

362 F.3d 1359, \*; 2004 U.S. App. LEXIS 5543, \*\*;  
70 U.S.P.Q.2D (BNA) 1300; 26 Int'l Trade Rep. (BNA) 1603

**KINIK COMPANY, Appellant, v. INTERNATIONAL TRADE COMMISSION,  
Appellee, and MINNESOTA MINING AND MANUFACTURING COMPANY and  
ULTIMATE ABRASIVE SYSTEMS, L.L.C., Intervenors.**

**02-1550**

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

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Trade Rep. (BNA) 1603*

**March 25, 2004, Decided**

**SUBSEQUENT HISTORY:** Rehearing denied by, Rehearing, en banc, denied by *Kinik Co. v. ITC, 2004 U.S. App. LEXIS 11036 (Fed. Cir., May 14, 2004)*

**PRIOR HISTORY:** [\*\*1] Appealed from: United States International Trade Commission

**DISPOSITION:** Affirmed in part, reversed in part.

**CASE SUMMARY:**

**PROCEDURAL POSTURE:** In an exclusion action initiated on the complaint of plaintiff company under *19 U.S.C.S. § 1337(a)(1)(B)(ii)*, the United States International Trade Commission found that the process claimed in the patent owned by the company was being used in Taiwan to produce certain abrasive articles that were imported by plaintiff infringer into the United States. The infringer appealed.

**OVERVIEW:** The Commission's interpretation of its statute was supported by the text of the statutes, by the legislative history, and by precedent. Thus, the appellate court found that the Commission properly ruled that the defenses established in *35 U.S.C.S. § 271(g)* were not available in *19 U.S.C.S. § 1337(a)(1)(B)(ii)* actions. Additionally, the appellate court found that the invention that was submitted for examination, and that was patented, explicitly required an excess of liquid binder over powdered matrix. The word mixture in the patent claims had the scope given it in the specification, for it was clear that no broader scope was contemplated or intended. Thus, the appellate court concluded that the company's patent claims required that the preform process employ a volume of liquid binder that exceeded

the volume of powdered matrix. However, it was not disputed that the infringer's preform process used a volume of liquid binder that was significantly lower than the volume of matrix powder. Therefore, the judgment of a violation of *19 U.S.C.S. § 1337(a)(1)(B)(ii)* that the infringer was infringing on the company's patent was not supported by substantial evidence.

**OUTCOME:** The judgment of patent infringement was reversed. The Commission's ruling that the newly enacted defenses did not apply to the company's actions of infringement was affirmed.

**LexisNexis(R) Headnotes**

**COUNSEL:** Anthony C. Roth, Morgan, Lewis & Bockius LLP, of Washington, DC, argued for appellant. With him on the brief were Peter Buscemi and Robert J. Hollingshead.

Michael K. Haldenstein, Attorney, Office of General Counsel, United States International Trade Commission, of Washington, DC, argued for appellee. With him on the brief were Lyn M. Schlitt, General Counsel; and James M. Lyons, Deputy General Counsel.

Ralph A. Mittelberger, Heller Ehrman White & McAuliffe LLP, of Washington, DC, argued for intervenors. Of counsel on the brief were Kevin H. Rhodes and Daniel R. Pastirik, 3M Innovative Properties Company, of St. Paul, Minnesota.

**JUDGES:** Before NEWMAN, BRYSON, and LINN, Circuit Judges.

**OPINIONBY: NEWMAN****OPINION:** [\*1361] NEWMAN, Circuit Judge.

This exclusion action was initiated on the complaint of Minnesota Mining and Manufacturing Company and Ultimate Abrasive Systems L.L.C. (collectively "3M") under 19 U.S.C. § 1337(a)(1)(B)(ii), formerly § 1337(a) of the Tariff Act of 1930 as amended (variously called § 337(a)). The International Trade Commission found that [\*\*2] the process claimed in *United States Patent No. 5,620,489* (the '489 patent), owned by 3M, was being used in Taiwan to produce certain abrasive articles that were imported by the Kinik Company into the United States. n1 We conclude that on the correct claim construction the process of the '489 patent was not practiced; the judgment of infringement is reversed.

n1 Certain Abrasive Products Made Using a Process for Making Powder Preforms, and Products Containing Same, Inv. No. 337-TA-449, Initial Determination (Feb. 8, 2002); Final Determination (Mar. 29, 2002).

