Fatal and non-fatal accidents in railway construction work in Japan in 1999-2021

railway construction work industry Code No.030104

Type of accidents in railway construction work 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	18	25	16	19	10	19	14	16	11	13	17	13	9	10	9	12	9	12	13	8	20	16	17	326	fall from height
falling to same level	13	12	9	16	9	7	8	7	11	15	8	9	9	10	10	16	8	11	10	3	18	16	24	259	falling to same level
crash	3	5	5	3	6	2	6	7	3	3	5	2	1	1	2	1	5	3	6	1	4	1	2	77	crash
struck by flying or falling object	11	13	24	17	14	14	13	16	7	13	12	16	8	12	9	11	8	11	14	18	14	6	13	294	struck by flying or falling object
collapse	5	2	5	2	4		1	5	6	5	2	1	4	2	3	4	4	2	4	1	3	5	3	73	collapse
crashed by	19	11	11	8	11	10	11	4	8	8	5	7	8	2	7	4	6	6	4	7	7	5	5	174	crashed by
caught in/between	31	31	29	25	28	22	16	19	18	23	14	10	10	15	20	15	17	12	24	12	17	16	20	444	caught in/between
cut	9	4	1	7	1	4	5	4	4	8	1	4	1	1	2	6	2	5	3	2	3	5		82	cut
injury to the sole of the foot					1								1					1		1	1	1		6	injury to the sole
drown													1											1	drown
contact to high/low- temperature			2	1	3	2			3		1	1	1	4	1	1	1		2	2		1		26	contact to high/low- temperature

contact to harmful																									contact to
substance							1	2				1	1		1						1			7	harmful
																									substance
electric shock	1	2		2	2	3				1		1		1										13	electric shock
explosion																									explosion
burst					1						1										1			3	burst
fire											1				1						1	1		4	fire
traffic accident (public	12	6	12	21	17	9	23	13	20	12	8	10	8	28	21	9	19	25	15	9	10	12	10	329	traffic accident
road)	12	0	12	21	17	9	23	13	20	12	8	10	8	28	21	9	19	25	15	9	10	12	10	329	(public road)
traffic accident		1		2		1	2	1	1		2						1						2	13	traffic accident
(others)		I					2	'																13	(others)
reaction to																									reaction to
motion/improper	3	3	3	4	4	5	5	7		4	4	4	3	3	5	12	9	9	5	5	8	4	9	118	motion/improper
motion																									motion
others				2		1	1	2	1		1	1	3	1		1	2	2	1	1	1	3	19	43	others
unclassifiable				2			1						1								1			5	unclassifiable
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

Causal agents (large) of fatal and non-fatal accidents in railway construction work in 1999-2021

Causal (L) agents	1000	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)
Causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2003	2010	2011	2012	2013	2014	2013	2010	2017	2010	2013	2020	2021	II I	agents
machine	23	15	17	14	8	10	10	14	11	15	4	10	5	7	7	14	7	7	16	9	7	12	10	252	machine
crane, conveying																									crane,

machine	27	32	21	48	25	30	38	28	28	25	24	22	15	32	36	17	33	35	25	18	24	22	31	636	conveying
macrime																									machine
ath or a guinmont	16	14	14	16	23	11	11	14	15	19	13	11	13	10	14	12	15	16	16	7	28	9	12	329	other
other equipment	10	14	14	10	23	11	11	14	13	19	13		13	10	14	12	13	10		,	20		12	329	equipment
tompovom buildings																									temporary
temporary buildings, establishments	21	24	28	24	22	18	19	18	17	24	21	13	13	15	17	23	7	17	18	12	24	27	28	450	buildings,
establistifferits																									establishments
substance, material	26	21	23	18	20	12	18	14	14	16	15	19	15	10	10	12	13	12	19	14	14	9	16	360	substance,
substance, material	20	21	23	10	20	12	10	14				19	ر ا			12	13	12		14	14		10	300	material
load	1	5	8	2	7	6	4	6	3	3	2	2		3	2	6	8	5		5	6	3	3	90	load
environment	8	3	3	4	4	9	1	4	5	2	3	3	5	10	2	4	4	5	4	2	4	6	2	97	environment
others	3	1	3	5	2	3	6	5		1			3	3	3	4	4	2	3	3	3	4	22	83	others
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

