Fatal and non-fatal accidents in steel/iron/rolling products in Japan in 1999-2021

steel/iron/rolling products industry Code No.011001

Type of accidents in steel/iron/rolling products in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	36	32	34	38	33	29	32	29	47	52	24	19	29	30	23	24	27	25	24	29	18	20	26	680	fall from height
falling to same level	19	17	31	25	26	22	18	23	33	25	12	32	15	28	21	18	21	22	24	25	24	29	25	535	falling to same level
crash	19	14	18	9	6	9	16	13	16	14	10	8	11	10	8	12	9	4	6	17	8	8	13	258	crash
struck by flying or falling object	49	46	43	46	38	42	34	38	38	32	25	32	32	25	21	25	20	18	21	33	22	10	26	716	struck by flying or falling object
collapse	16	14	11	15	12	12	11	12	11	12	6	6	15	7	3	4	8	4	8	13	6	2	4	212	collapse
crashed by	24	26	21	26	22	24	19	29	28	20	10	19	13	15	14	15	11	9	12	19	8	11	14	409	crashed by
caught in/between	103	105	113	91	96	101	91	87	86	92	70	66	60	68	67	67	51	58	70	68	53	41	61	1,765	caught in/between
cut	14	9	10	11	6	9	9	6	13	7	8	5	9	13	5	8	4	1	6	4	5	4	7	173	cut
injury to the sole of the foot	1	1		1	1	2	1	1											2					10	injury to the sole of the foot
drown					1							1	5											7	drown
contact to high/low-temperature	11	18	28	16	18	25	19	22	15	16	17	19	18	14	21	21	9	19	14	28	13	20	14	415	contact to high/low-temperature

contact to harmful substance	6		7	5	2	2	10	2	1	7	1	2	1	2	2	2	3	1	5	1	6	1	5	74	contact to harmful substance
electric shock	2	1	2		1	3	1	1	2	1		2	3	1						1		1	1	23	electric shock
explosion	6	1	1	1	2	1		5	5	3	3	3	1	1		8				2	1	2		46	explosion
burst	1	2								1	1	1		1						1		1		9	burst
fire				1	1	1	1	1	2	1	1			1	2		3	2		3			3	23	fire
traffic accident (public road)		2	3	1	1	6	1	1	5	3	2	2	3	4	2	1	2	4		1	1	2		47	traffic accident (public road)
traffic accident (others)			1		1	1	1	2				1						1						8	traffic accident (others)
reaction to motion/improper motion	13	15	13	14	15	11	17	14	13	13	7	8	9	4	11	13	5	8	15	14	10	14	11	267	reaction to motion/improper motion
others		2	1	4	1	2	2	1		2	2		3	2	2	1		1		3	2	4	38	73	others
unclassifiable									1												1	1		3	unclassifiable
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Causal agents (large) of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L) agents
machine	76	78	79	64	60	68	60	69	60	63	46	45	46	52	43	49	34	38	49	45	39	28	42	1,233	machine
crane, conveying																									crane,

machine	56	51	60	55	63	58	58	60	63	59	45	44	45	47	35	38	32	39	30	51	22	22	36	1,069	conveying machine
other equipment	35	52	56	62	46	55	58	46	56	61	38	44	43	45	52	32	35	33	36	47	35	45	28	1,040	other equipment
temporary buildings, establishments	40	30	42	35	25	32	38	36	39	43	23	33	27	37	28	30	32	33	31	42	28	28	40	772	temporary buildings, establishments
substance, material	89	65	79	62	65	65	50	54	78	53	36	45	44	30	28	48	30	22	39	54	29	24	46	1,135	substance, material
load	13	15	8	18	10	11	8	11	11	12	4	4	5	6	6	9	6	2	8	4	12	7	8	198	load
environment	4	2	8	3	1	4	3	3	2	4	3	6	12	2	4	4	1	5	5	10	4	6	3	99	environment
others	7	12	5	5	13	9	8	8	7	6	4	5	5	7	6	9	3	5	9	9	9	11	45	207	others
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Causal agents (middle) of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (M) agents
engine		1	1					1								1					1			5	engine
power transmission mechanism	4	1	1	6	3		6	3	2	5	1	1	3	6	2	2	3	1	4	4	3		5	66	power transmission mechanism
woodworking machine	1		2	1		1	1			1	1				1	1	1			1		1	1	14	woodworking machine