The Commission's ruling that the defenses available under 35 U.S.C. § 271(g) do not apply to actions under 19 U.S.C. § 1337(a)(1)(B)(ii) is affirmed.

**Standard of Review**

[HN1] Decisions of the International Trade Commission receive judicial review in accordance with the criteria of the *Administrative Procedure Act*, as set forth at 5 U.S.C. § 706(2)(E). See 19 U.S.C. § 1337 [\*\*3] (c); *Tanabe Seiyaku Co. v. United States Int'l Trade Comm'n*, 109 F.3d 726, 731 (Fed. Cir. 1997); *Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d 1017, 1019 (Fed. Cir. 1987).

[HN2] Determination of the meaning and scope of patent claims is a matter of law, and receives plenary review on appeal. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc). [HN3] Infringement of correctly construed claims, whether literal or under the doctrine of equivalents, is a question of fact. [HN4] Factual findings are reviewed under the APA to ascertain whether they are supported by substantial evidence on the record as a whole; if so, they must be sustained. *Enercon GmbH v. United States Int'l Trade Comm'n*, 151 F.3d 1376, 1381 (Fed. Cir. 1998). [HN5] Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 477, 95 L. Ed. 456, 71 S. Ct. 456 (1951).

**II INFRINGEMENT****The Volume of Binder**

The '489 patent is directed to a method for the manufacture of an abrasive article by first making a soft and flexible preform n2 from a mixture containing a liquid binder, powdered matrix material, and abrasive particles, and then sintering the preform. Claim 1, the broadest claim in suit, follows:

1. In a method for making an abrasive article wherein a plurality of abrasive particles and a quantity of powdered sinterable matrix material are combined together and sintered to form the article, the improvement comprising forming a soft, easily deformable and flexible preform from a mixture of said quantity of powdered sinterable matrix material and a liquid binder composition, including a plurality [\*\*10] of abrasive particles at least partially in said preform and then sintering said preform to form said abrasive article.

Kinik states that claim 1, correctly construed, is limited to preform mixtures that contain a larger volume of liquid binder composition than powdered matrix material, for that is the invention described in the specification. Kinik states that the patentee made clear that this was the invention intended to be claimed, and disclaimed mixtures other than those with an excess of liquid binder over powder. Kinik states, and the Commission found, that in the process practiced in Taiwan the volume of liquid binder is significantly less than the volume of matrix powder. However, the Commission construed the '489 claims as not limited to any ratio of liquid binder to powder.

n2 "Preform" is defined as a composition that can be shaped and holds its shape to the extent needed for subsequent processing.

[\*1364] In the '489 specification the applicant states that in the preform mixture the volume of [\*\*11] the liquid binder "substantially exceeds" the volume of the matrix powder. The specification does not permit a contrary construction. The Summary of the Invention states:

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To form an SEDF [soft easily deformable] preform, a slurry or paste is formed of the powdered composition and the binder composition. The concentration of powdered composition and abrasive particles (if included) in the slurry or paste is low, and the volume of the binder composition is high. In fact, the volume of the binder composition or binder phase in the mixture substantially exceeds the volume of the powdered composition and the abrasive particles.

Col. 3, lines 7-15. The ratio is quantified in the Detailed Description of the Embodiments:

By volume, the percentage of the powder within the binder-powder mixture is usually from 1 to 5%, but it can be extended to a range of 0.3 to 10%.

