



UPC finds infringement in LED lighting case

Swarco Futurit Verkehrssignalsysteme GmbH v. Strabag Infrastructure & Safety Solutions GmbH, Chainzone Technology (Foshan) Co., Ltd (UPC_CFI_33/2024)

Decision of 15 January 2024 ([Order no. ORD_2647/2025](#) relating to EP 2 643 717)

The UPC found an LED lighting patent, held by Swarco Futurit Verkehrssignalsysteme GmbH, (“Swarco”) to have been infringed by Strabag Infrastructure & Safety Solutions GmbH (“Strabag”), due to the use of products produced by Chainzone Technology (Foshan) Co., Ltd (“Chainzone”).

Background

The Defendant, Strabag, installed LED variable message signs at various points on the Austrian road network. The signs were obtained from Chainzone. The Defendant was subsequently sued by the Claimant, Swarco, for infringement of the Claimant’s patent, EP 2 643 717. Chainzone subsequently intervened in the infringement proceedings.

The device of the patent in question aims to mix the light of different LEDs such that the intensity and direction of the produced light is maintained without forming colour differences, colour fringes or colour spots for a viewer, and doing so inexpensively and in limited space.

Validity?

In a submission, the Defendant and Intervener argued the patent in suit went beyond its original disclosure in several respects and therefore should be revoked according to Art. 138(1)(c) EPC. However, as Strabag did not file a counterclaim for revocation at the time of filing its statement of defence, their submissions relating to validity were not

considered by the Court.

p2

Claim interpretation

The light has red, green and blue LEDs arranged in front of a light guide rod, the light guide rod arranged in front of a converging lens. According to claim 1, the light guide rod has a cross-section that is constant or increases gradually, and the focus of the light-guide rod is in the area of the focus of the converging lens. Amongst other features, the lateral surface of the light-guide rod has optically high-polished planes and the material of the light-guide rod is free of light-scattering components.

A first point of contention was on the meaning of converging lens. The Defendant argued that 'converging' requires the lens to be spherical. However, the Court held the skilled person to understand 'converging' to mean focusses light to a point – the lens does not necessarily have to be spherical. Further, it was decided that real converging lenses do not generally produce a perfect focus point due to imperfections in the lens. As such, the claim wording "area of the focus" was understood to refer to a region of the focus of the converging lens.

The judgment then turned to the light guide rod. According to the claim, the cladding surface of the light guide rod has the shape of a polygon and is formed from optically highly-polished planes. This was deemed in line with the understanding of an expert who assumes that the effect of a light guide is based on the "total reflection" of its light on its inner surface. The highly-polished planes and the constant or gradually-increasing cross-section of the light guide were used to define functionally the exit of the light guide. The meaning of highly-polished was contrary to the argument of the defendant, who proposed highly-polished be taken to mean polished via a special manufacturing method.

Claim 1 additionally teaches that the material of the light guide rod in claim 1 is free from light-scattering rough components. The Court held that Par. 53-55 of the description, in combination with Fig. 4, made clear that the light guide could connect directly to the converging lens, or additional structures could be positioned in between the exit of the light guide and the converging lens. In the latter case, a scattering structure in between the light guide and the lens is not to be understood as part of the light guide rod, but as an optically-effective geometry in the area of the collecting lens.

Infringement

A significant point was the definition of the light guide rod. Chainzone's product has a fibre optic rod with a gradually increasing cross-section arranged in front of an LED light source, a roughened scattering structure with a more sharply increasing cross-section in

front of the fibre optic rod, and a lens beyond the scattering structure. Although aspherical, the lens was found to be converging according meaning of the term as discussed above.

Whether any of the roughened scattering structure was a part of the light guide rod was in dispute. According to the functional definition of the light guide rod, the light guide rod ends and the scattering section begins where the material becomes rough and no longer smooth. This meant the light guide rod did have a gradually increasing cross-section, and, moreover, analysis performed by the Defendant showed the area of focus of the lens to coincide with the exit of the light guide rod.

As discussed under claim interpretation, the patent in suit did not exclude the possibility that further optical structures may be present between the light exit from the light guide rod and the converging lens. As such, Chainzone's product was found to have all the features of the patent in question's claim 1 and was found to have infringed. An injunction was ordered against the Defendant.

Recall and/or removal

Along with the destruction of the directly infringing products, the Court held that the requested recall of products was justified with regard to the directly infringing product, with basis in Art. 25 UPCA in conjunction with Art. 64(2)(b) and (d) UPCA, and Par. 4 UPCA. Requiring customers to return or destroy their products (albeit at the expense of the defendant) is a strong enforcement mechanism which courts often hesitate to order given the commercial effect on non-parties to the litigation, so it is noteworthy that the UPC was prepared to order it in this case.

Publication

Whether to authorise publication of a decision, according to Art. 80 UPCA, is left to the discretion of the Court. The Court held that, given the additional sanction element of publication, the Claimant's interest in publication must outweigh the negative consequences for the Defendant. The Court considered that, generally, granting of publication is only possible if protection of the Claimant is not guaranteed by other measures. When exercising discretion, however the purposes of Art. 80 UPCA of deterring future infringers and raising public awareness must be taken into account. The Claimant argued that publication was necessary for informing and educating the public on patent infringement. However, the Claimant did not address why publication would be necessary in this specific case. The Court therefore decided that the already-determined remedies were sufficient.

Costs

p4

A question arose as to the extent to which an Intervener must reimburse the costs of the Claimant. According to the Court, an Intervener is treated as a party according to R. 315(4) RoP. Although the Rules of Procedure do not provide a separate rule concerning costs awards against an Intervener, R. 315(4) RoP implies an Intervener is also treated as a party with regard to costs awards. The Court determined that, in the event the party supported by the Intervener loses, a proportionate contribution to costs would be justified if the Intervener caused additional expenses for the winning party through its intervention. In any case, the Intervener must bear its own costs if it loses. In this specific case, the contents of the Intervener's case was only dealt with during oral proceedings. This, and the fact the Intervener's and Defendant's arguments were very similar, indicated the Intervener should reimburse 20% of the Claimant's costs and the Defendant the remaining 80%. The Court noted, however, that arguments favouring a different allocation could be presented in any cost determination proceedings.

The judgment provided insight into the UPC's approach to claim interpretation and the procedural aspects of possible penalties. Interveners should bear in mind possible liability for costs incurred by the winning party in the case the side supported by the Intervener loses.