Trial decision

Invalidation No. 2015-800163

Tokyo, Japan
Demandant COHERENT TECHNOLOGY KK

Tokyo, Japan
Patent Attorney IAT WORLD PATENT LAW FIRM

Shizuoka, Japan
Intervenor TSK Corporation

Tokyo, Japan
Patent Attorney IAT WORLD PATENT LAW FIRM

Kanagawa, Japan
Demandee UV TECH CO. LTD.

Tokyo, Japan
Patent Attorney NAGAI, Hiroshi

Tokyo, Japan
Patent Attorney NAKAMURA, Yukitaka

Tokyo, Japan
Patent Attorney SATO, Yasukazu

Tokyo, Japan
Patent Attorney ASAKURA, Satoru

Tokyo, Japan
Patent Attorney KOJIMA, Kazumasa

Tokyo, Japan
Patent Attorney KASHIWA, Nobuyuki

The case of trial for invalidation of Japanese Patent No. 5286580, entitled "Coating Material Spray Mist Treatment Method" between the parties above has resulted in the following trial decision.

Conclusion

The correction of the specification and the scope of claims of Japanese Patent No. 5286580 shall be approved as described in the corrected specification and scope of claims attached to the written correction request, as for claims 1 to 6.

The demand for trial of the inventions described in claims 1, 2, and 4 to 6 was groundless.

The demand for trial of claim 3 shall be dismissed.

The costs in connection with the trial including those occasioned by intervention shall be borne by the demandant and the intervenor.

Reason

No. 1 History of the procedures

December 21, 2011	International Application of the case (Japanese Patent Application No. 2012-509415 (Priority claim: July 8, 2011, Japan))
June 14, 2013	Registration of establishment (Patent No. 5286580)
August 11, 2015	Demand for invalidation trial
November 6, 2015	Written reply and Written correction request
December 24, 2015	Application for intervention (demandant)
January 21, 2016	Notification of matters to be examined (1)
January 28, 2016	Oral proceedings statement brief (1) by the demandant
February 15, 2016	Oral proceedings statement brief (1) by the demandee
February 15, 2016	Oral proceedings statement brief (2) by the demandant
February 17, 2016	Decision to approve or disapprove intervention (approved)
February 17, 2016	Notification of matters to be examined (2)
February 25, 2016	Oral proceedings statement brief (3) by the demandant
February 25, 2016	Oral proceedings statement brief (2) by the demandee
March 1, 2016	Oral proceedings statement brief (4) by the demandant
March 1, 2016	Oral proceedings

In this trial decision, when the reference part is specified with lines, the number of lines does not include blank lines.

No. 2 Proprietary interest

Since the demandee shall contest the proprietary interest with the demandant (Written reply, page 3, lines 12 to 18), the following points will be examined.

The demandant, Coherent Technology, Ltd., is a corporation, one of whose businesses is "development of water and water treatment products" (A-12(1), A-12(2), and A-12(3); refer to No. 5, 2. described below as the evidence), sells products related to electrolysis water (A-12(5), A-12(6), A-12(7), A-12(9), and A-12(10)).

The "Coating Material Spray Mist Treatment Method" according to the Patent is to "collect the spray mist of the organic solvent-based coating" using electrolysis water.

That is, the demandant sells the same type of product as in the method according to the Patent, and thus clearly has proprietary interest regarding the Patent.

No. 3 Correction request

1. Content of the correction request

The demandee demands the following correction request in the written correction request as of November 6, 2015.

(1) Correction A

In claim 1, the description of "the steps of collecting the spray mist of the organic solvent-based coating by directly bringing the spray mist into contact with water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and leading the spray mist to collide with the water, at a high velocity" is corrected to read "the steps of collecting the spray mist of the organic solvent-based coating by directly bringing the spray mist into contact with water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and leading the spray mist to collide with the water at a velocity of not less than 10 m/sec" (claims 2 to 6, which depend from claim 1 are also corrected similarly).

(2) Correction B

In claim 1, the description of "it comprises the steps of ...to thereby form solid contents; and subsequently separating the resulting solid contents from the water

comprising strongly alkaline electrolysis water in which the spray mist has been collected" is corrected to read "it comprises the steps of ...to thereby form solid contents; and subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected, wherein the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound and a floating phase mainly comprising a resin for coating (claims 2 to 6, which depend from claim 1 are also corrected similarly).

(3) Correction C

Claim 3 is deleted.

(4) Correction D

In claim 5, the description of "the spray mist of the organic solvent-based coating is brought into direct contact with the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and is allowed to collide with the water at a high velocity, while the spray mist is entrained in a high speed air stream, to thus compulsorily agitate and mix the spray mist and the water" is corrected to read "the spray mist of the organic solvent-based coating is brought into direct contact with the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and is allowed to collide with the water at a velocity of not less than 10 m/sec, while the spray mist is entrained in air stream with a speed of not less than 10 m/sec, to thus compulsorily agitate and mix the spray mist and the water".

(5) Correction E

In claim 5, the description of "the spray mist of the organic solvent-based coating is... to thus compulsorily agitate and mix the spray mist and the water, whereby a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound are isolated from the spray mist" is corrected to read "the spray mist of the organic solvent-based coating is... to thus compulsorily agitate and mix the spray mist and the water, whereby the spray mist of the organic solvent-based coating is separated into a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound".

(6) Correction F

In claim 6, the description of "the method for treating spray mist of an organic solvent-based coating according to any one of claims 1 to 5, characterized in that the water comprising strongly alkaline electrolysis water from which the solid contents have been separated is recycled and reused" is corrected to read " the method for treating spray mist of an organic solvent-based coating according to claim 1, characterized in that the water comprising strongly alkaline electrolysis water from which the solid contents have been separated is recycled and reused".