construction machine	1	1		3	3	3	4	1	1	4	5	3	1	4	1	1	2	1	2		1	2	1	45	construction machine
metal manufacturing machine	40	47	43	33	27	46	34	37	32	35	22	21	26	30	30	26	14	23	25	20	15	16	25	667	metal manufacturing machine
general machine	30	28	32	21	27	18	15	27	25	18	17	20	16	12	9	18	14	13	18	20	19	9	10	436	general machine
mobile silviculture machine																									mobile silviculture machine
crane	29	26	33	26	35	22	23	22	24	10	15	16	24	18	13	16	12	15	10	29	11	9	20	458	crane
conveying machine	24	22	24	24	24	29	30	31	29	42	26	24	15	25	21	19	15	18	16	17	10	11	14	510	conveying machine
vehicle	3	3	3	5	4	7	5	7	10	7	4	4	6	4	1	3	5	6	4	5	1	2	2	101	vehicle
pressure vessel							2		1				1	1	1					1				7	pressure vessel
chemical facilities					2									2								1		5	chemical facilities
welding equipment	1	4	5	3		6	7	5	4	4	3	3	3	3	3	3		1		2	1	2	1	64	welding equipment
kiln, caldron	5	6	6	6	5	9	2	12	9	9	9	9	6	5	11	2	4	6	9	2	7	9	3	151	kiln, caldron
electric equipment	2	1	1	1	3	4	1	1	1	1		2	4		1	2	1	1		3		1	1	32	electric equipment
human power machine, tools	5	8	9	10	5	13	6	7	17	11	5	6	8	9	8	4	6	2	5	6	5	8	8	171	human power machine, tools

tools	16	18	26	30	20	13	15	15	20	24	16	12	12	11	17	14	14	15	13	16	15	12	9	373	tools
other equipments, facilities	6	15	9	12	11	10	25	6	4	12	5	12	9	14	11	7	10	8	9	17	7	12	6	237	other equipments, facilities
temporary buildings, establishments	40	30	42	35	25	32	38	36	39	43	23	33	27	37	28	30	32	33	31	42	28	28	40	772	temporary buildings, establishments
hazards, harmful substances	7	6	10	10	7	5	6	3	6	9	5	3	2	1	5	10	6	3	7	9	7	2	10	139	hazards, harmful substances
materials	82	59	69	52	58	60	44	51	72	44	31	42	42	29	23	38	24	19	32	45	22	22	36	996	materials
load	13	15	8	18	10	11	8	11	11	12	4	4	5	6	6	9	6	2	8	4	12	7	8	198	load
natural environment	4	2	8	3	1	4	3	3	2	4	3	6	12	2	4	4	1	5	5	10	4	6	3	99	natural environment
other causal agent	3	6	3	3	7	7		1	3	2	1	1	2	3		1	2		2	5	2	3	37	94	other causal agent
no causal agent	4	6	2	2	6	2	8	7	4	4	3	4	3	4	6	7	1	4	7	4	5	8	8	109	no causal agent
unclassifiable																1		1			2			4	unclassifiable
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Causal agents (small) of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents

engine			1					1								1					1			4	engine
power transmission mechanism			1		3		6	3	2	5	1	1	3	6	2	2	3	1	4	4	3		5	55	power transmission mechanism
circular sawing machine			1							1					1	1	1			1		1		7	circular sawing machine
band sawing machine																									band sawing machine
wood planer machine																									wood planer machine
hollow chisel mortiser, wood borer			1				1																	2	hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																									chamfering machine, router, woodworking milling machine
chain saw											1												1	2	chain saw
other woodworking machines																									other woodworking machines
leveling, transporting or loading machine					1		2			2	2	1		4	1	1	1		2			1	1	19	leveling, transporting or loading machine
excavating machine					1		2		1	2	1	2	1					1				1		12	excavating machine
foundation work machine																									foundation work machine

hardening machine											1													1	hardening machine
demolition machine								1													1			2	demolition machine
vehicle for high lift work											1						1							2	vehicle for high lift work
other construction machines					1																			1	other construction machines
lathe			2		1		1	1	2	2	2		2		2	2	1	1				1		20	lathe
drill press, milling machine			2		2		2	3		1	1	1	2		1	1	2				1		1	20	drill press, milling machine
grinding machine, buffing machine			3		2		2	4	7	1	2	2	3	7	3	1	1	1	2			1	2	44	grinding machine, buffing machine
power press			8		3		6			2	2				1	1	1	2	7	5	1	6	3	48	power press
forging pressure hammer			3		3		6	4	7	8	2	4	5	4	3	3	2	3	2	2	2		3	66	forging pressure hammer
shearing machine			1		2		2	1	2	2	1		1		3	3	1	1	2			1		23	shearing machine
other metal manufacturing machines			24		14		15	24	14	19	12	14	13	19	17	15	6	15	12	13	11	7	16	280	other metal manufacturing machines
centrifugal machine			4								1				1			1						7	centrifugal machine
mixer, grinder			1		3		2	1	2		1			1		1				1	3		1	17	mixer, grinder
roll machine (except printingroll machine)			10		9		3	6	12	7	9	4	6	5	2	4	5	6	5	4	7	4	4	112	roll machine (except printingroll machine)
injection molding																									injection molding