Col. 3, lines 29-32. During prosecution the applicant added text to the application "to more accurately define applicant's invention" and in connection with that definition stressed that the volume of the binder composition "substantially exceeds" the volume of the metal powder, [\*\*12] relying on this distinction to overcome cited references. Response to Office Action, at 20 (June 3, 1996) (Preliminary Amendment). The applicant stated:

Further [the invention] is the mixture of the powdered sinterable matrix material and the liquid binder composition used to form the SEDF preform where the volume of the binder composition substantially exceeds the volume of the matrix material and in which the weight of the binder composition is usually from 3 to 20% by weight of the mixture.

Id.

3M stated that during prosecution it was arguing patentability in the context of the preferred embodiment, but that the invention should not be limited to use of excess binder in the preform because such limitation is not included in the claims. The Commission agreed, citing Federal Circuit precedent that limitations from the specification should not be read into the claims. The Commission cited decisions such as *Sjolund v. Musland*,

*847 F.2d 1573, 1581 (Fed. Cir. 1988)*, wherein the court explained that while claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations [\*\*13] from the specification may be read into the claims. Similarly in *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, *805 F.2d 1558, 1563 (Fed. Cir. 1986)*, the court "cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification."

This precedent is sound. However, precedent does not hold that the claims are not limited by what is described and enabled. [HN10] Patent claims are directed to the invention that is set forth in the specification. See *35 U.S.C. § 112* (the claims "particularly point out and distinctly claim" what the applicant views as the invention); see also *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, *810 F.2d 1113, 1116 (Fed. Cir. 1987)* (claims are understood in light of the specification, of which they are a part).

3M is correct in that when the specification describes the invention in broad terms, accompanied by specific examples or embodiments, the claims are generally not restricted to the specific examples or the preferred embodiments unless that scope was limited during prosecution. [\*1365] See *Dow Chem. Co. v. United States*, *226 F.3d 1334, 1342 (Fed. Cir. 2000)* [\*\*14] (as a general rule claims of a patent are not limited to the preferred embodiment); *Intel Corp. v. United States Int'l Trade Comm'n*, *946 F.2d 821, 836 (Fed. Cir. 1991)* [HN11] ("Where a specification does not require a limitation, that limitation should not be read from the specification into the claims.").

In the '489 patent the invention was described with specificity in the specification, and this specificity was illustrated in the examples. During prosecution the same specificity -- the excess volume of liquid binder over matrix powder in the preform mixture -- was emphasized as a material distinction from the prior art. The specification states that prior art preforms having low binder volume are hard, stiff, and brittle, for example at col. 1, lines 18-43, and col. 2, lines 15-19. The inventor's discussion of the disadvantages of the low binder prior art sheds light on the scope of the invention. See *Ekchian v. Home Depot, Inc.*, *104 F.3d 1299, 1304 (Fed. Cir. 1997)* (arguments contained in the prosecution history which purport to distinguish an invention from the prior art may affect the scope of the patent ultimately granted). [HN12] Claims cannot be construed [\*\*15] as encompassing the prior art that was distinguished in the specification and disclaimed during prosecution. See *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, *242 F.3d 1337, 1343-44 (Fed. Cir. 2001)*.

Even the broadest descriptive text in the '489 specification describes only mixtures where binder volume exceeds matrix powder volume. During prosecution the applicant disavowed the breadth whereby the volume of matrix powder exceeds binder volume, for a preform having low binder content was in the prior art. We have noted 3M's argument that the '489 specification states a range of weight percentages as well as relative volumes, and that the lowest weight percentage of binder mentioned (3% of the weight of the mixture) would not produce an excess volume of binder. However, that calculation, if accurate, contradicts the applicant's repeated statements that the invention is directed to mixtures having high volumes of binder. If anything, it contributes to imprecision or invalidity, not increased claim breadth.