(7) Correction G

In [0011] of the specification, the description of "the steps of collecting the spray mist of the organic solvent-based coating by bringing the spray mist into direct contact with water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and leading the spray mist to collide with the water, at a high velocity" is corrected to read "the steps of collecting the spray mist of the organic solvent-based coating by bringing the spray mist into direct contact with water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and leading the spray mist to collide with the water at a velocity of not less than 10 m/sec".

(8) Correction H

In [0011] of the specification, the description of "it comprises the steps of ...to thereby form solid contents; and subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected" is corrected to read "it comprises the steps of ...to thereby form solid contents; and subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected, wherein the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound and a floating phase mainly comprising a resin for coating".

(9) Correction I

In [0011] of the specification, the description of "(3) the method for treating

spray mist of an organic solvent-based coating as set forth in the foregoing item 1 or 2, characterized in that the solid contents comprise a precipitated inorganic filler phase mainly comprising metal compounds and a floating phase mainly comprising a resin for coating" is corrected to read "(3) it is as set forth in the foregoing item 1 that the solid contents are characterized by comprising a precipitated inorganic filler phase mainly comprising metal compounds and a floating phase mainly comprising a resin for coating".

(10) Correction J

In [0011] of the specification, the description of "the spray mist of the organic solvent-based coating is brought into direct contact with the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than 200 mV, respectively, and is allowed to collide with the water at a high velocity, while the spray mist is entrained in a high speed air stream, to thus compulsorily agitate and mix the spray mist and the water" is corrected to read "the spray mist of the organic solvent-based coating is brought into direct contact with the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than 200 mV, respectively, and is allowed to collide with the water at a velocity of not less than 10 m/sec, while the spray mist is entrained in air stream with a speed of not less than 10 m/sec, to thus compulsorily agitate and mix the spray mist and the water".

(11) Correction K

In [0011] of the specification, the description of "the spray mist of the organic solvent-based coating is... to thus compulsorily agitate and mix the spray mist and the water, whereby a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound are isolated from the spray mist" is corrected to read "the spray mist of the organic solvent-based coating is... to thus compulsorily agitate and mix the spray mist and the water, whereby the spray mist of the organic solvent-based coating is separated into a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound".

(12) Correction L

In [0011] of the specification, the description of "the method for treating spray

mist of an organic solvent-based coating as set forth in any one of the foregoing items 1 to 5, characterized in that the water comprising strongly alkaline electrolysis water from which the solid contents have been separated is recycled and reused" is corrected to read "the method for treating spray mist of an organic solvent-based coating as set forth in the foregoing item 1, characterized in that the water comprising strongly alkaline electrolysis water from which the solid contents have been separated is recycled and reused".

2. Judgment by the body on the correction request

The correction request will be examined below.

In the trial of the case, all claims are subjected to the demand for the invalidation trial, and the independent requirements for patentability specified in Article 126(7) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act are not applied to the following matters of correction.

(1) Correction A

Correction A is to define "a high velocity" to "not less than 10 m/sec" in claim 1, and thus is intended for restriction of the scope of claims.

The category, target, and purpose of the invention are not changed, and therefore this does not substantially enlarge or modify the scope of claims of the patent.

Regarding the above definition of "not less than 10 m/sec", paragraph [0021] of the specification describes "For instance, the coating mist is collected by a high speed air stream generated by the action of an exhaust fan (a suction fan) and preferably the coating mist is entrained in an air stream having a high speed on the order of not less than 10 m/sec so that the coating mist is thus brought into direct contact with the water comprising strongly alkaline electrolysis water and the coating mist is allowed to collide with the water, at a high velocity. As a result, the coating mist and the water are vigorously stirred together and this results in the isolation of the coating mist.", and paragraph [0032] describes "The surplus of the coating mist generated during the coating operations is entrained in this air stream and it is then drawn in the scrubber 2 through the small gap 3 formed between the lower edge 5 of the scrubber 2 and the surface of the circulating water 12 (at this stage, the foregoing air stream is converted into a high speed air stream whose velocity amounts to a level on the order of not less than 10 m/sec upon the passage thereof through the small gap 3). Thus, the high speed air stream whose velocity amounts to a level of not less than 10 m/sec, and the circulating water 12 and the coating mist 20 are compulsorily stirred and mixed together

in a stirring-mixing zone 21 formed or constructed by a reflector 6 (or a spiral plate having a circular arc-like cross section) positioned in proximity to the gap 3, while they are strongly rotated along the reflector 6 (or a spiral plate having a circular arc-like cross section)."

Therefore, Correction A is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(2) Correction B

Correction B is to define the "solid contents" to "the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound, and a floating phase mainly comprising a resin for coating" in claim 1, and thus is intended for restriction of the scope of claims.

The category, target, and purpose of the invention are not changed, and therefore this does not substantially enlarge or modify the scope of claims of the patent.

Regarding the point defined in Correction B, paragraph [0009] of the specification describes "It is an object of the present invention to provide a method for directly and separately isolating coating mist of an organic solvent-based coating used in general coating applications into a phase mainly comprising a resin for coatings (hereunder also referred to as simply a "resin phase") and an inorganic filler phase mainly comprising a metal compound (hereunder also referred to as simply an "inorganic filler phase") to thus recover these phases separately.", and claim 3 describes "the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound and a floating phase mainly comprising a resin for coating."

Therefore, Correction B is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(3) Correction C

Correction C is to delete claim 3, and thus is intended for restriction of the scope of claims.