Causal agents (middle) of fatal and non-fatal accidents in railway construction work 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)
engine																									engine
																									power
power transmission mechanism	1									1															transmission mechanism
woodworking machine	5	1	1	1	1	2	1	3	2	5		2				2		1	1			1		29	woodworking machine

construction machine	11	6	13	7	3	5	6	8	4	5		6	3	6	4	4	6	3	10	3	5	7	8	133	construction machine
metal manufacturing machine	1	3	1	1	2	1	2	1	2	1	1	2				5	1		2	2	1	2	1	32	metal manufacturing machine
general machine	5	5	2	5	2	2	1	2	3	3	3		2	1	3	3		3	3	4	1	2	1	56	general machine
mobile silviculture machine																									mobile silviculture machine
crane	2	10	3	14	5	7	5	4	3	7	4	5	4	2	9	7	3	2	3	1	5	4	7	116	crane
conveying machine	14	14	6	9	4	17	19	11	15	10	8	6	6	10	9	3	9	19	16	11	10	4	17	247	conveying machine
vehicle	11	8	12	25	16	6	14	13	10	8	12	11	5	20	18	7	21	14	6	6	9	14	7	273	vehicle
pressure vessel	1																1							2	pressure vessel
chemical facilities																									chemical facilities
welding equipment					1					1											1			3	welding equipment
kiln, caldron																									kiln, caldron
electric equipment	1		1		2			1		2	1	1		1		1	1		1		1			14	electric equipment
human power machine,	11	6	8	8	15	6	5	5	4	11	7	4	9	4	10	7	6	11	12	2	13	2	5	171	human power

tools	3	6	4	5	4	4	4	6	9	5	5	4	1	3	4	2	7	5	2	3	9	5	6	106	tools
other equipments,		2	1	3	1	1	2	2	2			2	3	2		2			1	2	4	2	1	33	other equipments, facilities
temporary buildings, establishments	21	24	28	24	22	18	19	18	17	24	21	13	13	15	17	23	7	17	18	12	24	27	28	450	temporary buildings, establishments
hazards, harmful substances			1	1			1	1			1	2	2		1						1	1		12	hazards, harmful substances
materials	26	21	22	17	20	12	17	13	14	16	14	17	13	10	9	12	13	12	19	14	13	8	16	348	materials
load	1	5	8	2	7	6	4	6	3	3	2	2		3	2	6	8	5		5	6	3	3	90	load
natural environment	8	3	3	4	4	9	1	4	5	2	3	3	5	10	2	4	4	5	4	2	4	6	2	97	natural environment
other causal agent	1					2	1	3		1			1		1		3	1		2	1	2	19	38	other causal
no causal agent	2	1	3	3	2	1	3	2					1	3	1	4	1	1	3	1	2	2	3	39	no causal agent
unclassifiable				2			2						1		1									6	unclassifiable
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

Causal agents (small) of fatal and non-fatal accidents in railway construction work 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	power transmission mechanism
circular sawing machine		1		1		1	4	2				1			1			1		12	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					1															1	chamfering machine, router, woodworking milling machine
chain saw					1	1								1						3	chain saw
other woodworking machines			1		1		1					1								4	other woodworking machines
leveling, transporting or loading machine				1			1	1	1	1	1					1	1		1		leveling, transporting or loading machine
excavating machine		2	2	1	4	1	1	2	1	1	1	3	2	2	4	2	2	3	2	36	excavating machine
foundation work machine					1		2			1			1				1	1		7	foundation work

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hardening machine		1												1						1	3	hardening machine
demolition machine		2		1	2				1		1	1			1	1			1	1	12	demolition machine
vehicle for high lift work		1				1										2				1	5	vehicle for high lift work
other construction machines		7	1	3	1	2	1		2	1	2	1	1	2		3		1	2	2	32	other construction machines
lathe																						lathe
drill press, milling machine																						drill press, milling machine
grinding machine, buffing machine			1	1		1	1	1	1				5	1			2	1			15	grinding machine, buffing machine
power press																						power press
forging pressure																						forging pressure
shearing machine																						shearing machine
other metal manufacturing machines		1	1	1	1	1			1							2			2	1	11	other metal manufacturing machines
centrifugal machine																						centrifugal machine
mixer, grinder			1																		1	mixer, grinder
roll machine (except printingroll machine)																						roll machine (except printingroll machine)
injection molding																						injection molding

