

**Keywords: Indefiniteness; § 112, paragraph 2**

**General: Method for forming plastic composites is not invalid for failure to specify method for calculating volumetric percentage of wood flour used in process, since persons of experience in the field would understand how to measure parts by volume and convert weight into volume from bulk density data.**

*Marley Mouldings Ltd. v. Mikron Indus., Inc.*,  
75 U.S.P.Q. 2d 1954 (Fed. Cir. 2005)  
Decided October 5, 2005

## **I. Facts**

Marley Mouldings (“Marley”) owns U.S. Patent No. 5,951,927 (“the ‘927 patent”), relating to a method of forming foamed plastic composites that may be used as substitutes for products commonly made of wood. The foamed plastic composites include wood flour as a filler material, and Marley’s claimed method addresses several problems associated with the inclusion of wood flour in the composites. Additionally, the claimed method defines the wood flour used in the formation of the composite based on parts by volume.

Mikron Industries (“Mikron”) produces foamed plastic composites that include wood flour as a filler material. Mikron’s suppliers of its wood flour provide product data sheets that list a range of bulk densities for the wood flour, including upper and lower limits and average densities.

Marley filed suit against Mikron, alleging infringement of one or more claims of the ‘927 patent. Because Mikron measured the components used in its accused process by weight, not by volume, the conversion of the weight of wood flour to volume is a critical issue in the present case. The parties agreed to the appropriate mathematical relationship to make this calculation—density equals mass divided by volume. Accordingly, the volume of wood flour used in Mikron’s accused process could be calculated by dividing the mass of the wood flour by its density. However, while the data sheets provided by Mikron’s wood flour suppliers provide a range of bulk densities, the parties did not agree to the density values for the wood flour that should be used in this calculation.

After a Markman Hearing, Mikron filed a motion for summary judgment of non-infringement and invalidity. In support of its motion, Mikron used the average bulk density values provided by Mikron’s wood flour suppliers to show that it did not literally infringe the claimed method. In contrast, Marley used the minimum bulk density values for the wood flour to show that there was literal infringement. Of course, infringement of the claimed method depended on the density value used to calculate the volumetric percentage of the wood flour used in Mikron’s accused process. The ‘927 patent, however, did not specify a method for determining the volumetric percentage of the wood flour. Based on this absence, the district court found all the claims indefinite. Specifically, the district court found that “because infringement depended on the bulk density used to calculate the volumetric percentage of wood flour in the Mikron method, and because the ‘927 patent did not state whether the average bulk density or what density range value was to be used, the claims are fatally indefinite.” Accordingly, the district court granted Mikron’s motion that all the claims of the ‘927 patent were invalid as indefinite under 35 U.S.C. § 112, paragraph 2. Marley appealed this decision.

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## II. Issues

Did the district court err by finding all claims of the '927 patent indefinite under 35 U.S.C. § 112, paragraph 2?

## III. Discussion

Yes. The Federal Circuit determined that the districted erred by requiring the '927 patent to describe the relationship between the mass and volume of the wood flour.

35 U.S.C. § 112, paragraph 2 provides that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” The Federal Circuit noted that this statute is satisfied where a person skilled in the art would reasonably understand the claim when read in the context of the specification.

First, Mikron argued that it is impossible to determine infringement because the '927 patent does not disclose the density of wood flour to be used. For instance, Mikron argued that the volume may be impacted by shaking the wood flour so that it compacts, thus varying the density. The Federal Circuit disagreed with Mikron, noting that Mikron’s argument relates to infringement—not validity—of the claims. Even though the claims cover a range of volumetric percentages based on the density of the wood flour used in the accused process, the Federal Circuit noted that the requirements of 35 U.S.C. § 112, paragraph 2, are satisfied because the volumetric percentage can be “calculated or measured.” Indeed, the Federal Circuit noted that “[i]t was not disputed that persons of experience in the field of the '927 invention would understand how to measure parts by volume, and how to convert weight into volume from bulk density data.”

Additionally, Mikron further argued that “measurement of components by weight, not by volume, is the standard practice in the field of polymer processing, and . . . that the patentee’s failure to conform to this practice is further support for indefiniteness of the claims.” The Federal Circuit disagreed with Mikron, stating that “non-conformity is not of itself indefiniteness.” Thus, a claim is not invalid merely for failure to conform to an industry standard. Indeed, the Federal Circuit noted that an applicant is free to select the means to define and claim its invention.

Moreover, the Federal Circuit distinguished *Honeywell International, Inc. v. International Trade Commission*, 68 U.S.P.Q.2d 1023 (Fed. Cir. 2003), relied on by the district court, from the facts of the present case. In *Honeywell*, a claim was found indefinite for reciting a specified parameter without disclosing a method of preparation and testing that was critical to the measurement of the parameter. Those of ordinary skill in the art recognized that any one of four methods of preparation and testing could be used, and that the measurement of the specified parameter varied significantly based on the chosen method. As such, the Federal Circuit held that the claims at issue in *Honeywell* were “insolubly ambiguous” and thus indefinite. In the present case, however, the Federal Circuit noted those of ordinary skill in the art know how to convert weight into volume from bulk density data. Accordingly, because the requirements of 35 U.S.C. § 112, paragraph 2, are satisfied where the relevant values can be “calculated or measured,” the claims of the '927 patent are not “insolubly ambiguous.”

**IV. Conclusion**

Persons of experience in the field understand how to measure parts by volume and convert weight into volume from bulk density data. As such, the claims of the '927 patent are not insolubly ambiguous, and thus invalid, for failure to specify the method for calculating the volumetric percentage of wood flour. Therefore, the Federal Circuit reversed the district court's summary judgment of invalidity.