The category, target, and purpose of the invention are not changed, so that this does not substantially enlarge or modify the scope of claims of the patent.

Correction C is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(4) Correction D

Correction D is to define "a high velocity" to "not less than 10 m/sec" in claim 5,

and thus is intended for restriction of the scope of claims.

The category, target, and purpose of the invention are not changed, so that this does not substantially enlarge or modify the scope of claims of the patent.

The point to specify as "not less than 10 m/sec" is described in the specification as mentioned in (1).

Therefore, Correction D is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(5) Correction E

Correction E is to define "the spray mist of the organic solvent-based coating" in "the spray mist of the organic solvent-based coating is... to thus compulsorily agitate and mix the spray mist and the water, whereby a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound are isolated from the spray mist" also links to "whereby a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound are isolated" in claim 5.

The category, target, and purpose of the invention are not changed, and therefore this does not substantially enlarge or modify the scope of claims of the patent.

The point defined in Correction E is described in paragraph [0012] of the specification as "In the method according to the present invention, coating mist is brought into direct contact with the water comprising strongly alkaline electrolysis water and the coating mist is allowed to collide with the water comprising strongly alkaline electrolysis water at a high velocity so that the coating mist and the water are stirred together. For this reason, the coating mist can be separately isolated into two phases (in other words, a resin phase and an inorganic filler phase) and the coating mist can thus be treated in high efficiency, in the present invention.", and in paragraph [0015], "The inventor of this invention has found out a treating method which can directly isolate coating mist into a resin phase and an inorganic filler phase in their reusable forms and separately recover these two phases, while using, as circulating water for the collection of the coating mist, water to which strongly alkaline electrolysis water has been added and whose pH value and ORP value are maintained at a level of not less than 9 and not more than +200 mV, respectively...."

Therefore, Correction E is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(6) Correction F

Correction F is to decrease the number of claims from which claim 6 depends, and thus is intended for restriction of the scope of claims.

The category, target, and purpose of the invention are not changed, and therefore this does not substantially enlarge or modify the scope of claims of the patent.

Correction F is within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(7) Corrections G to L

Corrections G to L provide consistency between the description in the scope of claims and the detailed description of the invention in accordance with the above Corrections A to F, respectively, and thus are intended for clarification of ambiguous statement.

The category, target, and purpose of the invention are not changed, and therefore they do not substantially enlarge or modify the scope of claims of the patent.

The points defined in Corrections G to L are described in the specification as mentioned in (1) to (6).

Therefore, Corrections G to L are within the scope of the matters described in the specification, scope of claims, or drawings attached to the application of the patent.

(8) Group of claims

Claims 1 to 6 according to Corrections A and B, in which claims 2 to 6 depend from claim 1 comprising the corrections, respectively, are a group of claims stipulated in Article 134-2(3) of the Patent Act.

The correction request of the case is made for the group of claims.

(9) Summary

Accordingly, the above corrections comply with the provisions of Article 134-2(1) of the Patent Act, and also comply with the provisions of Article 126(4) and (8) of the Patent Act which is applied mutatis mutandis pursuant to Article 126(9) of the Patent Act. Therefore, the above-noted corrections are approved.

There is no dispute between the parties that the corrections shall be approved as a legal correction (Demandant brief (3) page 4, line 5).

No. 4 The Invention

The inventions according to claims 1 to 6 of the Patent (hereinafter, referred to as "Inventions 1 to 6") are as follows in accordance with the corrected claims.

"[Claim 1]

A method for treating spray mist of an organic solvent-based coating, characterized in that, in a method for collecting the spray mist of the organic solvent-based coating, the method comprises the steps of collecting the spray mist of the organic solvent-based coating by bringing the spray mist into direct contact with water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and leading the spray mist to collide with the water at a velocity of not less than 10 m/sec, and subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected, wherein the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound and a floating phase mainly comprising a resin for coating.

[Claim 2]

The method for treating spray mist of an organic solvent-based coating according to claim 1, characterized in that a strongly alkaline electrolysis water having a pH value of not less than 9.5 and an ORP value ranging from -960 mV to 0 mV is added to the water comprising strongly alkaline electrolysis water from which the solid contents have been separated and that the resulting mixture is used as the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively.

[Claim 3]

(Deleted)

[Claim 4]

The method for treating spray mist of an organic solvent-based coating according to claim 2, characterized in that the strongly alkaline electrolysis water to be added has a pH value ranging from 11 to 14 and an ORP value ranging from −960 mV to −200 mV.

[Claim 5]

The method for treating spray mist of an organic solvent-based coating according to any one of claims 1 to 4, characterized in that the spray mist of the organic solvent-based coating is brought into direct contact with the water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively, and is

allowed to collide with the water at a velocity of not less than 10 m/sec, while the spray mist is entrained in air stream with a speed of not less than 10 m/sec, to thus compulsorily agitate and mix the spray mist and the water, whereby the spray mist of the organic solvent-based coating is separated into a floating phase mainly comprising a resin for coating and a precipitated inorganic filler phase mainly comprising a metal compound.

[Claim 6]

The method for treating spray mist of an organic solvent-based coating according to claim 1, characterized in that the water comprising strongly alkaline electrolysis water from which the solid contents have been separated is recycled and reused".

No. 5 The demandant's allegation

1. Article

Article 29-2 of the Patent Act (Article 123-1(2))

(Written request, page 4, (3); Brief (3), page 4, No.4)

2. Evidence

The demandant submitted the following evidences.

Evidences A No. 1 to No. 4 (hereinafter, abbreviated as "A-1") were submitted with the Written request, and A-5 to A-12(10) were submitted after that.