machine																						machine
food manufacturing																						food manufacturing
machine																						machine
printing machine																						printing machine
industrial robot																						industrial robot
other general		2	1	1	2	3	3	3		2	1	3	3		3	3	4	1	2	1	38	other general
power machines		2	1	ı		3	3	3		2		3	3		3	3	4					power machines
felling machine																						felling machine
mobile logging																						mobile logging
machine																						machine
skyline yarding																						skyline yarding
machine																						machine
other mobile																						other mobile
silviculture machine																						silviculture machine
crane			2			2	1	1	1			2						2		2	13	crane
mobile crane		3	3	5	2	1	6	2	3	3	2	6	6	2	2	2	1	3	4	4	60	mobile crane
derrick crane																						derrick crane
elevator, lift								1													1	elevator, lift
cargo lifting																						cargo lifting
appliance																						appliance
gondola																						gondola
lumberyard																						lumberyard
equipment, logging																						equipment, logging
cableway																						cableway

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simple skyline yarding equipment																									simple skyline yarding equipment
other powered								2				1	1		1	1	1		1				1	9	other powered crane
truck			3		2		16	8	13	7	6	4	5	7	7	2	4	15	14	10	9	3	12	147	truck
forklift								1		1	1					1	1		1					6	forklift
railway equipment			3		1			1	1	2	1	1		2	2		4	1		1	1		2	23	railway equipment
conveyor													1											1	conveyor
loader																									loader
straddle carrier																									straddle carrier
rough terrain hauler																							1	1	rough terrain hauler
other powered conveying machines					1		3	1	1			1		1				3	1			1	2	15	other powered conveying machines
cars, bus,			10		15		11	9	9	6	9	9	5	19	15	7	17	11	2	5	6	13	5	183	cars, bus, motorcycle
railway vehicle			2				3	1	1	2	3	1		1	2		3	3	4	1	3	1	1	32	railway vehicle
other vehicles					1			3				1			1		1						1	8	other vehicles
boiler																									boiler
pressure vessel																									pressure vessel
other pressure vessels																	1							1	other pressure vessels
chemical facilities																									chemical facilities
gas welding					1					1														2	gas welding

equipment																						equipment
arc welding equipment																		1			1	arc welding equipment
other welding equipment																						other welding equipment
kiln, caldron																						kiln, caldron
industrial dryer																						industrial dryer
other kiln, caldron																						other kiln, caldron
transmission			1		1		1				1		1			1					6	transmission
electric power facilities									1									1			2	electric power
other electrical equipment		1	1				1	1						1							5	other electrical equipment
human power cranes		1	3				1		1	7	1	3	2		2	4		1		1	27	human power cranes
human power hauling equipment		2	2		1		3	2		1		3	1			4	2	6			27	human power hauling equipment
human power machine		2	2	1	1	1									1			2			10	human power machine
hand tool		3	8	4	3	3	7	5	3	1	3	4	4	6	8	4		4	2	4	76	hand tool
ladder		1		2	3	1	3	2	1		1	1	1	3	2	2		4			27	ladder
slinging tool		2	3	1	1	2		1	2		1				2		1		1	1	18	slinging tool
other tools		1	1	1	2	6	2	2	1	1	1	3	1	4	1		2	5	4	5	43	other tools
other equipment,																						other equipment,

facilities		1	1	2	2	2			2	3	2		2			1	2	4	2	1		27	facilities
scaffolding		7	4	3		5		3	1	2	1	2	1			1	1	1	1	1		34	scaffolding
timbering			1		1		1		1			1										5	timbering
stairs, landing stage		2		1	1				1		3	2	2		1	1			2	1		17	stairs, landing stage
opening				1		1	1		1		1				2	3		2				12	opening
roof, beam, haze, crossbeam, principal rafter							1					1	1									3	roof, beam, haze, crossbeam, principal rafter
working platform, boot board		1	2	2	2	1	3	5	2	1		3	5			2	2	2	3	3		39	working platform, boot board
passage		3	3	2		4	6	5	2	4	3	4	9	3	8	5	2	4	10	13	3	90	passage
building, establishment		10	7	6	6	4	7	4	3	3	5	2	2	1	4	3	2	9	4	4		86	building, establishment
other temporary buildings, establishments		5	5	4	8	2	5	4	2	3	2	2	3	3	2	3	5	6	7	6		77	other temporary buildings, establishments
explosive substance																							explosive substance
inflammable substance		1																				1	inflammable substance
inflammable gas								1											1			2	inflammable gas
harmful substance					1				1	1								1				4	harmful substance
radiation																							radiation
other hazards,				1					1	1		1										4	other hazards,

