



## **ARE Patent Law Alert: PTAB Reverses Examiner's Obviousness Rejections In Two Related Appeals Where Examiner Did Not Provide An Adequate Rationale For Combining References**

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On November 30, 2012, the recently formed Patent Trial and Appeals Board (“PTAB”) issued two decisions in appeals in which they reversed the examiner’s obviousness rejections based on the examiner’s failure to satisfy the standard for obviousness articulated by the U.S. Supreme Court in *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007).

More specifically, the PTAB found that the examiner (1) failed to articulate adequate reasoning based on rational underpinning for the proposed prior art combinations; and (2) improperly relied on the “obvious to try” principle without providing “adequate reasoning or evidence to show that there are a finite number of identified, predictable solutions to solve a problem evidenced by design need or market pressure.” See *Ex Parte Pedro M. Buarque de Macedo*, Appeal No. 2010-008278, Appl. No. 11/ 607,412 (PTAB Nov. 30, 2012) (“*Macedo I*”); and *Ex Parte Pedro M. Buarque de Macedo*, Appeal No. 2011-000847, Appl. No. 10/625,102 (PTAB Nov. 30, 2012) (“*Macedo II*”).<sup>1</sup>

### ***A. Macedo I***

Both cases are based on related patent applications directed to prestressed, foam glass tiles to be used in building construction and assemblies made therefrom.

In *Macedo I*, the sole independent claim on appeal provided as follows:



1. A prestressed assembly for use in buildings or other structures comprising:

two sets of prestressed foam glass tiles, each having a prestress compression of 1,000 psi or greater;

at least two metal beams; and

one or more tension members

wherein said one or more tension members are located between said two sets of prestressed foam glass tiles and wherein said prestressed foam glass tiles are placed between said at least two metal beams and held in compression of at least 1,000 psi by said one or more tension members.

*Macedo I*, Slip Op. at 2.

The Examiner had rejected this claim under 35 U.S.C. § 103(a) as unpatentable over combinations of four different sets of prior art references.

The PTAB concluded that the Examiner's rejection was based on an improper combination of prior art references without an appropriately stated rationale for making such a combination. Moreover, it was recognized that "none of the cited references disclose prestress compression of 1,000 psi or greater on foam glass tile as recited in the claims." Thus, the PTAB held that "[w]ithout a reasonable expectation of success in further modifying [the prior art structure] in order to arrive at the foam glass tile having a prestress compression of 1,000 psi or greater, the claimed subject matter would not have been obvious to one of ordinary skill in the art." (*Macedo I*, at 4).

The PTAB also found that "the Examiner has not identified any particular prestress compression applied to the foamed glass materials" in the cited prior art references] and "the Examiner has also not identified any particular reason why [the cited prior art references] would cause one of ordinary skill in the art to apply a prestress combination in the claimed range of 1,000 psi or greater" to the prior art structure. (*Macedo I*, at 4-5).

In sum, the PTAB explained that "[t]he Examiner has not provided adequate reasoning with rational underpinning why a person of ordinary skill in the art would modify the arrangement of the prior art references to apply a prestress compression in the claimed range of 1,000 psi or greater. \*\*\* Without an articulated rationale based on rationale underpinning for modifying the prior art references as proposed, the Examiner's rejection appears to be the result of inexpressible hindsight analysis." (*Macedo I*, at 5).

*Macedo I* also rejected "the Examiner's apparent reliance on the principle that the 'claimed combination of elements was "obvious to try"'" as "unavailing to support a conclusion of obviousness." (*Macedo I*, at 5). "The Examiner does not provide adequate reasoning or evidence to show that there are a finite number of identified, predictable



solutions to solve a problem evidenced by design need or market pressure.” (*Id.*)

### **B. Macedo II**

The claimed subject matter in *Macedo II* also relates to “prestressed, foam glass tiles to be used in building construction and assemblies made therefrom.” (*Macedo II*, at 2). The PTAB identified the following independent claims as representative:

1. A prestressed foam glass tile wherein said tile has a compression strength of 10,000 psi or greater prior to being in a prestressed condition and a prestress compression of 4,000 psi or greater.
  
42. A prestressed foam glass tile wherein said tile has a prestress compression of 4,000 psi or greater and an average pore size of 1.0 mm or less, wherein said average pore size is measured based on the distance between two farthest points of pore surface.

*Id.*

The Examiner had rejected these claims under 35 U.S.C. § 103(a) as unpatentable over combinations of four different sets of prior art references.

In overturning these rejections, the PTAB turned to the submitted Declaration of the Inventor, which explained that “by prestressing a product, the resulting compression strength of the prestressed product will decrease by the prestress amount while the resulting tension strength will increase by the same amount” (*Id.* at 3, citing App. Br. and Dr. Macedo Decl. ). Thus, *Macedo II* concluded “it may not necessarily be suitable to apply pre-compressive force to a workpiece in the claimed range depending on the desired compression strength characteristics of the resulting product.” (*Macedo II*, at 3).

*Macedo II* again relied upon the failure of the examiner to articulate a “logical reason” to apply the combination, and Appellant’s arguments to the contrary. Like *Macedo I*, *Macedo II* found that “[w]ithout a reasonable expectation of success in further modifying the [prior art structure] in order to arrive at the foam glass tiles having a prestress compression of 4,000 psi or greater, the claimed subject matter would not have been obvious to one of ordinary skill in the art.” (*Macedo II*, at 4). Likewise, *Macedo II* also found that “the Examiner has not identified any particular prestress compression applied to the foam glass materials” in the cited prior art references, and “[t]he Examiner has also not identified any particular reason why [the references] would cause one of ordinary skill in the art to apply a prestress compression in the claimed range of 4,000 psi or greater” to the prior art structure. (*Id.*).



In sum, *Macedo II* concluded that “[t]he Examiner has not provided adequate reasoning with rational underpinning why a person of ordinary skill in the art would modify the arrangement of the prior art references to apply a prestress compression in the claimed range of 4,000 psi or greater. \*\*\* Without an articulated rationale as based on rational underpinning for modifying the prior art references as proposed, the Examiner’s rejection appears to be the result of impermissible hindsight analysis.” (*Macedo II*, at 5).

*Macedo II* also rejected the Examiner’s apparent reliance on an “obvious to try” rationale since “[t] he Examiner does not provide adequate reasoning or evidence to show that there are a finite number identified, predictable solutions to solve a problem evidenced by design need or market pressure.” (*Macedo II*, at 5).

### **Practical Significance**

*Macedo I* and *Macedo II* illustrate the importance of providing adequate reasoning at each step of obviousness analysis to satisfy the *KSR* standard:

- (1) To support an obviousness conclusion based on a combination of prior art references, one must articulate adequate reasoning with rational underpinning for the proposed prior art combination. Otherwise, such combination may be considered to be the result of impermissible hindsight analysis.
- (2) In addition, to support an obviousness conclusion based on the “obvious to try” principle, one must “provide adequate reasoning or evidence to show that there are a finite number of identified, predictable solutions to solve a problem evidenced by design need or market pressure.”

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Mr. Macedo, along with Benjamin Halpern and Jung Hahm, associates at the firm, represented Dr. Macedo in prosecution and before the PTAB in both *Macedo I* and *Macedo II*.