machine													1											1	machine
food manufacturing machine																									food manufacturing machine
printing machine			1																					1	printing machine
industrial robot					1																			1	industrial robot
other general power machines			16		14		10	20	11	11	6	16	9	6	6	13	9	6	13	15	9	5	5	200	other general power machines
felling machine																									felling machine
mobile logging machine																									mobile logging machine
skyline yarding machine																									skyline yarding machine
other mobile silviculture machine																									other mobile silviculture machine
crane			29		31		19	21	22	8	13	15	21	18	12	16	11	15	9	27	10	9	16	322	crane
mobile crane			2		1		1		1	1	2	1	1		1				1	1			2	15	mobile crane
derrick crane																									derrick crane
elevator, lift					1			1					1											3	elevator, lift
cargo lifting appliance																									cargo lifting appliance
gondola																									gondola
lumberyard equipment, logging cableway																									lumberyard equipment, logging cableway

simple skyline yarding equipment																									simple skyline yarding equipment
other powered crane			2		2		3		1	1			1				1			1	1		2	15	other powered crane
truck			8		6		7	8	9	9	7	7	6	6	6	6	5	4	4	5	1	2	3	109	truck
forklift			3		7		12	6	8	12	7	4	2	3	3	3	2	4	3	1	6	4	4	94	forklift
railway equipment			2					1	2	3		2		2	3	2		2	1			1		21	railway equipment
conveyor			10		9		10	8	7	13	10	8	7	9	5	6	5	6	4	7	3	2	1	130	conveyor
loader										1										1		1	2	5	loader
straddle carrier																									straddle carrier
rough terrain hauler																									rough terrain hauler
other powered conveying machines			1		2		1	8	3	4	2	3		5	4	2	3	2	4	3		1	4	52	other powered conveying machines
cars, bus, motorcycle			2		4		4	7	10	6	4	4	6	3	1	2	5	6	3	5	1	2	1	76	cars, bus, motorcycle
railway vehicle			1													1			1				1	4	railway vehicle
other vehicles							1			1				1										3	other vehicles
boiler							1						1							1				3	boiler
pressure vessel														1	1									2	pressure vessel
other pressure vessels							1		1															2	other pressure vessels
chemical facilities					2									2								1		5	chemical facilities
gas welding			4				4	2	3	1	2	1	3	1	1	1		1		1		1	1	27	gas welding

equipment																									equipment
arc welding equipment							2	3	1	1	1	2		1	2	2						1		16	arc welding equipment
other welding equipment			1				1			2				1						1	1			7	other welding equipment
kiln, caldron			6		5		2	11	8	8	8	9	5	5	10	2	4	4	7	2	7	9	3	115	kiln, caldron
industrial dryer											1								1					2	industrial dryer
other kiln, caldron								1	1	1			1		1			2	1					8	other kiln, caldron
transmission					1				1				1											3	transmission
electric power facilities			1		1			1		1		1				1	1			3		1	1	12	electric power facilities
other electrical equipment					1		1					1	3		1	1		1						9	other electrical equipment
human power cranes			1				1						1	1								1	1	6	human power cranes
human power hauling equipment					2		1	2	5	3	2	1	3	1	5	3	1	1	1	3	1	3	4	42	human power hauling equipment
human power machine			1					1	1	1			1				2				1			8	human power machine
hand tool			7		3		4	4	11	7	3	5	3	7	3	1	3	1	4	3	3	4	3	79	hand tool
ladder			8		4		3	7	12	12	3	5	4	4	5	5	4	3	8	2	5	4	1	99	ladder
slinging tool			13		11		4	3	4	5	7	3	4	1	6	5	3	5	4	7	5	2	5	97	slinging tool
other tools			5		5		8	5	4	7	6	4	4	6	6	4	7	7	1	7	5	6	3	100	other tools
other equipment,																									other equipment,

facilities			9		11		25	6	4	12	5	12	9	14	11	7	10	8	9	17	7	12	6	194	facilities
scaffolding							1	2	2	1	1		1	1	1		1		3					14	scaffolding
timbering																									timbering
stairs, landing stage			3		4		6	5	7	7	3	3	5	9	5	9	9	5	7	13	2	3	7	112	stairs, landing stage
opening			3		2		2	1	4	3	2	2	5	4	1	1	3	2	1	3	1	1	2	43	opening
roof, beam, haze, crossbeam, principal rafter					1		1	1			1		1				1					1		7	roof, beam, haze, crossbeam, principal rafter
working platform, boot board			9		5		3	6	7	8	3	4	5	5	4	8	1	7	2	4	8	5	4	98	working platform, boot board
passage			16		6		17	12	10	12	8	16	5	9	9	4	12	11	12	10	10	8	17	204	passage
building, establishment			9		5		3	4	6	9	2	4	3	3	5	5	3		3	8	3	5	7	87	building, establishment
other temporary buildings, establishments			2		2		5	5	3	3	3	4	2	6	3	3	2	8	3	4	4	5	3	70	other temporary buildings, establishments
explosive substance																	2		1				2	5	explosive substance
inflammable substance			1		1		1	1	1	1	3	1				1	1	2					2	16	inflammable substance
inflammable gas			2		1				5	3			1		1	7			2	1				23	inflammable gas
harmful substance			3		2		4	1		4	1	1	1		2	2	2		3		5	1	2	34	harmful substance
radiation																							2	2	radiation
other hazards, harmful substances			4		3		1	1		1	1	1		1	2		1	1	1	8	2	1	2	31	other hazards, harmful substances

