Emissions Data for the Kobe Steel Group's Business Locations in Fiscal 2018

Air and water quality data from all of Kobe Steel's business locations as well as its major group companies are reported below.
For exhaust gases, NOx, dust and dioxins from representative facilities are included, along with regulation values.
For wastewater, COD (or BOD in some cases), SS, oil and dioxins are included, along with regulation values.

Air Quality Data

Regulation values are based on the Air Pollution Control Act, prefectural ordinances, conventions, and the Act on Special Measures against Dioxins.

Water Quality Data

Regulation values are based on the Water Pollution Prevention Act, the Sewerage Act, prefectural ordinances, conventions,
and the Act on Special Measures against Dioxins.
ND: Below quantitative limits (Not Detected)

■ Iron & Steel

Kakogawa Works

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	250	38
	Boiler	60	20
	Heating furnace	100	54
Dust (mg/Nm^3)	Boiler	100	9
	Boiler	50	6
	Heating furnace	100	1
Dioxins (ng-TEQ/Nm^3)	Industrial waste incinerator	5	0.0061
	Sintering plant	1	0.0000057

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	10	3.3
SS (mg/L)	25	10
Oil (Mineral oil) (mg/L)	1	<1
Dioxins (pg-TEQ/L)	10	0.0099

The latest environmental data from Kakogawa Works can be viewed at our Japanese website (updated monthly).
(https://www.kobelco.co.jp/about_kobelco/csr/information)

Kobe Works

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	250	125
	Heating furnace	100	65
	Heating furnace	130	84
Dust (mg/Nm^3)	Boiler	200	4
	Heating furnace	100	1
	Heating furnace	100	2
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	15	6.8
SS (mg/L)	30	4
Oil (Mineral oil) (mg/L)	1	<1
Dioxins (pg-TEQ/L)	–	–

The latest environmental data from Kobe Works can be viewed at our Japanese website (updated monthly).
(https://www.kobelco.co.jp/about_kobelco/csr/information)

Kobelco Steel Tube Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Heating furnace	180	38
	Heating furnace	180	54
	Heating furnace	180	53
Dust (mg/Nm^3)	Heating furnace	200	6
	Heating furnace	200	14
	Heating furnace	200	2.5
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	25	8.1
SS (mg/L)	50	8
Oil (mg/L)	5	0.5
Dioxins (pg-TEQ/L)	–	–

Kobelco Engineered Construction Materials Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	150	17
	Boiler	150	15
	Drying furnace	230	25
Dust (mg/Nm^3)	Boiler	50	9
	Boiler	50	7
	Drying furnace	100	31
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	200	14
SS (mg/L)	200	39
Oil (mg/L)	5	1
Dioxins (pg-TEQ/L)	–	–

Shinko Wire Company, Ltd. (Amagasaki Works)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	150	39
	Heating furnace	130	24
	Heating furnace	180	15
Dust (mg/Nm^3)	Boiler	50	<1
	Heating furnace	100	7
	Heating furnace	100	<4
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	20	3.5
SS (mg/L)	30	4.0
Oil (mg/L)	5	<1
Dioxins (pg-TEQ/L)	–	–

Shinko Wire Company, Ltd. (Onoe Works)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Heating furnace	170	22
	Boiler	150	24
Dust (mg/Nm^3)	Heating furnace	250	99
	Boiler	100	3.5
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	15	6.8
SS (mg/L)	25	6
Oil (mg/L)	2	<0.5
Dioxins (pg-TEQ/L)	–	–

Shinko Wire Company, Ltd. (Nishikinohama Works)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	-	-
SS (mg/L)	300	3
Oil (mg/L)	5	<0.5
Dioxins (pg-TEQ/L)	–	–

Shinko Bolt, Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	25	6
SS (mg/L)	70	2
Oil (mg/L)	–	–
Dioxins (pg-TEQ/L)	–	–

Nippon Koshuha Steel Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	150	44
	Melting furnace	–	–
	Heating furnace	130	72
Dust (mg/Nm^3)	Boiler	200	17
	Melting furnace	100	0.9
	Heating furnace	200	5.6
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	20	3
SS (mg/L)	50	11
Oil (mg/L)	3	<0.5
Dioxins (pg-TEQ/L)	-	-

Welding

Fujisawa Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	60	2.7
SS (mg/L)	90	5
Oil (mg/L)	10	<1
Dioxins (pg-TEQ/L)	–	–

