Patent Right	Date	March 30, 2021	Court	Intellectual Property High Court, Second Division
	Case number	2020 (Gyo-Ke) 10043		
- A case in which the court rescinded the JPO decision on opposition that revoked the patent concerning the patent right related to the invention titled "Crosslinked acrylic resin particles, and manufacturing method, resin composition, and packaging materials thereof" (Patent No. 6313974) on the grounds that no inventive step is found.				

Case type: Rescission of Patent Revocation Decision
Results: Granted
References: Article 29, paragraph (2) of the Patent Act
Related rights, etc.: Patent No. 6313974
Trial decision: Opposition No. 2018-700836

Summary of the Judgment

1. Regarding Difference c2 between Invention 1 and Cited Invention c-2 described in Exhibit Ko 2-3 (International Publication No. 2008/023648)
(1) Difference c2 is as follows.

In Invention 1, the "content of large-diameter particles having the particle diameter twice or more the volume mean particle diameter is 1.0 vol.% or lower, and the particle diameter of these particles is 3 to 50 μm," whereas in Cited Invention c-1, the "content of coarse particles having the particle diameter twice or more the mean particle diameter (6.0 μm) is 25 particles per 0.5 g."

(2) Regarding mean particle diameter

The large-diameter particles in Invention 1 have the "particle diameter twice or more the volume mean particle diameter." In terms of the Invention, the volume mean particle diameter of crosslinked acrylic resin particles is measured by Coulter Multisizer III (a measurement device manufactured by Beckman Coulter), and it is an arithmetic mean of the particle size distribution on the basis of the volume of 100,000 particles.

The coarse particles in Cited Invention c-1 have the "particle diameter twice or more the mean particle diameter (6.0 μm)." Exhibit Ko 2-3 describes that the particle diameter is measured by using Multisizer II and that the mean particle diameter is calculated on the volume basis.

Since multisizers can measure both an arithmetic mean and a geometric mean, it is uncertain from the descriptions in Exhibit Ko 2-3 whether the mean particle diameter in Cited Invention c-1 is either an arithmetic mean or a geometric mean. However, according to Exhibit Otsu 1 (JIS Z8101-1: 1999), it is found that the "mean" generally represents an arithmetic mean. In addition, according to Exhibit Otsu 4 (Unexamined Patent Application Publication No. 2012-92327), Multisizer II is used to measure the volume mean particle diameter of resin particles, or more specifically, the arithmetic mean of the particle diameters in the particle size distribution on the volume basis.

According to these facts, the statement in Exhibit Ko 2-3 that the "mean particle diameter is calculated on the volume basis" can be understood as meaning that the mean of the particle diameters is calculated by using an arithmetic mean of the particle size distribution on the volume basis.

Furthermore, both in Invention 1 and Cited Invention c-1, the mean of the particle sizes is calculated by using an arithmetic mean in the particle size distribution on the volume basis, and hence, the term "particle diameter" is found to have the same meaning for both inventions.

The value of the mean particle diameter in Cited Invention c-1, "6.0 μm," falls within the range of the volume mean particle diameter in Invention 1, "3 to 50 μm," and hence, the phrase "coarse particles having the particle diameter twice or more the mean particle diameter" in Cited Invention c-1 is interpreted as having the same meaning as the phrase "large-diameter particles having the particle diameter twice or more the volume mean particle diameter" in Invention 1.

(3) Regarding content of large-diameter particles

A. The "mean particle diameter" in Cited Invention c-1 refers to a volume mean particle diameter calculated as an arithmetic mean. It is found that this is a volume equivalent diameter and that it is calculated on the assumption that the particles are complete spheres.

Based on the assumption that the particles in Cited Invention c-1 that have the "mean particle diameter (6.0 μm)" are complete spheres, their volume is calculated as 1.13×10^{-10} cm^3.

(Formula): $4/3 \times \pi \times (6.0\ \mu m/2)^3 = 113\ \mu m^3 = 1.13 \times 10^{-10}\ cm^3$

Among the materials of which particles in Cited Invention c-1 are composed, a methacrylic resin for which the main monomer is methacrylate containing butyl-methacrylate has the density (weight) of about 1.2 g/cm^3. Therefore, the mass of each average particle in Cited Invention c-1 is 1.36×10^{-10} g/particle.

(Formula) $1.13 \times 10^{-10}\ cm^3 \times 1.2\ g/cm^3 = 1.36 \times 10^{-10}$ g/particle

Accordingly, it can be estimated that 0.5 g of resin particles contain 3.69×10^9 particles.