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metal material		1	10		9		13	9	10	12	5	12	9	5	4	6	5	9	12	8	10	4	11	163	metal material
lumber, bamboo		7	7		4		2	2	1	4	6	4	2	4	1	3	7	1	4	1		3	2	58	lumber, bamboo
stone, sand, substance		2	2		2		1	1			2	1	1	1	3	2		1	1	3	1	1	1	24	stone, sand, substance
other materials		3	3		5		1	1	3		1		1		1	1	1	1	2	2	2		2	27	other materials
load		6	5		3		3	4	3	1	2	2		2	2	6	5	3		2	2	3	3	52	load
machine/equipment as load		2	2		4		1	2		2				1			3	2		3	4			24	machine/equipment as load
natural ground, rock		1	I		1		1	2	1	1	1		1	1	1	1	2				2	1		17	natural ground, rock
standing tree								1			1	1	1	1			1	1	1					8	standing tree
water								1					3											4	water
abnormal environment																									abnormal environment
high/cold temperature environment		1	I		3				3		1	1		5	1	1			2	2		2			high/cold temperature environment
other environments		1	1						1	1		1		3		2	1	4	1		2	3	2	22	other environments
other causal agent							1	3		1			1		1		3	1		2	1	2	19	35	other causal agent
no causal agent		3	3		2		3	2					1	3	1	4	1	1	3	1	2	2	3	32	no causal agent
unclassifiable							2						1		1									4	unclassifiable
total		1	117		111		107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	1,827	total

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	3	5	3	1	4	2	4		6	2	2		1	6	3	2	2	1	3	2	3	1		56	19 years old or less
20-29	30	18	22	19	22	19	20	21	21	17	9	23	12	17	16	12	10	9	17	11	16	9	20	390	20-29
30-39	26	24	16	28	19	19	25	23	25	25	17	21	11	17	24	20	28	29	30	18	21	25	32	523	30-39
40-49	27	21	19	28	18	17	13	15	9	20	14	14	13	19	19	17	20	26	23	22	31	22	33	460	40-49
50-59	21	31	40	32	32	24	26	31	27	22	23	12	19	14	16	11	18	19	17	10	19	15	20	499	50-59
60 years old or	18	16	17	23	16	18	19	13	5	19	17	10	13	17	13	30	13	15	11	7	20	20	19	369	60 years old or
more			.,								.,														more
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

Workers' number of workplace of fatal and non-fatal accidents in railway construction work 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	26	28	27	37	28	34	25	19	24	31	17	21	11	16	25	26	25	23	27	17	38	15	23	563	9 workers or less
10-29	62	54	53	50	54	37	57	44	33	50	30	32	28	32	37	37	41	38	45	27	40	45	63	989	10-29
30-49	18	15	21	19	16	16	17	26	16	15	20	14	19	25	18	16	15	17	14	19	14	10	24	404	30-49
50-99	16	11	14	23	8	9	5	12	16	3	13	10	7	8	4	8	8	12	12	4	12	15	13	243	50-99
100-299	3	5	1	2	4	3	1	2	4	5	2	3	3	7	7	4	2	9	3	3	5	6	1	85	100-299
300 workers or		2	1		1		2			1			1	2		1					1	1		13	300 workers or
more													•								•	•			more
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

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	22	10	15	10	6	10	6	8	4	4	9	7	4	6	7	6	9	12	7	5	6	5	8	186	January
February	7	8	9	12	6	10	3	7	6	7	8	7	6	8	4	7	7	5	11	9	3	14	11	175	February
March	9	12	12	8	5	12	9	8	4	17	8	9	9	8	9	11	9	2	6	3	10	10	7	197	March
April	8	5	4	8	4	5	11	15	3	6	6	7	1	3	4	2	7	11	3	3	16	10	4	146	April
May	3	6	6	5	8	6	16	3	6	6	7	5	2	1	2	14	7	4	7	3	6	4	12	139	May
June	13	7	12	18	13	9	16	10	11	9	4	3	4	6	8	5	12	6	13	7	12	6	10	214	June
July	9	14	8	12	11	7	7	13	6	6	12	7	8	10	10	11	7	16	11	6	13	6	14	224	July
August	10	10	6	11	15	9	10	9	12	10	3	5	3	8	4	6	6	5	6	9	6	9	12	184	August
September	14	8	11	9	13	8	4	6	9	10	5	10	11	16	7	9	8	10	6	8	12	8	11	213	September
October	9	12	11	16	9	14	9	7	10	7	8	7	2	3	17	6	9	15	7	9	8	7	15	217	October
November	11	10	11	13	11	2	9	9	11	11	5	7	11	5	6	7	7	9	9	5	5	9	8	191	November
December	10	13	12	9	10	7	7	8	11	12	7	6	8	16	13	8	3	4	15	3	13	4	12	211	December
total	125	115	117	131	111	99	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,297	total