metal material			63		55		43	45	64	42	25	36	39	27	19	37	21	18	30	41	21	20	33	679	metal material
lumber, bamboo					1		1	1	1	1	1	2	1		2	1	1		1	1		1	1	17	lumber, bamboo
stone, sand, substance								2	1											1				4	stone, sand, substance
other materials			6		2			3	6	1	5	4	2	2	2		2	1	1	2	1	1	2	43	other materials
load			6		8		6	11	9	8	3	4	4	6	6	9	5	1	5	2	10	7	7	117	load
machine/equipment as load			2		2		2		2	4	1		1				1	1	3	2	2		1	24	machine/equipment as load
natural ground, rock											1				1					2				4	natural ground, rock
standing tree																									standing tree
water			1									1	6					1						9	water
abnormal environment							1	1						1						1				4	abnormal environment
high/cold temperature environment			2		1		2	2		4	2	3	5	1	2	3	1	4	4	6	4	4	2	52	high/cold temperature environment
other environments			5						2			2	1		1	1			1	1		2	1	17	other environments
other causal agent			3		7			1	3	2	1	1	2	3		1	2		2	5	2	3	37	75	other causal agent
no causal agent			2		6		8	7	4	4	3	4	3	4	6	7	1	4	7	4	5	8	8	95	no causal agent
unclassifiable																1		1			2			4	unclassifiable
total			337		283		283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	4,522	total

Workers age of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less	13	8	9	9	11	11	7	8	13	9	12	6	10	5	3	6	7	4	8	8	6	4	6	183	19 years old or less
20-29	57	54	62	54	47	64	48	51	55	66	45	47	55	57	32	46	37	41	39	51	36	32	45	1,121	20-29
30-39	50	51	57	50	46	51	56	59	66	58	29	47	51	46	50	53	36	38	55	55	31	34	58	1,127	30-39
40-49	77	58	57	64	62	61	56	51	51	50	37	32	37	44	36	31	44	44	47	62	50	45	62	1,158	40-49
50-59	102	108	116	99	92	83	86	89	93	76	56	64	48	41	50	50	30	27	36	56	29	29	51	1,511	50-59
60 years old or more	21	26	36	28	25	32	30	29	38	42	20	30	26	33	31	33	19	23	22	30	26	27	26	653	60 years old or more
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Workers' number of workplace of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	46	48	65	45	49	33	33	40	43	34	23	15	17	19	22	21	18	14	13	24	18	14	16	670	9 workers or less
10-29	65	76	71	47	46	62	53	47	48	56	33	34	37	37	35	26	29	25	28	37	29	29	58	1,008	10-29
30-49	45	27	44	40	22	40	28	22	39	28	16	19	18	29	13	22	12	24	14	25	16	19	25	587	30-49
50-99	25	31	38	48	39	32	19	28	33	37	23	32	35	23	26	29	16	21	31	36	18	19	24	663	50-99
100-299	71	63	62	70	67	67	76	76	76	76	56	57	57	66	52	49	52	50	51	73	44	43	78	1,432	100-299
300 workers or more	68	60	57	54	60	68	74	74	77	70	48	69	63	52	54	72	46	43	70	67	53	47	47	1,393	300 workers or more
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Month of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	24	25	31	20	30	23	25	25	32	27	19	22	15	20	20	12	19	24	16	21	20	16	17	503	January
February	28	30	20	22	13	27	24	29	22	22	18	22	21	20	16	19	10	11	16	18	9	19	18	454	February
March	28	28	39	24	26	25	17	25	33	23	15	22	25	21	13	17	14	16	13	21	12	14	12	483	March
April	25	18	35	29	23	32	19	25	16	40	14	14	21	20	20	18	14	20	14	23	21	17	28	506	April
May	22	27	22	26	15	26	27	27	23	26	22	10	17	21	18	21	13	13	24	19	23	10	21	473	May
June	25	25	42	23	21	28	27	19	31	30	13	21	20	19	20	14	20	10	15	22	14	10	23	492	June
July	32	24	20	22	19	24	24	20	23	23	23	26	20	16	16	19	14	15	17	25	21	21	20	484	July
August	31	26	30	32	25	25	26	23	33	20	11	15	17	14	22	17	7	11	17	24	19	19	45	509	August
September	23	29	23	27	39	20	34	27	24	24	19	20	25	14	10	26	23	15	21	32	11	15	21	522	September
October	23	37	27	25	28	28	21	24	32	14	18	23	18	16	13	23	16	15	15	27	5	9	14	471	October
November	29	23	27	23	22	16	23	20	24	28	9	17	14	23	19	16	11	13	16	15	10	15	20	433	November
December	30	13	21	31	22	28	16	23	23	24	18	14	14	22	15	17	12	14	23	15	13	6	9	423	December
total	320	305	337	304	283	302	283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,753	total

Prefecture of fatal and non-fatal accidents in steel/iron/rolling products in 1999-2021

