

Japan Credit Rating Agency, Ltd. (JCR) announces the following credit rating.

## Showa Denko K.K. (security code: 4004)

### <Rating Change>

Long-term Issuer Rating: from A- to A  
Outlook: from Positive to Stable  
Bonds: from A- to A  
Subordinated Loan: from BBB to BBB+  
Shelf Registration: from Preliminary A- to Preliminary A

### <Affirmation>

CP: J-1

## Showa Denko Materials Co., Ltd. (security code: -)

### <Assignment>

Long-term Issuer Rating: A  
Outlook: Stable  
Bonds: A

### Rationale

- (1) Showa Denko K.K. (the "Company") is one of major diversified chemicals companies. It acquired former Hitachi Chemical Company, Ltd., current Showa Denko Materials Co., Ltd. ("SDMC"), in April 2020, thereby establishing a business base widely covering semiconductor and automobile industries. It currently operates businesses on the basis of inorganic/organic chemical, aluminum and other elemental technologies, as well as functional design technologies for downstream applications, and boasts high market share for high-quality large-diameter graphite electrodes for electric furnaces, a variety of semiconductor materials, etc. Going forward, integration with SDMC as a corporate entity is scheduled for January 2023. The Company will become a pure holding company, Resonac Holdings Corporation, and a new company that combines businesses spun off from the Company and SDMC's businesses will become an operating company, Resonac Corporation, under the holding company's umbrella.
- (2) The Company has established a system to achieve medium-to-long term growth through the above large-scale acquisition, portfolio reorganization, etc., and integrated management with SDMC is getting on track. Moreover, the financial structure is improving faster than JCR's previous assumptions. Business performance has weakened temporarily due to factors like the COVID crisis and costs arising from the integration with SDMC but has now recovered, and the effects of the acquisition, too, are beginning to materialize. JCR predicts that, despite the highly uncertain business environment, the Company will be able to keep securing steady cash flows thanks to its good relations with customers in the semiconductor, automobile and other industries, strong presence in the industry with graphite electrodes and so forth. JCR also assumes that financial improvement will continue for the time being while growth investments are made to a certain extent. Based on the above, JCR upgraded the long-term ratings on the Company and changed the outlook to Stable. Given the Company's strong unity with SDMC because of SDMC's significance in the business strategy, future plans for the integration, etc., JCR reflected the Group's overall creditworthiness in the rating on SDMC.
- (3) The Company forecasts an operating income of 84.0 billion yen for the fiscal year ending December 2022 (FY2022), down 3.7% from the previous year. The decline will be marginal compared to FY2021, and, when the impact of the business transfer (13.5 billion yen) executed in FY2021 is excluded, the income is actually expected to improve. By segment, Mobility will post operating loss again due to a delay in recovery of car production, and Innovation Enabling Materials and Chemicals anticipate lower operating income due in part to rising raw material and fuel prices. That said, Semiconductor and Electronic Materials project income growth and will likely support overall results. Currently, adjustments in the semiconductor market are intensifying, which however does not impair medium-

and long-term growth potential. Car production will probably become normalized gradually going forward.

- (4) Financial structure has improved to a more or less decent level. Net D/E ratio (with the equity content of hybrid financing considered) fell from 1.8x at December 31, 2021 to 1.1x at June 30, 2022. Interest-bearing debt, which grew sharply toward the end of FY2020 because of financing associated with the acquisition, has decreased with the disposal of non-core businesses, etc. The Company sets the near-term financial target of bringing net D/E ratio down to 1.0x by the end of FY2025. While factors like rising raw material and fuel prices provides a situation where working capital tends to expand, interest-bearing debt will probably keep shrinking partly through asset disposal. On a separate note, the preferred stock issued as part of the acquisition fund was purchased early with subordinated loans in June 2022.

Shigenobu Tonomura, Takeshi Fujita

### Rating

Issuer: Showa Denko K.K.