A-4, A-4(2), A-6, A-9, and A-10 were revoked (Demandant brief (3), No. 2).

A-1 Japanese Patent No. 3464279

A-2 Japanese Unexamined Patent Application No. 2006-181503

A-3 "Base and Application Technology of Electrolysis Water " written by Masaki Matsuo, published on January 25, 2000 by Gihodo Shuppan Co., Ltd., pages 8-9, 20-25, 36-41, 110-115

A-5 "Dictionary of Coating" edited by Toyohiko Yoshida, et al., published on April 30, 1980, by Asakura Publishing, Co., Ltd., pages 166-177

A-7 "New Cleaning Technique Using Electrolysis Water" written by Takayuki Imaoka, et al., published in August, 1995, Technical Report of IEICE, The Institute of Electronics, Information and Communication Engineers, SDM 95-102

A-8 " Cleaning System of Substrate Surface by Active Radical Solution" written by Fumitomo Kunimoto , et al., published in August 1995, Technical Report of IEICE, The Institute of Electronics, Information and Communication Engineers,

A-11 Japanese Unexamined Patent Application No. 2003-142441

A-12(1) Bylaw of the demandant's corporation

A-12(2) Certificate of full registry records of the demandant

A-12(3) Brief history of the demandant

A-12(4) Brief history of Osao Sumita, the representative of the demandant

A-12(5) A catalog of the product made by the demandant "REDOX, a multiple chamber type generator of highly-electrolyzed water", 2005. 1. 17

A-12(6) List of supplies of the product made by the demandant, November 4, 2001

A-12(7) Technical specifications of the product made by the demandant "Redox water generator"

A-12(8) Article written by the demandant "Environment-adaptive Cleaning Process Utilizing Electrolysis Technology" February 3, 1999

A-12(9) Instruction of the product made by the demandant "Redox water type 3 generator, a small-sized electrolyzer for generating reduced water", January 26, 2001

A-12(10) Instruction of the product made by the demandant "Redox water type 3 generator, a small-sized electrolyzer", December 19, 2001

3. Summary

The demandant's allegation is summarized as follows.

(1) Outline

Inventions of claims 1, 5, and 6 can be made easily by using: A-1, as a primary evidence,

A-5 (flow rate of spray mist), and,

A. applying A-2 (pH of an alkaline solution), or

B. from common general technical knowledge written in A-3, A-7, A-8, and A-11 (relation between pH and ORP).

As for claims 2 and 4: the same reason as claim 1 is applied; furthermore, A-2 is applied for the specifying matters of claims 2 ("Both parties" in Record).

(2) pH of water (different feature 1 in the below-mentioned No. 7, 3.)

A-2 is an evidence of using an alkaline solution for circulating water for collecting coating and pH of which is 8 to 10; and A-3, A-7, A-8, and A-11 are

evidences of correlation between the pH and ORP of electrolysis water.

Claims 1 and 2 of A-2 recite that an alkaline solution mainly comprising alkaline electrolysis water is used as circulating water for collecting coating, wherein the pH of the alkaline solution is 8 to 12 (claim 3, [0019]), which overlaps the pH range in the Patent Invention 1.

Fig.-1.8 and the theoretical formula in A-3 show that, water having not more than 200 mV ORP is reduced water, and in a low pH region of pH 9, the ORP value is varied to some extent by a chemical additive to be used (neutral NaCl, alkaline Na_2CO_3, etc.).

As shown in the relationship diagrams of the pH and ORP in Fig. 3 of A-7 and Fig. 4 of A-8, the pH and ORP values of electrolysis water are not independent variables, but have correlation. According to these relationship diagrams, when pH is not less than 9, ORP is not more than +200 mV.

Regarding the pH and reduction potential of electrolysis water, in A-1, claim 1 describes "not more than 200 mV" (no description for pH), paragraph [0005] describes "water with reduced oxidation-reduction potential", and paragraph [0023] describes "reduced water with the ORP value of -250 mV". Referring to paragraph [0035] and Fig. 6 of A-11 as well, it is obvious that A-1 intends for using conventional electrolytic cathode water of region B in Fig. 6 of A-11.

Paragraph [0035] and Fig. 6 of A-11 describe the relation between the ORP and pH of electrolytic anode water and electrolytic cathode water, in which the electrolytic anode water is positioned in the upper left region A in Fig. 6, and electrolytic cathode water is positioned in the right region B in Fig. 6.

The pH and ORP do not have direct correlation, but as shown in the regions A and B in Fig. 6 of A-11, it is obvious that there is a general tendency when ORP decreases, pH becomes high in the case of electrolysis water, and in the regions with the ORP of not more than 200 mV, the water is in alkaline region of more than pH 7.5.

Based on the above well-known matters, in the ORP ranges of not more than 200 mV, the pH range of reduced water in the A-1 Invention almost overlaps with the pH range of the Invention.

In a coating booth, it is thought that tap water, industrial water, or groundwater may be used instead of pure water as described in A-7, A-8, and A-11. The ORP and pH values of such water are not as clearly defined as they are for pure water. Therefore, a person skilled in the art would have motivation for adding alkali for suppressing quality variation of electrolysis water (to stably obtain higher pH and lower ORP than a certain level, securely), in A-1.

It is merely a design issue for a person skilled in the art to set the pH value of not less than 9. It is well-known from pH-ORP graphs in A-7 (Fig. 3), A-8 (Fig. 4), and A-11 (Fig. 6), that as the pH value is higher, a lower ORP value can be obtained.

The demandee argues that the water having an ORP value of not more than 200 mV do not necessarily have a pH of not less than 9, and recites "general mineral water" and "alkaline ion water" shown in Fig. 1 of B-1 as the evidences.