(Formula) 0.5 g / 1.36×10^{-10} g/particle = 3.69×10^9 particles

B. According to the above, in Cited Invention c-1, all particles (0.5 g) are a mixture of at least "the order of about 10^8" of "particles having the particle diameter twice or more the mean particle diameter" and "particles having the particle diameter less than twice the mean particle diameter," and these particles (0.5 g or at least the order of about 10^8 particles) contain 25 "coarse particles having the particle diameter twice or more the mean particle diameter." As a result, the content of "coarse particles having the particle diameter twice or more the mean particle diameter" in all particles on a number basis comes to an extremely small value, 2.5×10^{-5} % (0.000025%), and it is found that a person ordinarily skilled in the art would recognize that the content would never be larger than 1.0 vol%.

(4) Based on what is described in (2) and (3) above, Difference c2 cannot be regarded as a substantial difference, and therefore there is no error in the JPO Decision concerning the determination on Difference c2.

2. Regarding Difference c1 between Invention 1 and Cited Invention c-1 described in Exhibit Ko 2-3

(1) Difference c1 is as follows.

In Invention 1, the "weight loss on heating caused by the volatilization of the volatile matter containing the residual monomer after being heated for 1.5 hours at 120°C and having a moisture level of 1.5% or lower," whereas in Cited Invention c-1, such "weight loss on heating" is not specified.

(2) In consideration of the problem of the case where there are some coarse particles having diameters that deviate far from the mean particle diameter even when the particle diameter distribution is controlled within an optimal range, which could cause deterioration in display quality or defects on optical films, Cited Invention c-1 is intended to provide microparticles in which the content of coarse particles having particle diameters that deviate far from optimal particle diameters is controlled at a low level, a method of manufacturing such microparticles, and a resin composition containing such microparticles. By processing particles using a method that combines wet classification and dry classification, Cited Invention c-1 enhances efficiency in reducing coarse particles and microparticles having diameters that deviate from an optimal range of particle diameters.

The Invention targets the problem that the volatile matter in particles deteriorates blendedness with coating resins and agents, causes clumping of particles or

volatilization when drying the coated film, and causes uneven coating on the surface, resulting in reduction in scratch resistance on the coated film surface, and it aims to solve this problem by adopting the structure that reduces weight loss on heating. Thus, the problem to be solved by the Invention is the reduction in scratch resistance on the coated film surface as a result that the volatile matter in crosslinked acrylic resin particles causes uneven coating on the coated film surface. Such a problem that is targeted by the Invention is not indicated in Exhibit Ko 2-3.

Furthermore, according to the documents published on or before the Priority Date, it is found that it was known that in the manufacturing of synthetic resin particles, quality can be improved by reducing the moisture and also reducing the residual monomers. However, it cannot be found from these documents that, as of the Priority Date, it was known among persons ordinarily skilled in the art that there was a problem, such as the one targeted by the Invention, of the volatile matter in particles causing uneven coating on the surface and reduction in scratch resistance on the coated film surface, or that the structure that reduces weight loss on heating could be adopted to solve this problem. Nor can it be found that it was known among persons ordinarily skilled in the art that the "upper limit of weight loss on heating was 1.5%" as shown in the Invention.

Since no other evidence can be found that provides motivation regarding the points mentioned above, it cannot be found that Exhibit Ko 2-3 would have enabled a person ordinarily skilled in the art to conceive of Difference c-1, and hence, Invention 1 could not have been easily made by a person ordinarily skilled in the art.

(3) According to the above, there is an error in the JPO Decision in which the JPO determined that Invention 1 could have been easily made by a person ordinarily skilled in the art.

3. Regarding Difference c3 between Invention 1 and Cited Invention c-3 described in Exhibit Ko 2-3

(1) Difference c3 is as follows.

In Invention 1, "crosslinked acrylic resin particles" are characterized in that these particles "constitute a resin composition together with a binder resin and a solvent for controlling viscosity (except for water) and provide bumps and dips on the coated film surface made of that resin composition," whereas in Cited Invention c-1, this point is not specified.

(2) Exhibit Ko 2-3 suggests the idea of applying a coating composition, which contains the microparticles of Cited Invention c-1, a binder resin, and an organic solvent, to a substrate, and providing even, fine bumps and dips on the surface of an optical

component. Thus, the structure relevant to Difference c3 in Invention 1 could have been easily conceived of by a person ordinarily skilled in the art based on Exhibit Ko 2-3.

(3) According to the above, there is no error in the JPO Decision concerning the determination on Difference c3.