

EIP

Mr Justice Zacaroli shines a light on claim construction in patent dispute for glass lamps

Heraeus Noblelight Ltd v First Light Lamps Ltd [2023] EWHC 1950 (Pat) (31 July 2023)

Summary

This case revolves around a patent infringement dispute between two specialist lamp manufacturers, Heraeus Noblelight Limited ("Heraeus") and First Light Lamps Limited ("First Light"). The patent holder, Heraeus, claims that First Light has infringed their patent, EP (UK) 1 598 845 (the "Patent"), by using a method for sealing the ends of quartz glass tubes used in the production of arc lamps which is protected by the Patent. First Light, in turn, counterclaims for a declaration of invalidity and revocation of the Patent, arguing obviousness over two instances of prior art.

The Patent

The Patent in question addresses a specific sealing method known as the "rod seal" method, used in certain arc lamps. This method involves inserting a tungsten rod into each end of the lamp and attaching a thin sleeve of sealing glass around the rod, which is worked up to form a "bead". The bead is then fused with the outer glass tube to create a hermetic seal. It is the size of this bead that is central to Heraeus' infringement argument.

In particular, Claim 1 of the Patent provides that the bead is required to be "bigger than the internal diameter of the end of the tube but not bigger than the external diameter of the end of the tube" [emphasis added].

Infringement

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Heraeus alleges that First Light infringes the Patent as the process described in the product or process description ("PPD") is essentially the same as that taught in the Patent, save for using an "oversized bead" in their sealing process that is bigger than the external diameter of the glass tube.

Heraeus' case relies on three arguments:

1. Purposive construction

Heraeus contends that the words "not bigger" should be construed to mean "not materially bigger". They express materiality as either: falling within accepted standard tolerances for manufacturing an arc lamp, which both parties' experts agreed would form part of the common general knowledge ("CGK") of the skilled person; or "not bigger such that it impairs the strength or utility of the seal". Interpreting the claim in either of these ways would catch First Light's oversized bead.

First Light submitted that a strict interpretation is required for two reasons. Firstly, there is a technical purpose behind the limits on bead size, which reduces deviation by ensuring that the seal is the same size as the outer diameter of the tube. The Judge did not accept this submission as, among other things, the experts did not suggest that it was CGK that there was any problem caused by the lack of precise matching between the relevant parts of the assembly.

Secondly, First Light submitted that the skilled person would interpret "not bigger" as an instruction to make the bead of a specification of tighter tolerances than industry standard. Zacaroli J did not find this to be of any assistance, as it is a matter for construction, and consequently a question for the Court, not the experts.

Zacaroli J ruled in favour of Heraeus, stating that "not bigger" should not have a precise definition. Citing Lord Diplock in *Catnic Components Ltd v Hill & Smith Ltd* [1982] R.P.C. 183, the Judge held that the protection in the Patent includes alternatives where the bead is not materially bigger to an extent "which could have no material effect upon the way in which the invention worked". Applying this to the case, materiality is expressed as whether the size impairs the strength or utility of the seal. While this interpretation should encompass the narrower construction of any bead made within CGK tolerances, Zacaroli J stated if that is wrong as a matter of fact, then alternatively the phrase is to be construed as "not bigger" by reference to CGK tolerances.

2. Doctrine of equivalents

Heraeus also claimed that the method First Light used is an equivalent variation falling within the scope of Patent protection. Both parties agreed that while the Actavis^[1] questions to determine the question of infringement by equivalents are conceptually separate from purposively construing a Patent, in this particular case, there is no material difference between the two. Zacaroli J agreed and found infringement by equivalents, following his previous conclusion on purposive construction.

3. Literal infringement

Heraeus' literal infringement case follows from First Light having inadvertently used beads with diameters no bigger than the outside diameter of the glass tube during the manufacturing process. Setting out the de minimis principle from *Napp Pharmaceutical Holdings v Dr Reddy's Laboratories (UK)* [2017] EWHC 1517 (Pat), Zacaroli J was not satisfied that either the sample of lamps put forward by Heraeus were made with a bead no bigger than the outer diameter of the tube on a more than de minimis basis, or that on the balance of probabilities the undersized beads were used on a more than de minimis number of other occasions. Consequently, First Light's method was found not to infringe the Patent on its literal construction.

Counterclaim for validity

The Judge rejected First Light's contentions that the skilled person would regard the Patent as obvious over the two pieces of prior art cited.

Interestingly, Zacaroli J's conclusions were aided by Heraeus' expert who was also the inventor of the Patent. The Judge considered him to be more representative of the skilled person than First Light's expert and praised the clarity and cogency of his reasoning.

Conclusion

Heraeus' Patent was held to be valid and infringed. This is a lesson that, as a matter of construction of the Patent, it is unlikely that the words in the claims are to be read as imposing a stricter tolerance than that which the skilled person would understand to be CGK.

The judgment can be accessed [here](#).

^[1] Actavis UK Ltd v Eli Lilly & Co [2017] UKSC 48