However, these are completely different species of water from electrically treated, electrolysis water as used in the Invention and A-1, and are not subjects which can be discussed for the differences in the ORP and pH in the same line as electrolysis water. The allegation of the demandee based on B-1 is unreasonable.
(Written request, page 9, lines 17 to 24; Brief (2), page 8, lines 5 to 14 (Note by the body: pages were added by the body); Brief (3), page 4, line 22 to page 5, line 3 from the bottom; Brief (4), page 3, lines 6 to 2 from the bottom, page 5, line 1 to page 6, line 23; Record, "demandant 1")

(3) Contact velocity with water (different feature 2 in the below-mentioned No. 7, 3.)

It is obvious that the motivation for making the wind speed not less than 10 m/sec is in enhancing the collection effect when the coating mist is brought into contact with strongly alkaline electrolysis water. This can be easily conceived as long as the above-mentioned working effect of strongly alkaline electrolysis water is well known, and A-5 is present which describes multiple treatment methods for colliding the coating mist with circulating water by high-speed air stream at 5 to 10 m/s, or 20 to 30 m/s.
(Brief (2), page 8, the last line to page 9, line 5)

(4) Separation process (different feature 3 in the below-mentioned No. 7, 3.)

The paragraph [0022] in A-1 describes "...reduced water forming a water curtain C which collects spray coating, is dropped and housed in a water receiving tank 20 placed below the curtain.", which corresponds to "subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected" in the Patent Invention 1.

Organic coating is a conjugate comprising an oil polymer and an inorganic filler, and thus it is a well-known matter that if there is a sufficient reaction time with alkaline electrolysis water having the predetermined pH and ORP, an oil and inorganic filler, whose specific gravities are less than 1 and more than 1, respectively, are separated into floating materials of the former and the precipitates of the latter.

The paragraph [0005] in A-1 describes "it was found that electrically treated

water with reduced oxidation-reduction potential (ORP)...has an action of dissolving an organic solvent". It can be easily supposed that "electrically treated water with reduced oxidation-reduction potential (ORP)" is alkaline electrolysis water, and therefore it is obvious that matters "dropped and housed in a water receiving tank 20" are those comprising two separated phases, one mainly comprising a floating coating resin and the other being an inorganic filler phase mainly comprising a precipitated metal compound.

Although there is a difference among the A-1, A-2, and A-5 inventions and the Invention in the problems to be solved (problem in a narrow sense) aiming at eliminating offensive odor and collecting coating mist, these have a common technical idea (problem in a broad sense) of utilizing a working effect of alkaline electrolysis water (the activity of electrolysis water). Therefore, regardless of the difference in the problem in a narrow sense, no difficulty is found in adopting the technical matters described in A-1, A-2, and A-5.
(Written request, page 9, line 1 from the bottom to page 10, line 29; Brief (2), page 9, lines 18 to 23)

No. 6 The demandee's allegation
1. Outline

In response, the demandee requested the trial decision that "The appeal of the case is groundless".

2. Evidence

The demandee submitted the following evidences.

B-1 Ojika Industry Co., Ltd. homepage, "Correlation diagram of Oxidation-reduction potential and pH"

3. Summary

The demandee's allegation is summarized as follows.

(1) pH of water (different feature 1 in the below-mentioned No. 7, 3.)

Evidence A No. 2 neither discloses nor suggests a ground for the idea that any water having ORP value of not more than +200 mV necessarily has the pH of not less than 9.

Moreover, the invention disclosed in Evidence A No. 2 comprises a step of

adding an alkaline solution to circulating water for collecting coating, in which the alkaline solution is added to the circulating water which has already collected coating.

"Water applied with voltage to lower the oxidation-reduction potential to not more than 200 mV" described in the A-1 invention and "the alkaline solution" described in the invention of Evidence A No. 2 are used on completely different occasions and for completely different purposes.

Evidence A No. 3 does not indicate that any water having an ORP value of not more than +200 mV necessarily has a pH of not less than 9.

In addition, Evidence A No. 1 neither discloses nor suggests using alkaline electrolysis water. Thus, it is completely unclear why a person skilled in the art would adopt the pH of strongly reduced water (alkaline electrolysis water) described in Evidence A No. 3 as a constitution of "water applied with voltage to lower the oxidation-reduction potential to not more than 200 mV" in the A-1 invention.

The B-1 Figure shows that water belonging to the regions of "national tap water", "general mineral water", "alkaline ion water", and "ideal reduced hydrogen water" does not necessarily have a pH of not less than 9 when the ORP value is not more than 200 mV.

From Fig. 3 in A-7 and Fig. 4 in A-8, it is reasonable to think, that even when the ORP value is not more than +200 mV, the pH does not necessarily become not less than 9.

(Written reply, page 8, lines 22 to page 10, the last line; Brief (1), page 4, line 11 to page 5, line 6; and Brief (2), page 3, lines 10 to 17).

(2) Contact velocity with water (different feature 2 in the below-mentioned No. 7, 3)

To a water curtain formed behind the product to be coated for collecting spray coating as used in the A-1 invention, if coating is to be sprayed at a high speed of not less than 10 m/sec, the water curtain cannot maintain its form and splits due to the high wind speed, result in insufficient contact between the coating mist and water.

Accordingly, in the A-1 Invention, there is no room for a person skilled in the art to adopt the constitution of "an organic solvent-based coating spray mist is directly contacted and collided at not less than 10 m/sec". (Written reply, page 12, lines 11 to 17)

(4) Separation step (different feature 3 in the below-mentioned No. 7, 3.)