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido	7	2	17		9		5	9	8	10	9	8	9	9	5	6	8	6	10	15	7	4	7	170	Hokkaido
Aomori	1		4				1	2	9	3	1			2	1	2	2	1	3	1	1	1	2	37	Aomori
Iwate	2	1	3		1			2	1	5			2			1	1			1			1	21	Iwate

Miyagi	2	4	6		5		4	3	4	7	4	3	7	3	4	4	4	1	7	5	6	3	1	87	Miyagi
Akita					1			1	1			1	1						1	1				7	Akita
Yamagata		4						2		1			1									1		9	Yamagata
Fukushima	2	3	3		2		4	1	1						1	1	1	1				1	2	23	Fukushima
Ibaraki	11	10	13		10		7	8	8	14	6	15	14	8	8	9	14	10	15	12	7	3	11	213	Ibaraki
Tochigi	7	4	11		6		4	3	7	3		1	5	6	4	1		2		3	3	2	3	75	Tochigi
Gunma	4	2	4		4		8	7	5	12	3	4	1	6	3	5	2	3	3	6	6	1	6	95	Gunma
Saitama	15	17	22		10		12	13	12	8	10	5	1	13	4	4	3	4	4	6	9	5	6	183	Saitama
Chiba	17	24	29		11		21	23	24	15	14	12	13	12	14	11	13	17	11	17	9	13	20	340	Chiba
Tokyo	14	15	13		9		12	3	6	10	9	5	7	5	4	4	5	2	3	5	5	2	4	142	Tokyo
Kanagawa	20	17	12		16		9	16	7	10	2	8	12	9	3	10	5	3	13	9	6	7	11	205	Kanagawa
Niigata	7	7	6		10		13	10	9	19	13	13	19	12	10	10	11	9	14	11	7	4	6	220	Niigata
Toyama	11	5	4		1		2	7	7	8	4	4		2	3	3	3	3	4	3	2	6	5	87	Toyama
Ishikawa	3	3	3		2		2		3	2	1	2	8	4	3	2	3	1	1	5		2	4	54	Ishikawa
Fukui	2	2	3		2		1	2	2	2	4	1	1	3	1	1			1	3	3	1	3	38	Fukui
Yamanashi	5							1								1								7	Yamanashi
Nagano	2						1	2	2	1						1				1			2	12	Nagano
Gifu	5	3	3		2		3	1	3	4	3	3		1	3	2	1	4	1	1	2	1		46	Gifu
Shizuoka	2	3	1		1		2		1	3	3	2		1					2	2	1	7	6	37	Shizuoka
Aichi	36	21	30		22		27	25	37	31	19	24	19	23	21	27	14	19	21	32	24	19	17	508	Aichi
Mie	4	2	1		4		3	3	1		2	1		2	1		2		1	1	1	1	1	31	Mie
Shiga	2	1	1		5		1	4	9	2	4	1	5		1	2	1	4		2	2		1	48	Shiga
Kyoto	1	3			2		1	2	6	3	1	2	3	1	1		2	6	2	2	3	2	2	45	Kyoto

Osaka	37	44	61		46		30	31	44	38	18	31	20	36	37	36	23	32	21	34	22	34	57	732	Osaka
Hyogo	25	31	20		30		35	30	33	25	16	24	20	15	25	30	13	14	27	28	8	15	27	491	Hyogo
Nara		4	1				1	6		3		2	1		2	1	1		1		3	2	3	31	Nara
Wakayama	12	9	8		12		6	8	7	7	9	6	9	4	4	3	3	1	3	5	5	2	5	128	Wakayama
Tottori	1		2				1		1			1					1	1						8	Tottori
Shimane	1	6	3				3	6	1	1	2	1	2	2	1	1		1	2	2	2			37	Shimane
Okayama	7	9	8		5		17	10	12	9	12	11	9	6	3	7	4	4	7	11	7	5	4	167	Okayama
Hiroshima	9	13	14		13		17	13	10	15	5	10	10	15	8	11	6	9	12	15	7	7	13	232	Hiroshima
Yamaguchi	12	6	7		9		9	13	7	8	2	6	2	8	5	4	8	2	4	2	6	4	2	126	Yamaguchi
Tokushima	1	3	2					1	3	2	1	1	2	1		2				2			3	24	Tokushima
Kagawa	1	1	1						1	2	2	3	1	2	1	1					1	1	1	19	Kagawa
Ehime		4					1										1	1		1				8	Ehime
Kochi			3		3								2					2		2	1		1	14	Kochi
Fukuoka	25	10	13		19		14	12	13	7	15	11	9	10	12	4	9	8	7	9	7	9	4	227	Fukuoka
Saga		2			1			1		1	1				1	1				2				10	Saga
Nagasaki	2	1					1	2		1	1		1		1			1	1		1			13	Nagasaki
Kumamoto	2	1	3		1				3		1	1	1				1	1		1		1		17	Kumamoto
Oita		4	2		8		5	1	7	9	2	3	9	4	7	5	7	4	4	3	3	5	2	94	Oita
Miyazaki	1	2			1				1								1		1		1			8	Miyazaki
Kagoshima																									Kagoshima
Okinawa	2	2						3					1	1		6				1			5	21	Okinawa
total	320	305	337		283		283	287	316	301	199	226	227	226	202	219	173	177	207	262	178	171	248	5,147	total

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more. Data of 2011 year include fatal and non-fatal accidents caused by Great East Japan Earthquake in 2011.