#### <Rating Change>

Long-term Issuer Rating: A Outlook: Stable

Issue	Amount (bn)	Issue Date	Due Date	Coupon	Rating
Bonds no. 29	JPY 7	Dec. 1, 2016	Dec. 1, 2026	0.500%	A
Bonds no. 30	JPY 10	Apr. 23, 2019	Apr. 23, 2024	0.190%	A
Bonds no. 31	JPY 10	Apr. 23, 2019	Apr. 23, 2029	0.430%	A
Bonds no. 32	JPY 30	Dec. 2, 2021	Dec. 2, 2024	0.040%	A
Bonds no. 33	JPY 20	Dec. 2, 2021	Dec. 2, 2026	0.200%	A
Bonds no. 34	JPY 5	Dec. 2, 2021	Dec. 1, 2028	0.300%	A
Bonds no. 35	JPY 45	Dec. 2, 2021	Dec. 2, 2031	0.550%	A
Bonds no. 36	JPY 60	Apr. 28, 2022	Apr. 28, 2025	0.210%	A
Bonds no. 37	JPY 45	Apr. 28, 2022	Apr. 28, 2027	0.510%	A
Bonds no. 38	JPY 8	Apr. 28, 2022	Apr. 28, 2032	0.740%	A

Issue	Amount (bn)	Execution Date	Due Date	Interest Rate	Rating
Subordinated Committed Syndicated Loan	JPY 275	June 1, 2022	Apr. 27, 2055	(Note)	BBB+

Note: Predetermined fixed rate corresponding to the respective interest calculation period from the Issue Date to but excluding the interest payment date in April 2025. Base rate + initial spread + 1.0% on or after that date.

Shelf Registration: Preliminary A

Maximum: JPY 250 billion

Valid: two years effective from March 24, 2022

#### <Affirmation>

CP: J-1

Maximum: JPY 70 billion

Issuer: Showa Denko Materials Co., Ltd.

#### <Assignment>

Long-term Issuer Rating: A Outlook: Stable

Issue	Amount (bn)	Issue Date	Due Date	Coupon	Rating
Bonds no. 10	JPY 20	Dec. 5, 2017	Dec. 3, 2027	0.375%	A

Rating Assignment Date: September 29, 2022

The assumptions for the credit ratings and the definitions of the rating symbols are published as "Types of Credit Ratings and Definitions of Rating Symbols" (January 6, 2014) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Outline of the rating methodology is shown as "JCR's Rating Methodology" (November 7, 2014), "Chemicals" (June 15, 2022) "Ratings of Hybrid Securities (September 10, 2012) and "Rating Methodology for Group Companies of Corporate Group" (September 1, 2022) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

A preliminary rating is a credit rating assigned as a preliminary evaluation while material terms for issue to be rated are not yet finalized. When the issuing terms are finalized, JCR will confirm them and will assign a credit rating anew. The rating level of the final rating may be different from that of the preliminary rating, depending on the final content of the terms, etc.



## Japan Credit Rating Agency, Ltd.

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JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)

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## INFORMATION DISCLOSURE FORM

Japan Credit Rating Agency, Ltd.

### Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Showa Denko K.K.
Rating Publication Date:	October 4, 2022

1

The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

2

The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

3

The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

#### A) Business Bases

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

#### B) Financial Grounds and Asset Quality

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

#### C) Liquidity Positions

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The likelihood of debt payment is affected one way or the other by the issuer's related parties such as parent company, subsidiary, guarantor, and the government of the issuer's business domicile, etc. - by their own conditions and/ or position of support/ assistance for the issuer.

E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.

A) Audited financial statements presented by the rating stakeholders

B) Explanations of business performance, management plans, etc. presented by the rating stakeholders

## 9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the warranty made by the issuer, the publication by the issuer, some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.
- If the credit rating is an Indication, please see the report for Indication.

## 10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR receives payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of public or private credit rating, such as one in the ancillary business.

## 11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

### A) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

### B) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

### C) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating is subject to alteration if there is a change in the issuer's parent company or subsidiary, guarantor or other provider of credit enhancement, or the government of the issuer's business domicile, or other related parties' own conditions and/ or position of support/ assistance for the issuer, and the change thereby makes its business bases, financial grounds and/ or liquidity positions improve or deteriorate, and/ or making the effectiveness of guarantee and other credit enhancement improve or deteriorate. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large.

E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

F) Rise and Fall in General Economy and Markets

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

G) Various Events

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

## 12

Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- Historical records of the credit rating herewith presented are posted in the end of this paper.
- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

## 13

Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

A) Business Bases

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

B) Financial Grounds and Asset Quality

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but

possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

C) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

D) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the order of seniority in repayment of interests and principal. JCR assumes the resultant change of the credit rating is most likely by a notch. The change could be as much as a few notches if the issuer's financial structure differs so much and thereby the balance between debts shifted so greatly. Rating change is also possible in case of the financial products for which non-payment of interest/ principal is contractually permissible, if and when the assumptions made at the time of its determination turns out to be inaccurate. The change of the credit rating is assumed to be by a notch but often as much as a few notches.

E) Rise and Fall in General Economy and Markets

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the prospects of general economy and markets. JCR expects the change should be most likely by a notch but could be as much as a few notches, should the economy or the markets change so greatly.