Prefecture of fatal and non-fatal accidents in railway construction work 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	4	2			2		1	1		2	4	1	1	14	9	6	12	10	7	5	13	15	11	120	Hokkaido
Aomori	1	2	1					1	1		1	2	2	5	1	2		1	3	1	1	1		26	Aomori
lwate	6	4	4		2		4	3		1		2	3	5	2	3	2	8	5	1	5		6	66	lwate

Miyagi	4	2	3	3	1	2	9	5	4	5	3	3	3	7	7	2		2	5	1	5	76	Miyagi
Akita	1		1	1	2	2	1	2		1									2			13	Akita
Yamagata	4		3	1	1			3		5	2			1	2			1				23	Yamagata
Fukushima		3	2	1	9	4	5	1	3		2		4	5	4	2	4		5	2	11	67	Fukushima
Ibaraki	3	1	1	2	1		2	1		2	1	1			3	6		2	1		4	31	Ibaraki
Tochigi	1	2	2	6	1	1		1	1	1	2		2	2	1	2	1	2	2		4	34	Tochigi
Gunma	3	1	2		1			1	2	2	2		1	2		2	1	1	1			22	Gunma
Saitama	2	6	6	8	6	1	1	6	4	8		4	3	4	5	2	5	5	3	2	6	87	Saitama
Chiba	9	4	5	9	1	2	2	1	6	5	1	4	2	1	3	4	5	2	2	3		71	Chiba
Tokyo	20	22	16	19	25	24	19	23	15	11	11	14	14	9	9	13	19	12	17	8	15	335	Tokyo
Kanagawa	11	12	14	8	2	10	4	6	4	6	6	3	3	3	5	7	15	7	10	12	8	156	Kanagawa
Niigata		2					1	4	2	1	1	1	4	2	3	2	1		1	5	1	31	Niigata
Toyama	1		2				1	1	5	3	3	4	2	2	1	1		1	2	4	1	34	Toyama
Ishikawa	1	3										2				1		3	1	2	4	17	Ishikawa
Fukui		1	1			1		1					1	1			1	2	4	7	7	27	Fukui
Yamanashi	1	2			1				1		1			2	2							10	Yamanashi
Nagano	1	3	1			1	2		1	1	3	2		4	2	2	1		2	3	1	30	Nagano
Gifu	5	1	3			2		4	4	1	2	1	2	2	1	1	4	3	2	1	2	41	Gifu
Shizuoka	3	5	5	3		6	2	3	3	2	3		6	6	6	7		1	3	4	3	71	Shizuoka
Aichi	3	4	2	7	4	1	10	7	1	3	2	2	4	2	4	3	2	3	2	1	1	68	Aichi
Mie	2			1	1							3		1	1	1	1		4			15	Mie
Shiga		1				1	1	1	1	1	1	1	1	3	3	1	1				1	18	Shiga
Kyoto	4	3	1	2	3	1	3	3	1	1	1	1		3	1		3	2	2	2	2	39	Kyoto

Osaka	6	5	7	7	15	5	6	3	7		4	6	2	7	5	3	3	4	2	3	3	103	Osaka
Hyogo	8	4	7	10	3	6	3	8	2	3	1	3	12	4	1	2	6		3	1	4	91	Hyogo
Nara	1	1			2	1								1	2				1		1	10	Nara
Wakayama						3		1								1		2				7	Wakayama
Tottori		1	2			1	2	1			2											9	Tottori
Shimane	1	1	2		1	1				1				1								8	Shimane
Okayama	5		4	2	4	1	2	1	2		1					1	1				1	25	Okayama
Hiroshima	1	3	2		6	1						1	1		2	2	3	3	1	3	9	38	Hiroshima
Yamaguchi	2	1	1	2	2	5	1	3	3	1	4	3	2		2	4	2		3	4		45	Yamaguchi
Tokushima		2	1		2			1								1	1					8	Tokushima
Kagawa	1		2	3	1	2	1	1		1			1			1				3		17	Kagawa
Ehime	1		1	1	2			1		1					1	1	1					10	Ehime
Kochi	2	4	1			1	2	1									1	1	1	1	1	16	Kochi
Fukuoka	6	4	7	6	3	4	3	4	2	1	3	2	4	5		5	1	1	1	2	8	72	Fukuoka
Saga	1	1		2		1	1		1		1	1							3	1		13	Saga
Nagasaki		1	2	1	1	2		1	1	2			3				1	3	4	1	1	24	Nagasaki
Kumamoto		1				4	3	2	1	1			1								1	14	Kumamoto
Oita							2			4		1										7	Oita
Miyazaki					1	1	2					2										6	Miyazaki
Kagoshima			3	2			1			1		1	1	1	1		2		1		2	16	Kagoshima
Okinawa																							Okinawa
total	125	115	117	111	107	103	93	105	82	80	69	90	91	92	91	99	101	70	110	92	124	2,067	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: <a href="https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm">https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm</a> (MHLW, Japan)