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

Return to https://www.jisha.or.jp/english/statistics/2021e_industry.html

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Fatal accidents in steel/iron/rolling products in Japan in 1999-2021

steel/iron/rolling products industry Code No.011001

Type of fatal accidents in steel/iron/rolling products in 1999-2021

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Type of accidents
fall from height	2		5	1		1	1		1	2				2			2	3		3				23	fall from height
falling to same level							1				1											1		3	falling to same level
crash										1														1	crash
struck by flying or falling object	1			1	1	1	1	1	2		1	2						1		1	1			14	struck by flying or falling object
collapse	2		1	2				2					2	1	1	1	1			2				15	collapse
crashed by	3		1	1		2		2	2	2		1	1	1	1	3		1	2		1	1		25	crashed by
caught in/between	6	3	1	8	6	3	2	7	7	4	2	3		3	3	4	3	6	2	3	3	2	5	86	caught in/between
cut																									cut

injury to the sole of the foot					1																			1	injury to the sole of the foot
drown					1							1	5											7	drown
contact to high/low-temperature		1		2	1		2		3					1	1		1	1		1				14	contact to high/low-temperature
contact to harmful substance	2		1	1	1	1	5	1						1					1	1	3		2	20	contact to harmful substance
electric shock			1			1			1				2											5	electric shock
explosion	1							2	1	1					1	1					1			8	explosion
burst														1										1	burst
fire															1					1				2	fire
traffic accident (public road)						1																		1	traffic accident (public road)
traffic accident (others)																									traffic accident (others)
reaction to motion/improper motion																									reaction to motion/improper motion
others													1									1		2	others
unclassifiable																									unclassifiable
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Causal agents (large) of fatal accidents in steel/iron/rolling products in 1999-2021

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L) agents
machine	2	1		3	5	2	2	1	4	4	1	4		2	1	2	2	2	1		2	1	3	45	machine
crane, conveying machine	7	2	3	5	3	4	1	8	5	3	3	1	2	4	2	6		8	2	2	2	1	2	76	crane, conveying machine
other equipment			2	7	1	3	1	3	6	1			2	2	3		3	2	1	4	2	2		45	other equipment
temporary buildings, establishments	3		3	1	1		2			1			1	1			1			2				16	temporary buildings, establishments
substance, material	5				1	1	4	1	2	1		1			1	1	1		1	3	3		2	28	substance, material
load			1					1																2	load
environment		1	1				2	1				1	6	1	1					1				15	environment
others																						1		1	others
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Causal agents (middle) of fatal accidents in steel/iron/rolling products in 1999-2021

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (M) agents

engine																									engine
power transmission mechanism		1																					1	2	power transmission mechanism
woodworking machine																									woodworking machine
construction machine						1	1			1		1										1		5	construction machine
metal manufacturing machine				2	1		1		2	1	1	2		1	1	1					1		1	15	metal manufacturing machine
general machine	2			1	4	1		1	2	2		1		1		1	2	2	1		1		1	23	general machine
mobile silviculture machine																									mobile silviculture machine
crane	4		2	3	3	1	1	2	1		1		1		1	1		4			2		2	29	crane
conveying machine	3	2	1	2		2		6	4	3	2	1		4	1	3		4	1	2		1		42	conveying machine
vehicle						1							1			2			1					5	vehicle
pressure vessel							1													1				2	pressure vessel
chemical facilities														1										1	chemical facilities
welding equipment															1									1	welding equipment

kiln, caldron				3		1		1	6					1	2			1						15	kiln, caldron
electric equipment			1			1							1											3	electric equipment
human power machine, tools																									human power machine, tools
tools			1	1														1		2	1			6	tools
other equipments, facilities				3	1	1		2		1			1				3		1	1	1	2		17	other equipments, facilities
temporary buildings, establishments	3		3	1	1		2			1			1	1			1			2				16	temporary buildings, establishments
hazards, harmful substances	2				1	1	4	1	1	1									1	1	3		2	18	hazards, harmful substances
materials	3								1			1			1	1	1			2				10	materials
load			1					1																2	load
natural environment		1	1				2	1				1	6	1	1					1				15	natural environment
other causal agent																									other causal agent
no causal agent																						1		1	no causal agent
unclassifiable																									unclassifiable

total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Causal agents (small) of fatal accidents in steel/iron/rolling products in 1999-2021

Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (S) agents
engine																									engine
power transmission mechanism		1																					1	2	power transmission mechanism
circular sawing machine																									circular sawing machine
band sawing machine																									band sawing machine
wood planer machine																									wood planer machine
hollow chisel mortiser, wood borer																									hollow chisel mortiser, wood borer
chamfering machine, router, woodworking milling machine																									chamfering machine, router, woodworking milling machine
chain saw																									chain saw
other woodworking machines																									other woodworking machines

leveling, transporting or loading machine							1			1													1		3	leveling, transporting or loading machine
excavating machine						1																			1	excavating machine
foundation work machine																										foundation work machine
hardening machine																										hardening machine
demolition machine																										demolition machine
vehicle for high lift work																										vehicle for high lift work
other construction machines												1													1	other construction machines
lathe											1														1	lathe
drill press, milling machine																										drill press, milling machine
grinding machine, buffing machine																										grinding machine, buffing machine
power press																										power press
forging pressure hammer				1			1		2																4	forging pressure hammer
shearing machine					1											1									2	shearing machine
other metal manufacturing machines				1						1		2		1	1						1		1	8	other metal manufacturing machines

centrifugal machine																		1						1	centrifugal machine
mixer, grinder																									mixer, grinder
roll machine (except printingroll machine)					1				1			1		1			2							6	roll machine (except printingroll machine)
injection molding machine																									injection molding machine
food manufacturing machine																									food manufacturing machine
printing machine																									printing machine
industrial robot					1																			1	industrial robot
other general power machines	2			1	2	1		1	1	2						1		1	1		1		1	15	other general power machines
felling machine																									felling machine
mobile logging machine																									mobile logging machine
skyline yarding machine																									skyline yarding machine
other mobile silviculture machine																									other mobile silviculture machine
crane	4		2	3	3		1	2	1				1		1	1		4			2		2	27	crane
mobile crane						1					1													2	mobile crane
derrick crane																									derrick crane
elevator, lift																									elevator, lift

cargo lifting appliance																									cargo lifting appliance
gondola																									gondola
lumberyard equipment, logging cableway																									lumberyard equipment, logging cableway
simple skyline yarding equipment																									simple skyline yarding equipment
other powered crane																									other powered crane
truck				1						1					1	1		1						5	truck
forklift			1			1		1	1		1	1		1								1		8	forklift
railway equipment								1	1	1								2						5	railway equipment
conveyor		2		1		1		1	2	1				1		2			1	2				14	conveyor
loader																									loader
straddle carrier																									straddle carrier
rough terrain hauler																									rough terrain hauler
other powered conveying machines	3							3			1			2				1						10	other powered conveying machines
cars, bus, motorcycle						1							1			1								3	cars, bus, motorcycle
railway vehicle																1								1	railway vehicle
other vehicles																			1					1	other vehicles
boiler							1													1				2	boiler

pressure vessel																									pressure vessel
other pressure vessels																									other pressure vessels
chemical facilities														1										1	chemical facilities
gas welding equipment															1									1	gas welding equipment
arc welding equipment																									arc welding equipment
other welding equipment																									other welding equipment
kiln, caldron				2		1		1	6					1	2			1						14	kiln, caldron
industrial dryer																									industrial dryer
other kiln, caldron				1																				1	other kiln, caldron
transmission						1																		1	transmission
electric power facilities			1																					1	electric power facilities
other electrical equipment													1											1	other electrical equipment
human power cranes																									human power cranes
human power hauling equipment																									human power hauling equipment
human power machine																									human power machine

hand tool																									hand tool
ladder			1																					1	ladder
slinging tool				1														1		2	1			5	slinging tool
other tools																									other tools
other equipment, facilities				3	1	1		2		1			1				3		1	1	1	2		17	other equipment, facilities
scaffolding																									scaffolding
timbering																									timbering
stairs, landing stage				1																				1	stairs, landing stage
opening			1							1										1				3	opening
roof, beam, haze, crossbeam, principal rafter																									roof, beam, haze, crossbeam, principal rafter
working platform, boot board	1		1																					2	working platform, boot board
passage	1						1													1				3	passage
building, establishment			1		1								1	1			1							5	building, establishment
other temporary buildings, establishments	1						1																	2	other temporary buildings, establishments
explosive substance																									explosive substance
inflammable substance								1		1														2	inflammable substance

inflammable gas									1															1	inflammable gas
harmful substance					1	1	4												1		3		2	12	harmful substance
radiation																									radiation
other hazards, harmful substances	2																			1				3	other hazards, harmful substances
metal material	2								1			1			1	1	1			2				9	metal material
lumber, bamboo																									lumber, bamboo
stone, sand, substance																									stone, sand, substance
other materials	1																							1	other materials
load			1					1																2	load
machine/equipment as load																									machine/equipment as load
natural ground, rock																									natural ground, rock
standing tree																									standing tree
water												1	6											7	water
abnormal environment			1				1	1						1						1				5	abnormal environment
high/cold temperature environment		1					1								1									3	high/cold temperature environment
other environments																									other environments
other causal agent																									other causal agent

no causal agent																						1		1	no causal agent
unclassifiable																									unclassifiable
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Workers age of fatal accidents in steel/iron/rolling products in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less			1		1							1												3	19 years old or less
20-29	3		3	2	1		2	2	4	2		3	4	2		3	2	2		6	1		2	44	20-29
30-39	2			1	3	1		1	2	2	1	1		1	4			3	1	2	1	3	1	30	30-39
40-49	6			3	2	4	3	1	3	1	3	1		6	1	1	3	3	4	2	6	1	3	57	40-49
50-59	6	4	4	7	3	4	6	7	8	2		1	4		2	3	2	1		2	1	1	1	69	50-59
60 years old or more			2	3	1	1	1	4		3			3	1	1	2		3						25	60 years old or more
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Workers' number of workplace of fatal accidents in steel/iron/rolling products in 1999-2021

