on any admissions in the Asserted Patents and in Complainant's litigations involving any related patent. These admissions may be used as part of any obviousness combination, as part of the motivation to combine, and also to explain the state of the art at the time of the Asserted Patents. Respondents additionally reserve the right to rely on any admissions by the patentee and/or the named inventors of the Asserted Patents, including in publications published contemporaneously to the Asserted Patents.

2. Combining known elements and/or using known techniques in predictable ways

It would have been obvious to combine known elements from the prior art with prior art references that lack that element. The field of steel manufacturing is a predictable space and a person of skill in the art would readily understand that elements and techniques used in certain prior art references could readily be used in other prior art references to obtain similar advantages and results with a reasonable expectation of success.

3. Finite number of predictable solutions

It would have been obvious to try combining the prior art references identified herein because there were only a finite number of predictable solutions and/or because known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one.

Relatedly, one of ordinary skill in the art would have been motivated to create combinations identified in these contentions using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become smaller, become less expensive, become more commonly used, provide better performance, reduce costs, or predictably achieve other clearly desirable results.

4. Inherent motivation to combine

Many of these prior art references cite to, rely upon, incorporate, or describe standard protocols, procedures, methods, systems, and/or designs. A person of ordinary skill in the art would have been motivated to look to these standards for solving known problems in the art.

5. Overlapping authorship, inventorship, or assignees

Certain prior art references have the same prior art author(s) and/or assignee(s), and/or the same prior art author(s) appear on multiple prior art references. A person of ordinary skill in the art would have been motivated to, and considered it obvious to, look at other references by the same author(s) and/or assignee(s).

6. Combinations of references through citations

Numerous prior art references cite to, discuss, or build upon other references. Where one reference cites or discusses another reference, a person of ordinary skill in the art would have been motivated to consider their teachings in combination, as they would have been understood to provide related teachings in a similar field.

7. Combinations of related references

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system, software, or other project, such as commercial software products and successive versions thereof, or multiple publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it was obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential features of the underlying project, system, or subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, it was obvious to consider the teachings of the references in combination with each other due to the express relationships and commonalities between the references.

8. '602 and 227 Patents

In addition to combinations of references and motivations to combine references identified elsewhere herein, including within claim charts, Respondents identify combinations and motivations to combine based on references grouped by subject matter. The particular cited disclosures for each reference addressed in the subsections below constitute additional charts identifying where specifically in each item of prior art certain claim limitations are found. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

The Asserted Claims of the '227 and '602 include commonly known processes for developing steel having certain qualities and properties. A person of skill in the art would have been motivated, and considered it obvious, to use these well-known techniques with the prior art references discussed herein—regardless of whether these techniques were expressly discussed in a given prior art reference.

In addition to combinations of references and motivations to combine references identified elsewhere herein, including within claim charts, Respondents identify below exemplary combinations and motivations to combine:

- Engels in view of Cornette, Takagi, Hein, Vaissiere, Laurent, Nishibata, and/or the knowledge of a skilled artisan: Each of Engels, Cornette, Takagi, Hein, Vaissiere, and Laurent are charted either separately or in combination with one or more of the other references, and the citations in those charts for each limitation are incorporated herein by reference. In addition to the motivations identified above, a POSITA would have had ample reason to combine Engels with each of these references for a variety of reasons.

- A POSITA would have been motivated to combine Engels, Cornette, Takagi, Hein, Vaissiere, Laurent and/or Nishibata because they are all directed to hot stamped coated steel products or precoated steel products. *See, e.g.*, Engels at Title (“Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels”); Cornette at Abstract (“a ultra high tensile strength pre-coated boron steel for hot forming”); Takagi at Abstract (“An aluminum-coated Structural member includes an Al-Si-Fe alloy layer formed on a steel Substrate layer.”); Hein at Title (“Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation”); Vaissiere at Abstract (“The development of the pre-coated boron steel associated with the hot stamping allows PSA Peugeot Citroën and RENAULT to lighten their parts significantly and fulfill the automotive corrosion requirements.”); Laurent at Title (“Coated Hot and Cold-Rolled Steel Sheet Comprising a Very High Resistance After Thermal Treatment”); Nishibata at Abstract (“A hot press-formed member having stable strength and toughness is manufactured from a high strength steel sheet by hot press forming.”).
- A POSITA would have been motivated to combine Engels with these references because they have similar goals related to hot stamped coated steel products or precoated steel products. Engels describes “[d]ue to steadily rising crash requirements to be met by modern automotive structures, the application of ultra-high strength materials has increased,” and identifies “[h]ot-stamping is an approach to produce these structural