14

Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

**Japan Credit Rating Agency, Ltd.**

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## The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Showa Denko K.K.	Issuer(Long-term)	December 8, 2005	BBB	Stable
Showa Denko K.K.	Issuer(Long-term)	October 13, 2006	BBB	Positive
Showa Denko K.K.	Issuer(Long-term)	September 10, 2007	BBB+	Positive
Showa Denko K.K.	Issuer(Long-term)	October 2, 2008	BBB+	Positive
Showa Denko K.K.	Issuer(Long-term)	September 16, 2009	BBB+	Stable
Showa Denko K.K.	Issuer(Long-term)	September 24, 2010	BBB+	Positive
Showa Denko K.K.	Issuer(Long-term)	September 15, 2011	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 12, 2012	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 18, 2013	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 16, 2014	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 15, 2015	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 12, 2016	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 13, 2017	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	September 19, 2018	A-	Positive
Showa Denko K.K.	Issuer(Long-term)	March 22, 2019	A	Positive
Showa Denko K.K.	Issuer(Long-term)	September 9, 2019	A	Positive
Showa Denko K.K.	Issuer(Long-term)	December 18, 2019	#A	Negative
Showa Denko K.K.	Issuer(Long-term)	April 21, 2020	A	Negative
Showa Denko K.K.	Issuer(Long-term)	September 23, 2020	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	October 21, 2021	A-	Stable
Showa Denko K.K.	Issuer(Long-term)	March 23, 2022	A-	Positive
Showa Denko K.K.	CP	December 11, 1989	J-1	
Showa Denko K.K.	CP	February 18, 1991	J-1	
Showa Denko K.K.	CP	May 16, 1991	J-1	
Showa Denko K.K.	CP	December 27, 1991	J-2	
Showa Denko K.K.	CP	June 18, 1998	J-1	
Showa Denko K.K.	CP	July 1, 1999	J-1	
Showa Denko K.K.	CP	July 10, 2000	J-2	
Showa Denko K.K.	CP	September 4, 2001	J-2	
Showa Denko K.K.	CP	August 22, 2002	J-2	
Showa Denko K.K.	CP	June 27, 2003	J-2	
Showa Denko K.K.	CP	September 8, 2004	J-2	
Showa Denko K.K.	CP	September 1, 2005	J-2	
Showa Denko K.K.	CP	October 13, 2006	J-2	
Showa Denko K.K.	CP	September 10, 2007	J-2	
Showa Denko K.K.	CP	October 2, 2008	J-2	
Showa Denko K.K.	CP	September 16, 2009	J-2	
Showa Denko K.K.	CP	September 24, 2010	J-2	
Showa Denko K.K.	CP	September 15, 2011	J-1	
Showa Denko K.K.	CP	September 12, 2012	J-1	
Showa Denko K.K.	CP	September 18, 2013	J-1	
Showa Denko K.K.	CP	September 16, 2014	J-1	
Showa Denko K.K.	CP	September 15, 2015	J-1	
Showa Denko K.K.	CP	September 12, 2016	J-1	
Showa Denko K.K.	CP	September 13, 2017	J-1	
Showa Denko K.K.	CP	September 19, 2018	J-1	
Showa Denko K.K.	CP	March 22, 2019	J-1	
Showa Denko K.K.	CP	September 9, 2019	J-1	
Showa Denko K.K.	CP	April 21, 2020	J-1	
Showa Denko K.K.	CP	September 23, 2020	J-1	
Showa Denko K.K.	CP	October 21, 2021	J-1	
Showa Denko K.K.	CP	March 23, 2022	J-1	
Showa Denko K.K.	Shelf Registration	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.29	November 25, 2016	A-	
Showa Denko K.K.	Bonds no.29	September 13, 2017	A-	
Showa Denko K.K.	Bonds no.29	September 19, 2018	A-	
Showa Denko K.K.	Bonds no.29	March 22, 2019	A	
Showa Denko K.K.	Bonds no.29	September 9, 2019	A	
Showa Denko K.K.	Bonds no.29	December 18, 2019	#A	Negative
Showa Denko K.K.	Bonds no.29	April 21, 2020	A	
Showa Denko K.K.	Bonds no.29	September 23, 2020	A-	
Showa Denko K.K.	Bonds no.29	October 21, 2021	A-	
Showa Denko K.K.	Bonds no.29	March 23, 2022	A-	