A-1 has its purpose of merely providing a method for purifying contaminated air, and has no technical idea of enabling separation and recovery of a resin phase and an

inorganic filler phase to reuse them, respectively, as described in the Invention 1. In addition, A-1 also targets odor, which has no relation to separation and recovery of a resin phase and inorganic filler phase such as "deodorization of a public lavatory, food plant, or paint plant". Therefore, no motivation can be found to focus on the recovery of the scattered spray coating alone among the disclosures in A-1 and adopt the constitution according to the different feature 3. (Brief (1), page 7, line 18 to page 8, line 3; Written reply, page 13, lines 18 to 20)

No. 7 Judgment by the body

1. The Invention 1

The Invention 1 after the correction can be recognized as the above-mentioned No. 4.

2. Described matters in Evidences

(1) A-1

A-1 describes the following matters.

"[Claim 3] A method for deodorization or treatment of a harmful organic substance, characterized in that, the method comprises taking contaminated air containing offensive odor or a harmful organic substance into an exhaust duct, and spraying water applied with voltage to lower the oxidation-reduction potential to not more than 200 mV.
[Claim 4] A method for deodorization or treatment of a harmful organic substance, characterized in that, in a method for treating spray coating by collecting scattered spray coating with a water curtain, the water curtain is formed with water applied with voltage to reduce the oxidation-reduction potential of not more than 200 mV."

"[0001]
[Field of industrial application] The present invention relates to a method for treating offensive odor or harmful organic substances scattered in air, and in particular, to a method for purifying air where offensive odor or harmful organic substances are generated, including elimination of ammonium odor in public lavatories or offensive odor of sulfur oxide and the like in food plants, or elimination of offensive odor of sprayed organic solvents in paint plants, or recovery and detoxification thereof.

"[0011]
[Working-effect]

When reduced water is sprayed to ammonia filled in a room, uric acids attached to toilet bowls in public lavatories, sulfur oxide, an organic solvent, or the like, offensive odor such as ammonia smell, putrid smell, and irritating smell is deodorized. In addition, an organic solvent is dissolved in reduced water in much higher ratio compared to general tap water (with the ORP of about 500 mV). When reduced water is sprayed after taking odor into a duct, a similar phenomenon including the deodorizing effect occurs, including the cases where a coating is sprayed onto a water curtain or water surface of a tank. Reduced water is prepared in a water storage tank of a reducing device, and supplied with a water supply structure composed of a pump, a conductor, and the like."

"[0018] Although not shown in the Figure, the water storage tank 8 is connected to a water supply source such as city water pipe, through which water can be supplied at any time. Reduced water may be prepared with the reducing device 5 constituted as mentioned above, by filling water to be treated such as tap water in the water storage tank 8 and switching a timer (not shown in the Figure) on for a predetermined time period, or intermittently."

"[0021] Fig. 5 shows another Example of the method according to the present invention, wherein a unidirectional air stream is produced in an operation room by an exhaust fan (not shown in the Figure), and a water curtain C is formed behind the article T to be spray-coated, in spray coating.
[0022] The water curtain C is formed by the reduced water outflowed from a water supply port with a groove shape, formed below the pipe 6a, which is placed horizontally. To this pipe 6a, the reduced water prepared in the water storage tank 8 with the reducing device 5, as in the above Examples, is supplied through a pump 7 and a supply tube 6. Reduced water forming the water curtain C collects spray coating or a mixed solvent, and is then dropped and housed in a water-receiving tank 20 placed below the curtain. Aqueous solution in this water-receiving tank is circulated to the water storage tank 8 in the reducing device 5 through the pump 7a and the drain pipe 9b.

The above descriptions are organized while taking into consideration of common general technical knowledge, and in the light of the Invention 1; Evidence A No. 1 describes the following invention (hereinafter, referred to as the "A-1 Invention").

"A method for deodorization or treatment of a harmful organic substance,

in a method for treating spray coating by collecting scattered spray coating

which comprises forming a water curtain with reduced water applied with voltage to reduce the oxidation-reduction potential of not more than 200 mV, contacting the scattered spray coating with the water curtain by an air stream produced by an exhaust fan, taking the scattered spray coating into the reduced water forming the water curtain, and dropping and housing the reduced water collecting from the scattered spray coating in a water-receiving tank."

There is no dispute between the parties regarding recognition of the A-1 Invention (Demandant brief (2), page 7, (1); Demandee brief (1), page 3, (3-1)).

(2) A-2

A-2 describes the following matters.

"[Claim 1]

A method for treating coating-booth circulation water which comprises a step of adding an alkaline solution to coating-booth circulation water for collecting coating, a step of filtering circulation water to which the alkaline solution is added to separate a filtrate from the residue, a step of neutralizing the filtrate, and a step of reusing the neutralized filtrate as the coating-collecting circulation water.

[Claim 2]

The method for treating coating-booth circulation water according to claim 1, wherein the alkaline solution comprises alkaline electrolysis water as a main component.

[Claim 3]

The method for treating coating-booth circulation water according to claim 1 or 2, wherein the pH of the alkaline solution is 8 to 12."

"[0006]

The present invention has an object to provide a method and device for treating coating-booth circulation water with which a coating component can be easily separated and extracted from coating-collecting circulation water even in a coating booth using an aqueous coating.

To achieve the above-mentioned object, the method for treating coating-booth circulation water of the present invention is characterized by comprising a step of adding an alkaline solution to coating-booth circulation water for collecting coating, a step of filtering circulation water to which the alkaline solution is added to separate a

filtrate from the residue, a step of neutralizing the filtrate, and a step of reusing the neutralized filtrate as the coating-collecting circulation water."