Ibaraki Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Drying furnace	230	18
	Boiler	150	30
	Calcining furnace (Firing furnace)	200	46
Dust (mg/Nm^3)	Drying furnace	200	2
	Boiler	100	2
	Calcining furnace (Firing furnace)	300	3
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	300	91
SS (mg/L)	300	22
Oil (mg/L)	5	4.1
Dioxins (pg-TEQ/L)	–	-

Saijo Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Drying furnace	250	58
	Drying furnace	230	33
Dust (mg/Nm^3)	Drying furnace	350	15
	Drying furnace	200	2.7
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	-	–
SS (mg/L)	-	–
Oil (mg/L)	5	1.6
Dioxins (pg-TEQ/L)	–	–

Fukuchiyama Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Heating furnace	160	82
	Heating furnace	160	46
	Boiler	135	28
Dust (mg/Nm^3)	Heating furnace	20	<1
	Heating furnace	20	<1
	Boiler	10	<1
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	300	3.8
SS (mg/L)	300	4.5
Oil (mg/L)	3.0	<0.5
Dioxins (pg-TEQ/L)	-	-

Hanshin Yosetsu Kizai Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Melting furnace	180	48
	Drying furnace	150	28
	Firing furnace	175	37
Dust (mg/Nm^3)	Melting furnace	100	<60
	Drying furnace	100	<20
	Firing furnace	100	<20
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	30	9.2
SS (mg/L)	30	6
Oil (mg/L)	–	–
Dioxins (pg-TEQ/L)	–	–

Aluminum & Copper

Moka Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Melting furnace	180	66
	Boiler	250	27
	Waste incinerator	300	<36
Dust (mg/Nm^3)	Melting furnace	300	6
	Boiler	150	<1
	Waste incinerator	250	<2
Dioxins (ng-TEQ/Nm^3)	Melting furnace	5	0.42
	Boiler	10	0.00052
	Waste incinerator	10	0.0024

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	25	14.7
SS (mg/L)	50	7.6
Oil (mg/L)	5	1
Dioxins (pg-TEQ/L)	–	–

Chofu Works

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	150	24
	Melting furnace	180	47
	Melting furnace	180	36
Dust (mg/Nm^3)	Boiler	100	<5
	Melting furnace	300	22
	Melting furnace	200	67
Dioxins (ng-TEQ/Nm^3)	50m smoke stack	5	1.5

Company included in air quality data: Shinko Fab Tech, Ltd.

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	30	3.7
SS (mg/L)	50	2
Oil (mg/L)	2.5	<1
Dioxins (pg-TEQ/L)	10	0.1

Company included in water quality data: Shinko Fab Tech, Ltd.

Daian Works

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Melting furnace	120	69
	Boiler	110	38
	Heating furnace	120	40
Dust (mg/Nm^3)	Melting furnace	100	15
	Boiler	100	ND
	Heating furnace	100	ND
Dioxins (ng-TEQ/Nm^3)	Melting furnace	5	3.4
	Melting furnace	1	0.0057

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	10	2
SS (mg/L)	10	3
Oil (mg/L)	2 (Mineral oil 1)	ND
Dioxins (pg-TEQ/L)	–	–

Kobelco & Materials Copper Tube, Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Melting furnace	200	29
	Melting furnace	200	31
	Heating furnace	180	19
Dust (mg/Nm^3)	Melting furnace	200	6.2
	Melting furnace	200	2.9
	Heating furnace	200	3.2
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	25	6.9
SS (mg/L)	70	8.7
Oil (mg/L)	5	1
Dioxins (pg-TEQ/L)	–	–

Shinko Aluminum Wire Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Heating furnace	180	24
	Heating furnace	180	40
	Heating furnace	180	43
Dust (mg/Nm^3)	Heating furnace	100	23
	Heating furnace	100	3
	Heating furnace	100	2
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	25	4
SS (mg/L)	90	1.2
Oil (mg/L)	5	0.7
Dioxins (pg-TEQ/L)	–	–

Shinko Metal Products Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Preheating furnace	170	<30
	Heating furnace	200	36
	Preheating furnace	180	47
Dust (mg/Nm^3)	Preheating furnace	200	<5
	Heating furnace	250	6
	Preheating furnace	100	<5
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	30	2.5
SS (mg/L)	100	12
Oil (mg/L)	5	1
Dioxins (pg-TEQ/L)	–	–

Company included in water quality data:
Japan Superconductor Technology, Inc. Wire Rod Plant