## The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Showa Denko K.K.	Bonds no.30	April 17, 2019	A	
Showa Denko K.K.	Bonds no.30	September 9, 2019	A	
Showa Denko K.K.	Bonds no.30	December 18, 2019	#A	Negative
Showa Denko K.K.	Bonds no.30	April 21, 2020	A	
Showa Denko K.K.	Bonds no.30	September 23, 2020	A-	
Showa Denko K.K.	Bonds no.30	October 21, 2021	A-	
Showa Denko K.K.	Bonds no.30	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.31	April 17, 2019	A	
Showa Denko K.K.	Bonds no.31	September 9, 2019	A	
Showa Denko K.K.	Bonds no.31	December 18, 2019	#A	Negative
Showa Denko K.K.	Bonds no.31	April 21, 2020	A	
Showa Denko K.K.	Bonds no.31	September 23, 2020	A-	
Showa Denko K.K.	Bonds no.31	October 21, 2021	A-	
Showa Denko K.K.	Bonds no.31	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.32	November 26, 2021	A-	
Showa Denko K.K.	Bonds no.32	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.33	November 26, 2021	A-	
Showa Denko K.K.	Bonds no.33	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.34	November 26, 2021	A-	
Showa Denko K.K.	Bonds no.34	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.35	November 26, 2021	A-	
Showa Denko K.K.	Bonds no.35	March 23, 2022	A-	
Showa Denko K.K.	Bonds no.36	April 22, 2022	A-	
Showa Denko K.K.	Bonds no.37	April 22, 2022	A-	
Showa Denko K.K.	Bonds no.38	April 22, 2022	A-	
Showa Denko K.K.	Loan(subordinated)	April 27, 2020	BBB+	
Showa Denko K.K.	Loan(subordinated)	September 23, 2020	BBB	
Showa Denko K.K.	Loan(subordinated)	October 21, 2021	BBB	
Showa Denko K.K.	Loan(subordinated)	March 23, 2022	BBB	

## Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Shigenobu Tonomura, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

殿村 成信

Shigenobu Tonomura

General Manager of Corporate Rating Department II

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## INFORMATION DISCLOSURE FORM

Japan Credit Rating Agency, Ltd.

### Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Showa Denko Materials Co., Ltd.
Rating Publication Date:	October 4, 2022

1

The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

2

The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

3

The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

#### A) Business Bases

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

#### B) Financial Grounds and Asset Quality

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

#### C) Liquidity Positions

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The likelihood of debt payment is affected one way or the other by the issuer's related parties such as parent company, subsidiary, guarantor, and the government of the issuer's business domicile, etc. - by their own conditions and/ or position of support/ assistance for the issuer.

E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.
- A) Audited financial statements presented by the rating stakeholders
- B) Explanations of business performance, management plans, etc. presented by the rating stakeholders
- C) Documentation of the rated financial product presented by the rating stakeholders

## 9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the warranty made by the issuer, the publication by the issuer, some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.
- If the credit rating is an Indication, please see the report for Indication.

## 10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR receives payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of public or private credit rating, such as one in the ancillary business.

## 11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

### A) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

### B) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

### C) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions

improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

**D) Related Parties' Status and Stance of Support/ Assistance for the Issuer**

The credit rating is subject to alteration if there is a change in the issuer's parent company or subsidiary, guarantor or other provider of credit enhancement, or the government of the issuer's business domicile, or other related parties' own conditions and/ or position of support/ assistance for the issuer, and the change thereby makes its business bases, financial grounds and/ or liquidity positions improve or deteriorate, and/ or making the effectiveness of guarantee and other credit enhancement improve or deteriorate. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large.

**E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract**

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

**F) Rise and Fall in General Economy and Markets**

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

**G) Various Events**

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

**12**

Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

**13**

Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

**A) Business Bases**

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

**B) Financial Grounds and Asset Quality**

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset

quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

C) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

D) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the order of seniority in repayment of interests and principal. JCR assumes the resultant change of the credit rating is most likely by a notch. The change could be as much as a few notches if the issuer's financial structure differs so much and thereby the balance between debts shifted so greatly. Rating change is also possible in case of the financial products for which non-payment of interest/ principal is contractually permissible, if and when the assumptions made at the time of its determination turns out to be inaccurate. The change of the credit rating is assumed to be by a notch but often as much as a few notches.

E) Rise and Fall in General Economy and Markets

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the prospects of general economy and markets. JCR expects the change should be most likely by a notch but could be as much as a few notches, should the economy or the markets change so greatly.

14

Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

**Japan Credit Rating Agency, Ltd.**

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## Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Shigenobu Tonomura, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

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