"[0024]

As mentioned above, by using the method and device for treating circulation water according to the embodiment, an aqueous coating component dissolved in circulation water can be separated merely by using a convenient filter device such as a fabric filter or stainless filter, and the filtrate circulation water can be reused. Particularly advantageously, when alkaline electrolysis water is used as an alkaline solution, and acidic electrolysis water is used as a neutralizing agent, handling safety is significantly improved, and no post-treatment is necessary, since the water returns to normal water after the lapse of time."

(3) A-3

A-3 includes "Fig.-1.8 Changes in pH and ORP during electrolysis", which shows changes in the pH and ORP of oxidized water and reduced water, respectively, with the lapse of time.

This Figure shows that there is positive correlation between the decrease in the ORP and the pH alkalinization of reduced water, and water becomes stable after the lapse of about 10 minutes.

(4) A-5

A-5 describes various coating booths, and exhaust gas is passed through at 5 to 10 m/sec in "vortex type", and air is passed at 20 to 30 m/sec in "venturi type".

(4) A-7, 8

In A-7; "Fig. 3. Correlation diagram of pH-oxidation-reduction potential of electrolytic ionized water" and A-8; "Fig. 4. Correlation of pH-oxidation-reduction potential of electrolytic ionized water", relations of the pH in electrolytic ionized water and oxidation-reduction potential are shown for anode water (acidification), anode water (ultrapure water), cathode water (alkali-dope), and cathode water (ultrapure water).

According to these, it can be understood that there is positive correlation between the decrease in the oxidation-reduction potential (ORP) and the pH alkalinization of cathode water (alkali-dope).

(5) A-11

A-11 describes the following matters.

"[0001]
[Technical field of the Invention] The present invention relates to a cleaning technique employed in a process of fabricating a semiconductor device, and in particular, to a substrate cleaning technique for cleaning a substrate having a surface on which a metal material is exposed."

"[0035] FIG. 6 shows the relation between cleaning solutions according to the present invention and conventional cleaning solutions. The cleaning solution according to the present invention has a pH value and an oxidation-reduction potential lower than those of pure water, and therefore is situated in a lower left region in FIG. 6. On the other hand, conventional chemical solutions using acid (SPM (sulfuric acid-hydrogen peroxide solution) or HPM (hydrochloric acid-hydrogen peroxide solution)), electrolytic anode water, and ozone water are situated in an upper left region (region A) in FIG. 6. APM (ammonia-hydrogen peroxide solution), a conventional alkaline chemical solution, and electrolytic cathode water are situated in a right region (region B) in FIG. 6."

Fig. 6 shows the relation between the pH and the oxidation-reduction potential. It can be found that electrolytic cathode water (region B) has a pH value of not less than 7.5 and the oxidation-reduction potential is not more than 130 mV.

3. Comparison between the Invention 1 and A-1 Invention

The "scattered spray coating" in the A-1 Invention corresponds to "the organic solvent-based coating spray mist", and similarly, "recover" corresponds to "collect", "contact" corresponds to "bringing into direct contact" and "collide", and "taking into reduced water" corresponds to "a step of collecting".

"Reduced water applied with voltage to lower the oxidation-reduction potential to not more than 200 mV" in the A-1 Invention and "water which comprises strongly alkaline electrolysis water and whose pH value and ORP value are maintained at a level of not less than 9 and a level of not more than +200 mV, respectively," of the Invention 1 are in correspondence in "water whose ORP value is maintained at a level of not more than +200 mV ".

The Invention 1 and the A-1 Invention are in correspondence in the following

points.

"A method for treating spray mist of an organic solvent-based coating, in a method for collecting spray mist of an organic solvent-based coating, which comprises bringing the spray mist of an organic solvent-based coating into direct contact with water whose ORP value is maintained at a level of not more than +200 mV, and leading the spray mist to collide with the water to collect the spray mist."

The Invention 1 and the A-1 Invention differ in terms of the following points.

The different feature 1

Regarding "water whose ORP value is maintained at a level of not more than +200 mV", the Invention 1 recites "water which comprises strongly alkaline electrolysis water and whose pH value is not less than 9", while the A-1 Invention recites "reduced water applied with voltage".

The different feature 2

Regarding the contact with water, in the Invention 1, water is contacted "at not less than 10 m/sec", while in the A-1 Invention, "with the water curtain by air stream produced by an exhaust fan".

The different feature 3

The Invention 1 is "a method for treating" "which comprises a step of subsequently separating the resulting solid contents from the water comprising strongly alkaline electrolysis water in which the spray mist has been collected, wherein the solid contents comprise a precipitated inorganic filler phase mainly comprising a metal compound and a floating phase mainly comprising a resin for coating", while the A-1 Invention is "a method for deodorization or treatment of a harmful organic substance which comprises dropping and housing the water collecting the scattered spray coating in a water receiving tank", and it is unclear whether the method includes a separation step.

There is no dispute between the parties regarding acknowledgment of corresponding features and different features as described above (Demandant Brief (2), page 7, (2) and (3): Demandee brief (1), page 3, (3-1)).

4. Judgment on the Invention 1

The different feature 1 will now be discussed below.

First, the technical meaning that the Invention 1 adopts "the pH value of not less than 9" will be examined.

The specification of the case describes the following matters.

"[0016]

In the present invention, the water which comprises strongly alkaline electrolysis water and which is subsequently brought into contact with coating mist should be one whose pH and ORP values are maintained at a level of not less than 9 and at a voltage of not more than +200 mV, preferably ranging from 0 mV to -960 mV, more preferably -200 mV to -960 mV. If the pH value thereof is less than 9 and the ORP value exceeds +200 mV, the resulting water is insufficient in the ability to isolate the coating mist into a resin phase and an inorganic filler phase even when it is brought into contact with the coating mist and therefore, the use of such water could not permit the satisfactory isolation of the coating mist into these two phases.