parts.” Engels at Abstract. By way of example, Cornette also had as an objective to provide “a ultra high tensile strength pre-coated boron steel for hot forming” to accomplish automotive industry’s “formability and high strength requirements of steels.” Cornette at Abstract, 3. Similarly, and by way of additional example, Takagi had as a goal for “improvement in formability, weldability and corrosion resistance” of an aluminum-coated structure member, such as a structural member used for motor vehicles, produced by applying heat treatment.” Takagi at [0001], [0003]-[0004], [0013]-[0016], [0049]-[0050]. Each of Hein, Vaissiere, Laurent, and Nishibata has similar disclosures. *See, e.g.*, Hein at Abstract, 163-165; Vaissiere at 3-4. 6-11; Laurent at Abstract, 1:37-46; Nishibata at Abstract, [0001]. Because each of these references had the same or similar goals, a POSITA would have been motivated to combine Engels with any/all of Cornette, Takagi, Hein, Vaissiere, Laurent, and Nishibata to craft a resulting product designed to meet those shared goals.

- The resulting combination of Engels with Cornette, Takagi, Hein, Vaissiere, Laurent, and/or Nishibata would not require excessive modifications to the products or methods taught by Engels. For example, the techniques, products, and methods taught by Cornette, Takagi, Hein, Vaissiere, Laurent, and/or Nishibata could be implemented as a matter of design choice and routine experimentation or optimization. More specifically, the coatings disclosed by Engels, Cornette, Takagi, Hein, Vaissiere, Laurent, and Nishibata are similar and result-effective variables, and the processing

parameters/conditions discussed in these references are also similar or in common. *See e.g.*, Engels at 142-143; Cornette at 4-10; Takagi at [0013]-[0015], [0026]-[0028], [0037], [0052]; Hein at 163-165, 167-168; Vaissiere at 3-7; Laurent at 3:15-4:61; Nishibata at [0034]. A POSITA would understand and have found it obvious to implement, and/or use as guidance, the techniques and methods disclosed therein within the resulting combination. As such, extensive modification of Engels would not have been required to achieve the resulting combination.

- Takagi in view of Hein, GMW144000, Vaissiere, Laurent, Nishibata, and/or the knowledge of a skilled artisan: Each of Takagi, Hein, GMW144000, Vaissiere, and Laurent are charted either separately or in combination with one or more of the other references, and the citations in those charts for each limitation are incorporated herein by reference. In addition to the motivations identified above, a POSITA would have had ample reason to combine Takagi with each of these references for a variety of reasons.
 - A POSITA would have been motivated to combine Takagi, Hein, GMW144000, Vaissiere, and/or Laurent because they are all directed to hot stamped coated steel products or precoated steel products. *See, e.g.*, Takagi at Abstract (“An aluminum-coated Structural member includes an Al-Si-Fe alloy layer formed on a steel Substrate layer.”); Hein at Title (“Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation”); GMW14400 at Title (“Low Carbon, Heat-Treatable Boron Steel – Uncoated or Aluminized Pre-Coated”); Vaissiere

at Abstract (“The development of the pre-coated boron steel associated with the hot stamping allows PSA Peugeot Citroën and RENAULT to lighten their parts significantly and fulfill the automotive corrosion requirements.”); Laurent at Title (“Coated Hot and Cold-Rolled Steel Sheet Comprising a Very High Resistance After Thermal Treatment”); Nishibata at Abstract (“A hot press-formed member having stable strength and toughness is manufactured from a high strength steel sheet by hot press forming.”).

- A POSITA would have been motivated to combine Takagi with these references because they have similar goals related to hot stamped coated steel products or precoated steel products. Takagi describes “[i]t is an object of the present invention to provide aluminum-coated structural member and production method to the advantage of corrosion resistance, formability and weldability and wider application in motor vehicles.” Takagi at [0004]; *see also id.*, [0001], [0003], [0013]-[0016], [0049]-[0050]. By way of example, Hein also had as an objective to provide “an alloyed layer made of Fe-Al-Si, blue or gray, highly adherent on the substrate and with good corrosion properties” and “excellent formability.” Hein, Abstract, 163-165. Similarly, and by way of additional example, GMW14400 “covers the requirements for low carbon, heat-treatable boron steel used in the manufacture of structural parts requiring heat treatments to achieve high strength” and “corrosion resistance, formability,” etc. GMW14400 at 1, 3. Each of Vaissiere, Laurent, and Nishibata has similar disclosures. *See, e.g.,*

Vaissiere at 3-4. 6-11; Laurent at Abstract, 1:37-46; Nishibata at Abstract, [0001]. Because each of these references had the same or similar goals, a POSITA would have been motivated to combine Takagi with any/all of Hein, GMW144000, Vaissiere, Laurent, and Nishibata to craft a resulting product designed to meet those shared goals.