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Workers scale
9 workers or less	1					1	1	2		1				1				1		2				10	9 workers or less
10-29	1		1	1	2		1		1	1			1	1	2	1		1	1					15	10-29
30-49	1			2			1	2	2			1		1			2				2	1		15	30-49
50-99	1		2	1	1			2	1	2			5			2	1		1	3	2		1	25	50-99

100-299	7	1	3	1	2	3	2	3	2	2	3	2	1	3	4	3	2	6	2	3	1	4	5	65	100-299
300 workers or more	6	3	4	11	6	6	7	6	11	4	1	4	4	4	2	3	2	4	1	4	4		1	98	300 workers or more
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Month of fatal accidents in steel/iron/rolling products in 1999-2021

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Month
January	2		1		3	1	2		1	2		2		1	1		1	2			1	2	1	23	January
February	1		1		1			1	1		1				1	1	1	3	1	1			1	15	February
March	2	3	1				1	1	2	1		1	7	1		1	1			2	1			25	March
April	2		1	2	1		4		2	1	1	1		1		2			1	3			1	23	April
May			2	2	1		2	4		1	1		1	1		1			1		4		1	22	May
June	2			2	1	1		1	1	2		2	1	2	1			1				1	1	19	June
July	2	1	1	1	2		1	2		1					2	1	1	1		1	1			18	July
August	1			1		3			2				1		1		1		1				1	12	August
September	2		1	2		2		1	2								1	1		1	2	1		16	September
October	1			2		2		2	1	1			1	1				1		2		1		15	October
November	1			1	2	1	1	1	4		1	1		1	1	1	1	2	1	2				22	November
December	1		2	3			1	2	1	1				2	1	2		1					1	18	December
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Prefecture of fatal accidents in steel/iron/rolling products in 1999-2021

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Prefecture
Hokkaido			1			1		2									1		1	1	1			8	Hokkaido
Aomori									3															3	Aomori
Iwate													1											1	Iwate
Miyagi													5						1	1	1			8	Miyagi
Akita																									Akita
Yamagata																									Yamagata
Fukushima																									Fukushima
Ibaraki	2	1				1	1			1					1			1			1		1	10	Ibaraki
Tochigi																							1	1	Tochigi
Gunma			1	2										1									1	5	Gunma
Saitama		1		1										2										4	Saitama
Chiba	3	1	1	5	1	1		2	1			1		1	1	3	2	1		1		1		26	Chiba
Tokyo	1																							1	Tokyo
Kanagawa				1	1													1						3	Kanagawa
Niigata	1						1		1											3			1	7	Niigata
Toyama	1			1						1	1													4	Toyama
Ishikawa																									Ishikawa
Fukui																					1			1	Fukui
Yamanashi																									Yamanashi
Nagano																									Nagano
Gifu											1													1	Gifu

Shizuoka																									Shizuoka
Aichi	1			1	1	2	2	3	4	1		1		3	1	1		3	1	3		1	1	30	Aichi
Mie																									Mie
Shiga									1		1													2	Shiga
Kyoto																									Kyoto
Osaka	2		1	1	3	2		2		1		2		1	1		1	1			1	1	1	21	Osaka
Hyogo	1		4	1			3	2	1	1		2	1			3	2	1		1			1	24	Hyogo
Nara																									Nara
Wakayama	2					1	1	2	2	3														11	Wakayama
Tottori																									Tottori
Shimane																									Shimane
Okayama		1	1				3		3			1		1	1			1			1			13	Okayama
Hiroshima	1			1		1				1			1	1				1		1	2			10	Hiroshima
Yamaguchi	1		1	2					1															5	Yamaguchi
Tokushima																1								1	Tokushima
Kagawa																									Kagawa
Ehime																									Ehime
Kochi																									Kochi
Fukuoka	1				4	1		2			1		1		2		1				1	2		16	Fukuoka
Saga																				1				1	Saga
Nagasaki																									Nagasaki
Kumamoto																									Kumamoto
Oita					1		1			1			2		1	1		2	1					10	Oita

Miyazaki																			1					1	Miyazaki
Kagoshima																									Kagoshima
Okinawa																									Okinawa
total	17	4	10	16	11	10	12	15	17	10	4	7	11	10	8	9	7	12	5	12	9	5	7	228	total

Data sources: https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm (MHLW, Japan)

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