.....

The water comprising strongly alkaline electrolysis water, herein used, preferably has a pH value of not less than 11, most preferably not less than 12. It has currently been said or believed that the upper limit of the pH value is about 14 and the water comprising strongly alkaline electrolysis water, which can be used herein, may have a pH value of up to about this value."

That is, it is obvious that stronger alkali is desirable, but it cannot be acknowledged there is significance of critical range in "the pH value of 9".

"Reduced water" in the A-1 Invention is prepared from "tap water and other treated water" (paragraph [0018]) to collect scattered spray coating.

The components and quality of "tap water" are not necessarily the same throughout the nation, and are different depending on the regions. Still more, "treated water" does not have the constant components and quality.

The A-1 Invention is "a method for deodorization or treatment of a harmful organic substance" for "purifying air where offensive odor or harmful organic substances are generated" (paragraph [0001]), and thus it is clear that such problem should be achieved steadily.

For this purpose, some contrivance is necessary to prepare "reduced water" in the A-1 Invention to have "the oxidation-reduction potential of not more than 200 mV" stably and steadily.

There is a certain relationship between the ORP and pH in reduced water obtained by electrolysis. It is common general technical knowledge that the decrease in the ORP and the pH alkalinization are in positive correlation (A-3, A-7, A-8, A-11).

Then, there is enough motivation to alkalinize "reduced water" in the A-1 Invention stably and steadily to "the oxidation-reduction potential of not more than 200 mV" regardless of the components and quality of the original water.

In that case, based on the common general technical knowledge of the relationship between the ORP and pH, stronger alkali is desirable to steadily obtain "the oxidation-reduction potential of not more than 200 mV".

Furthermore, the technical meaning of "the pH value of not less than 9" in the Invention 1 is, as described above, that stronger alkali is desirable, and therefore it cannot be acknowledged that a special effect or significance of critical range is obtained thereby.

Accordingly, the constitution according to the different feature 1 is easily conceivable based on the common general technical knowledge in the A-1 Invention.

The demandee alleges that water having the ORP of not more than +200 mV does not necessarily have a pH value of not less than 9.

However, as described above, a motivation can be found to alkalinize water with "the ORP of not more than +200 mV" in the A-1 Invention, and the allegation of the demandant cannot be accepted.

The different feature 2 will now be discussed below.

"The water curtain" in the A-1 Invention is to collect "scattered spray coating" as described in paragraph [0022].

For that purpose, the scattered spray coating should be contacted properly with reduced water which forms the water curtain, but it is obvious that if the rate of scattered spray coating is increased, the degree of contact is decreased.

Accordingly, in the A-1 Invention, no motivation can be found for increasing the rate of scattered spray coating; i.e., contacting with water "at not less than 10 m/sec", and thus the constitution according to the different feature 2 cannot be easily conceived.

The demandant alleges that A-5 describes the feature of contacting "at not less than 10 m/sec".

However, the device used in A-5 is of "vortex type" or "venturi type", in which "a water curtain" is not used as in the A-1 Invention; they are different type of devices. Therefore, the allegation of the demandant cannot be accepted.

The different feature 3 will now be discussed below.

The Invention 1 comprises "a step of separating solid contents" to "sort and treat to the reusable form" (paragraphs [0001], [0009]).

The A-1 Invention comprises "dropping and housing the reduced water collecting the scattered spray coating in a water receiving tank" for "purifying air where offensive odor or harmful organic substances are generated" (paragraph [0001]).

That is, the problem to be solved by the A-1 Invention and the Invention 1 are different.

In addition, since the A-1 Invention already solved the problem of "purifying air where offensive odor or harmful organic substances are generated", there is no motivation of additionally providing "a step of separating the solid contents".

The demandant alleges that it is well-known that, in a water receiving tank in the A-1 Invention, an inorganic filler and a resin are separated if there is sufficient time.

However, the problem to be solved by the A-1 Invention is deodorization of offensive odor, and usually, the water dropped and housed in a water-receiving tank should be treated immediately, and there is no motivation for storing the water for a sufficient time.

The allegation of the demandant cannot be accepted.

As described above, although the constitution according to the different feature 1 is easily conceivable, the constitutions according to the different features 2 and 3 cannot be recognized as easily conceivable. Accordingly, it cannot be said that the Invention 1 could have been easily made by a person skilled in the art.

5. Judgment on the Inventions 2 to 6

The Inventions 2, and 4 to 6 depend from the Invention 1, and thus include all the constitutions of the Invention 1.

Then, as long as the Invention 1 could not have been easily invented by a person skilled in the art, it cannot be recognized that a person skilled in the art could have easily made the Inventions 2, and 4 to 6 as well, by the same reason.

It should be noted that the Invention 3 was deleted by correction.

No. 8 Closing

As described above, the allegations and the means of proof by the demandant cannot invalidate the patent according to the Inventions 1, 2, and 4 to 6.

In addition, no other reasons were found to invalidate the patent according to the Inventions 1, 2, and 4 to 6.

The Invention 3 was deleted by correction.

The costs in connection with the trial shall be borne by the demandant under the provisions of Article 61 of the Code of Civil Procedure which is applied mutatis mutandis in the provisions of Article 169(2) of the Patent Act.

Therefore, the trial decision shall be made as described in the conclusion.

March 30, 2016

Chief administrative judge: WATANABE, Toyohide
Administrative judge: CHIBA, Shigenari
Administrative judge: HASUI, Masayuki