- The resulting combination of Takagi with Hein, GMW14400, Vaissiere, Laurent, and/or Nishibata would not require excessive modifications to the products or methods taught by Takagi. For example, the techniques, products, and methods taught by Takagi, GMW14400, Hein, Vaissiere, Laurent, and/or Nishibata could be implemented as a matter of design choice and routine experimentation or optimization. More specifically, the coatings disclosed by Takagi, GMW14400, Hein, Vaissiere, Laurent, and Nishibata are similar and result-effective variables, and the processing parameters/conditions discussed in these references are also similar or in common. *See e.g.*, Takagi at [0013]-[0015], [0026]-[0028], [0037], [0052]; Hein at 163-165, 167-168; GMW14400 at 1-3; Vaissiere at 3-7; Laurent at 3:15-4:61; Nishibata at [0034]. A POSITA would understand and have found it obvious to implement, and/or use as guidance, the techniques and methods disclosed therein within the resulting combination. As such, extensive modification of Takagi would not have been required to achieve the resulting combination.
- Masahiro, Suehiro, Suehiro II, Vandeputte, and/or Young in view of Cornette, Takagi, Hein, Vaissiere, Laurent, Nishibata, and/or the knowledge of a skilled

artisan: Each of Masahiro, Suehiro, Suehiro II, Vandeputte, Young, Cornette, Takagi, Hein, Vaissiere, and Laurent are charted either separately or in combination with one or more of the other references, and the citations in those charts for each limitation are incorporated herein by reference. In addition to the motivations identified above, a POSITA would have had ample reason to combine Engels with each of these references for a variety of reasons.

- A POSITA would have been motivated to combine Masahiro, Suehiro, Suehiro II, Vandeputte, Young, Cornette, Takagi, Hein, Vaissiere, Laurent and/or Nishibata because they are all directed to hot stamped coated steel products or precoated steel products. *See, e.g.*, Masahiro at [0026]; Suehiro at Abstract (“the present invention provides an aluminum plated steel sheet or an aluminum-zinc plated steel sheet suitable for high temperature forming (hot forming) wherein high strength is obtained after high temperature forming, and a method of producing the same”); Suehiro II at Abstract (“Production of parts with high strength by means of hot-forming process has been receiving considerable attention lately”); Vandeputte at [0001] (“The present invention is related to an ultra high strength steel composition, to the process of production of an ultra high strength steel product, and to the end product of said process.”); Young at Summary (“The present invention relates to a method for heating an aluminum steel sheet to a state sufficient for performing a press hardening process”); Cornette at Abstract (“a ultra high tensile strength pre-coated boron steel for hot forming”); Takagi at Abstract (“An aluminum-coated Structural member

includes an Al-Si-Fe alloy layer formed on a steel Substrate layer.”); Hein at Title (“Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation”); Vaissiere at Abstract (“The development of the pre-coated boron steel associated with the hot stamping allows PSA Peugeot Citroën and RENAULT to lighten their parts significantly and fulfill the automotive corrosion requirements.”); Laurent at Title (“Coated Hot and Cold-Rolled Steel Sheet Comprising a Very High Resistance After Thermal Treatment”); Nishibata at Abstract (“A hot press-formed member having stable strength and toughness is manufactured from a high strength steel sheet by hot press forming.”).

- A POSITA would have been motivated to combine Masahiro, Suehiro, Suehiro II, Vandeputte, and/or Young with these references because they have similar goals related to hot stamped coated steel products or precoated steel products. *See, e.g.*, Masahiro at [0026] (“The present invention provides a molten aluminum-plated steel sheet having improved weldability, which has been a problem as a material for an automobile fuel tank”); Suehiro at Abstract (“the present invention provides an aluminum plated steel sheet or an aluminum-zinc plated steel sheet suitable for high temperature forming (hot forming) wherein high strength is obtained after high temperature forming, and a method of producing the same”); Suehiro II at Abstract (“Production of parts with high strength by means of hot-forming process has been receiving considerable attention lately”); Vandeputte at [0001] (“The present invention is related to an ultra high