Shinko Leadmikk Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD(mg/L)	1500	15.5
SS (mg/L)	1500	2
Oil (mg/L)	5	<1
Dioxins (pg-TEQ/L)	10	<1

Machinery

Harima Plant

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	50	41
SS (mg/L)	60	37
Oil (mg/L)	5	0
Dioxins (pg-TEQ/L)	–	–

Shinko Engineering Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	Melting furnace	200	20
	Melting furnace	200	39
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	1.65 (kg/day)	1.63
SS (mg/L)	40	2
Oil (mg/L)	5	1
Dioxins (pg-TEQ/L)	–	–

Company included in water quality data:
Kobelco Construction Machinery Co., Ltd. Ogaki Factory

Engineering

Kobelco Eco-Solutions Co., Ltd. (Harima Plant)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Firing furnace	180	105
	Firing furnace	180	87
	Firing furnace	180	54
Dust (mg/Nm^3)	Firing furnace	250	1
	Firing furnace	250	1
	Firing furnace	250	3
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD (mg/L)	15	10
SS (mg/L)	28	7
Oil (mg/L)	5	ND
Dioxins (pg-TEQ/L)	–	–

Electric Power

Kobelco Power Kobe Inc.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	24	18
	Boiler	24	20
Dust (mg/Nm^3)	Boiler	10	8
	Boiler	10	10
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	15	3.4
SS (mg/L)	30	28
Oil (mg/L)	1	<1
Dioxins (pg-TEQ/L)	–	–

*The latest environmental data from Kobelco Power Kobe Inc. can be viewed from our website (updated monthly).
(https://www.kobelco.co.jp/about_kobelco/csr/information)

Head Office

Takasago Works

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	130	14
	Heating furnace	170	92
	Steel powder reduction furnace	150	43
Dust (mg/Nm^3)	Boiler	100	1.2
	Heating furnace	250	9.8
	Steel powder reduction furnace	200	6.4
Dioxins (ng-TEQ/Nm^3)	Steel powder electric furnace	5	0.000046

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	15	5.9
SS (mg/L)	26	38
Oil (mg/L)	1.5	<0.5
Dioxins (pg-TEQ/L)	–	–

Company included in water quality data:
Sputtering Target Division of Kobelco Research Institute, Inc.

* In August 2018, the SS value exceeded regulatory limit. The cause was investigated and countermeasures taken, after which it dropped below the regulatory limit.

Kobe Corporate Research Laboratories

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Cold/hot water generator	150	27
	Boiler	150	22
Dust (mg/Nm^3)	Cold/hot water generator	100	<2
	Boiler	100	<2
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD (mg/L)	2,000	18
SS (mg/L)	2,000	1
Oil (mg/L)	5	<1
Dioxins (pg-TEQ/L)	10	0.076

Kobelco Construction Machinery Co., Ltd. (Hiroshima Factory)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Frame undercoating	230	13
	Frame finishing coating	230	26
	ATT coating	230	16
Dust (mg/Nm^3)	Frame undercoating	200	4
	Frame finishing coating	200	4
	ATT coating	200	5
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
COD (mg/L)	–	–
SS (mg/L)	–	–
Oil (mg/L)	35	60
Dioxins (pg-TEQ/L)	–	–

* In July 2018, the oil value exceeded regulatory limit. The cause was investigated and countermeasures taken, after which it dropped below the regulatory limit.

Kobelco Construction Machinery Co., Ltd. (Ogaki Factory)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Water quality data is included in Shinko Engineering Co., Ltd. Head Office.

Kobelco Construction Machinery Co., Ltd. (Okubo factory)

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	N/A	–	–
Dust (mg/Nm^3)	N/A	–	–
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD (mg/L)	600	650
SS (mg/L)	600	30
Oil (mg/L)	5	5.3
Dioxins (pg-TEQ/L)	–	–

Regarding BOD and Oil values in excess of standards, sources and causes are being investigated and measures are being pursued to prevent reoccurrence.

Shinko Industrial Co., Ltd.

Air

Substance	Facility	Regulation Value	Actual Measurement (Max.)
NOx (ppm)	Boiler	260	84
Dust (mg/Nm^3)	Boiler	300	4
Dioxins (ng-TEQ/Nm^3)	N/A	–	–

Water

Substance	Regulation Value	Actual Measurement (Max.)
BOD (mg/L)	160	1.8
SS (mg/L)	200	<1
Oil (mg/L)	5	<0.5
Dioxins (pg-TEQ/L)	–	–