The Commission, however, declined to review the ALJ's ruling that since the ordinary dictionary meaning of "mixture" is not limited by the proportion [\*\*16] of the components of the mixture, the claims should not be so limited. The ALJ pointed to Federal Circuit precedent that encourages recourse to dictionaries, as in *Dow Chem. Co. v. Sumitomo Chem. Co.*, 257 F.3d 1364, 1372 (Fed. Cir. 2001), and *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The issue, however, is not one of dictionary definition of a common word, but the meaning of "mixture" as used in the patent documents. *Dow Chem.*, 257 F.3d at 1378 (scope is limited to the meaning set forth in the patent documents). [HN13] The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history. *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998) ("The best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.").

The invention that was submitted for examination, and that was patented, explicitly requires an excess of liquid binder over powdered matrix. The word "mixture" in the claims has the scope given it in the specification, for [\*\*17] it is clear that no broader scope was contemplated or intended. We conclude that the '489 claims require [\*1366] that the preform process employs a volume of liquid binder that exceeds the volume of powdered matrix. It is not disputed that Kinik's preform process uses a volume of liquid binder that is significantly lower than the volume of matrix powder. There was no contrary evidence on this aspect. On the correct claim construction, the judgment of violation of 19 U.S.C. § 1337(a)(1)(B)(ii) is not supported by substantial evidence, and is reversed.

The question of liability under the doctrine of equivalents was raised by 3M late in the proceedings, after discovery had closed and only one month before

trial. For that reason, the ALJ refused to allow argument directed to equivalency. That aspect is not before us.

### Sintering

Kinik also argues that the '489 claims cannot be infringed because they require the final step of sintering the powdered matrix, whereas the Kinik process requires brazing of the powdered matrix at a temperature higher than the sintering temperature. 3M states that "sintering" means heating the preform to a temperature just below the matrix [\*\*18] melting point, causing the powder particles to bond together without melting. Kinik agrees with the 3M definition and argues that sintering does not characterize the Kinik process, which Kinik states passes briefly through the sintering temperature en route to the higher temperature of the Kinik process at which brazing occurs. Kinik states that any transient sintering effect is lost at the brazing temperature, and also that its product is substantially changed by brazing, raising the defense of 35 U.S.C. § 271(g)(1).

On the technologies of sintering and brazing there were disputed issues of fact and conflicting expert opinion. Both sides presented evidence concerning when sintering and brazing occur and their effect, including analysis of the preforms by scanning electron microscope at the various stages. 3M presented evidence that the Kinik process at sintering temperature produces bonding without melting as contemplated by the '489 patent, and argues that this effect is an integral part of the Kinik process, despite Kinik's final heating at brazing temperature. Kinik presented contrary evidence.

The Commission construed "sintering" to mean that "the sintered-together [\*\*19] matrix material must retain the abrasive particles at the end of the sintering step"; that is, the matrix does not melt, but retains its shape while supporting the abrasive particles that are on the surface of the preform. The Commission found that the Kinik process requires holding the mixture for a significant period of time at the sintering temperature, before proceeding to a higher brazing temperature, and that the use of additional steps in a multi-step process does not avoid infringement, see *Dow Chem.*, 257 F.3d at 1381; *Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 797 (Fed. Cir. 1990). Precedent indeed holds that [HN14] when all the steps of a claimed process are practiced in the same way and for the same purpose as shown in the patent, the addition of further steps generally does not avoid infringement. However, both sides cite cases in which the claimed process has been supplemented in ways that have led to different conclusions as to infringement, independent of the application of § 271(g)(1). We need not resolve these issues, in view of our conclusion that infringement is avoided by a process that uses substantially lower

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volumes [\*\*20] of liquid binder than of powdered matrix.

CONCLUSION

The interpretation of *19 U.S.C. § 1337(a)(1)(B)(ii)* with respect to *35 U.S.C. § 271(g)* is affirmed. The judgment of infringement is reversed.

Each party shall bear its costs.

AFFIRMED IN PART, REVERSED IN PART