strength steel composition, to the process of production of an ultra high strength steel product, and to the end product of said process.”); Young at Summary (“The present invention relates to a method for heating an aluminum steel sheet to a state sufficient for performing a press hardening process”). By way of example, Cornette also had as an objective to provide “a ultra high tensile strength pre-coated boron steel for hot forming” to accomplish automotive industry’s “formability and high strength requirements of steels.” Cornette at Abstract, 3. Similarly, and by way of additional example, Takagi had as a goal for “improvement in formability, weldability and corrosion resistance” of an aluminum-coated structure member, such as a structural member used for motor vehicles, produced by applying heat treatment.” Takagi at [0001], [0003]-[0004], [0013]-[0016], [0049]-[0050]. Each of Hein, Vaissiere, Laurent, and Nishibata has similar disclosures. *See, e.g.*, Hein at Abstract, 163-165; Vaissiere at 3-4. 6-11; Laurent at Abstract, 1:37-46; Nishibata at Abstract, [0001]. Because each of these references had the same or similar goals, a POSITA would have been motivated to combine Masahiro, Suehiro, Suehiro II, Vandeputte, and/or Young with any/all of Cornette, Takagi, Hein, Vaissiere, Laurent, and Nishibata to craft a resulting product designed to meet those shared goals.

- The resulting combination of Masahiro, Suehiro, Suehiro II, Vandeputte, Young and/or with Cornette, Takagi, Hein, Vaissiere, Laurent, and/or Nishibata would not require excessive modifications to the products or

methods taught by Masahiro, Suehiro, Suehiro II, Vandeputte, and Young. For example, the techniques, products, and methods taught by Cornette, Takagi, Hein, Vaissiere, Laurent, and/or Nishibata could be implemented as a matter of design choice and routine experimentation or optimization. More specifically, the coatings disclosed by Masahiro, Suehiro, Suehiro II, Vandeputte, Young, Cornette, Takagi, Hein, Vaissiere, Laurent, and Nishibata are similar and result-effective variables, and the processing parameters/conditions discussed in these references are also similar or in common. *See e.g.*, Masahiro at [0018]; Suehiro at 6:11-9:19; Suehiro II at 16 (“In this method it is necessary to heat a steel sheet to a temperature in the austenite temperature range, equal to or higher than the Ac3 temperature: for example, steel containing about 0.2 mass % C must be heated to 850°C or higher. Heated steel sheet is extracted from a heating furnace, transferred to a pressing machine, formed into a prescribed shape using dies maintained at room temperature, and thus quenched.”); Vandeputte at [0053]-[0063]; Young at [0013](“ The gist of the present invention is a method for producing a press-hardening product by using an AL steel sheet, which comprises firstly heating an AL steel sheet continuously in the heating furnace (not shown), when the AL is first heated at 650 ° C, which is the melting point of AL, which is below 670 ° C, the AL is started to be melted as shown in FIG”); Cornette at 4-10; Takagi at [0013]-[0015], [0026]-[0028], [0037], [0052]; Hein at 163-165, 167-168; Vaissiere at 3-7; Laurent at 3:15-4:61; Nishibata at [0034]. A POSITA

would understand and have found it obvious to implement, and/or use as guidance, the techniques and methods disclosed therein within the resulting combination. As such, extensive modification of Masahiro, Suehiro, Suehiro II, Vandeputte, Young would not have been required to achieve the resulting combination.

In addition to combinations of references and motivations to combine references identified above, a POSITA would have been motivated to combine any of the references cited above with other references from the same technical field to address the same problems found in additional prior art including the following:

- Vaissiere at 3-10
- Wilsius at 83-86, 88-93, 95-99
- Merklein at 1-4

Respondents reserve the right to identify additional combinations of references and/or motivations to combine references in view of the apparent constructions, interpretations, and application of the claims in Complainant's forthcoming infringement contentions.

9. Secondary Considerations

Complainant bears the burden of establishing the existence of secondary considerations and the requisite nexus to the claimed inventions. To date, Complainant have not provided any substantive response to Respondents Interrogatory No. 31. Complainant also have not contended that any secondary considerations support any alleged non-obviousness of the Asserted Claims. To the extent that Complainant subsequently contend that any secondary considerations support a conclusion that any of the Asserted Claims are not obvious in response to this interrogatory or otherwise, Respondents reserve the right to respond, including to amend and/or supplement these

Invalidity Contentions. Moreover, as these Invalidity Contentions demonstrate, none of the Asserted Claims address any need that was either long felt or unmet, nor were their results unexpected. To the contrary, the extensive invalidating prior art detailed above and in Respondents' charts show that before the Asserted Patents, the prior art techniques, designs, and systems were widely accepted, understood, and available. Finally, although secondary considerations may be relevant to the obviousness analysis, secondary considerations of non-obviousness cannot overcome the strong prima facie case of obviousness set forth in these Invalidity Contentions.

V. INVALIDITY UNDER 35 U.S.C. § 112

Respondents identify the following terms in the Asserted Claims that Respondents contend are invalid as not being in compliance with the requirements of 35 U.S.C. § 112. The Asserted Claims are invalid for indefiniteness, lack of enablement, and/or lack of written description, for at least the reasons below.

A. Lack of Written Description and Enablement

Under 35 U.S.C. § 112, ¶1, “[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.” To satisfy the written description requirement, the specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing. *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1345 (Fed. Cir. 2000) (“The purpose of [the written description requirement] is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art

as described in the patent specification”).

A claim is invalid for lack of enablement if a POSITA would not be able to read the specification and practice the claimed invention without undue experimentation. *Amgen Inc. v. Sanofi, Aventisub LLC*, 987 F.3d 1080, 1084 (Fed. Cir. 2021). “Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations.” *Amgen Inc.*, 987 F.3d at 1084 (internal citation, quotation marks omitted). The factual considerations, which are known as “*Wands* factors,” are “(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.” *Id.* (quoting *In re Wands*, 858 F.2d 731, 736–37 (Fed. Cir. 1988)). A POSITA, having read the specification at the time of invention, would have not been able to make and use the claim elements set forth below without undue experimentation. With respect to the *Wands* factors, fact and expert discovery is expected to demonstrate at least that the quantity of experimentation to make and use the claimed invention was high, there were no working examples developed by the Applicants at the time of invention, and there is no disclosure of these elements.

Based on Respondents’ present understanding of the Asserted Claims and Complainant’s apparent interpretation of these claims as reflected in its claim charts attached to the Complaint, the following portions of limitation of the Asserted Claims fail to satisfy the written description and enablement requirements of Section 112:

- “mean composition” (’227 patent, claim 1)
- “mean iron composition” (’227 patent, claim 7; ’602 patent, claims 1, 20-22)
- “fully martensitic” (’227 patent, claim 15)

- “by weight based on total weight” (’227 patent, claim 16, 17, 22; ’602 patent, claims 3, 4, 12)
- “quasi continuous” (’602 patent, claims 2)
- “extreme surface” (’602 patent, claim 2)

B. Indefiniteness

Section 112(b) includes a definiteness requirement: “[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or joint inventor regards as the invention.” 35 U.S.C. § 112(b). “[A] patent is invalid for indefiniteness if its claims, read in light of the patent’s specification and prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

The definiteness requirement requires that the claim must set forth what the applicant regards as the invention, and do so with sufficient particularity and definiteness. *Allen Eng’g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1348 (Fed. Cir. 2002). Where it would be apparent to one of skill in the art, based on the patent specification, that the “invention” set forth in a claim is not what the patent applicant regarded as the invention, the claim is invalid. *Id.*

Based on Respondents’ present understanding of the Asserted Claims and Complainant’s apparent interpretation of these claims as reflected in its claim charts attached to the Complaint, the following limitations of the Asserted Claims fail to satisfy the requirements of Section 112(b) because the precise scope of at least the terms listed below cannot be determined with reasonable certainty by a POSITA when reading the claims in light of the specification and prosecution history:

- “layer” (’227 patent, claims 1, 2, 4, 5, 7-11, 13, 22; ’602 patent, claims 1, 2, 9, 10,

12, 18, 21, 24, 26, 28)

- “mean composition” (’227 patent, claim 1)
- “mean iron composition” (’227 patent, claim 7; ’602 patent, claims 1, 20-22)
- “fully martensitic” (’227 patent, claim 15)
- “by weight based on total weight” (’227 patent, claim 16, 17, 22; ’602 patent, claims 3, 4, 12)
- “quasi continuous” (’602 patent, claims 2)
- “extreme surface” (’602 patent, claim 2)

VI. OTHER PRIOR ART

In addition to the prior art references that Respondents have specifically discussed in these Invalidity Contentions, Respondents identify each reference produced and cited in Respondents document productions, as well as the reference in Complainant’s possession from other litigations and Patent Office proceedings. All of these references are relevant prior art, and Respondents reserve the right to rely on them based on its continuing research and analysis of the Asserted Claims, accused instrumentalities, and the prior art.

VII. CONCLUSION

These Invalidity Contentions are subject to revision and amendment to the extent appropriate in light of further investigation and discovery, the review and analysis of expert witnesses.

Dated: August 23, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing document:

RESPONDENTS' INVALIDITY CONTENTIONS

have been served on this 23rd day of August 2024, on the following:

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/s/ Georgette Williams
Georgette Williams