Return to <a href="https://www.jisha.or.jp/english/statistics/2021e\_industry.html">https://www.jisha.or.jp/english/statistics/2021e\_industry.html</a>

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Fatal accidents in railway construction work in Japan in 1999-2021

railway construction work industry Code No.030104

Type of fatal accidents in railway construction work 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			1	1				1														1		4	fall from height
falling to same level														1										1	falling to same
																									level
crash																									crash
struck by flying or	1										1													2	struck by flying
falling object																									or falling object
collapse	1		1										1									1		4	collapse
crashed by	1	2			1		1								1			1						7	crashed by
caught in/between	1	1		2													1							5	caught
	<u> </u>																								in/between
cut																									cut

injury to the sole of																					injury to the sole
the foot																					of the foot
drown											1									1	drown
contact to high/low																					contact to
contact to high/low- temperature																					high/low-
temperature																					temperature
contact to harmful																					contact to
substance								1												1	harmful
Sabstance																					substance
electric shock				1		1														2	electric shock
explosion																					explosion
burst																					burst
fire																					fire
traffic accident (public	1			1	1	1	1		1					2		1		2		22	traffic accident
road)	1			I	1	4	1	2	•			2		2	2			2	2	22	(public road)
tuaffic assidant (athors)						1	2			2										7	traffic accident
traffic accident (others)							2	2		2											(others)
reaction to																					reaction to
motion/improper																					motion/improper
motion																					motion
others	1					2					2									5	others
unclassifiable																					unclassifiable
total	6	3	2	5	2	8	4	6	1	3	4	3	1	2	3	2		4	2	61	total

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	3 2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L) agents
machine	1	1		1				1																4	machine
crane, conveying machine	2	2		3	1	6	4	4	1		3			2	1	2	3	2				2	2	40	crane, conveying machine
other equipment					1								1											2	other equipment
temporary buildings, establishments	2		1	1				1						1								1		7	temporary buildings, establishments
substance, material																									substance, material
load																									load
environment	1		1										3									1		6	environment
others						2																		2	others
total	6	3	2	5	2	8	4	6	1		3		4	3	1	2	3	2				4	2	61	total

Causal agents (middle) of fatal accidents in railway construction work 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	2010	2020	2021	total	Causal (M)
Causai (iii) agents	1999	2000	2001	2002	2003	2004	2003	2000	2007	2000	2009	2010	2011	2012	2013	2014	2013	2010	2017	2010	2019	2020	2021		agents

engine							1												1	engine
power transmission mechanism																				power transmission mechanism
woodworking machine																				woodworking machine
construction machine	1	1	1																3	construction machine
metal manufacturing machine																				metal manufacturing machine
general machine																				general machine
mobile silviculture machine																				mobile silviculture machine
crane			1	1	1				1				1						5	crane
conveying machine					3	1		1							2			2	9	conveying machine
vehicle	2	2	2		2	3	4		2		2	1	1	3			2		26	vehicle
pressure vessel																				pressure vessel
chemical facilities																				chemical facilities
welding equipment																				welding equipment

		]						]	]				لـــــالـــــالــــــــــــــــــــــــ						
kiln, caldron																			kiln, caldron
electric equipment																			electric equipment
human power machine,				1							1							2	human power
tools																			tools
other equipments,																			other equipments, facilities
temporary buildings, establishments	2	1	1				1					1					1	7	temporary buildings, establishments
hazards, harmful substances																			hazards, harmful substances
materials																			materials
load																			load
natural environment	1	1									3						1	6	natural environment
other causal agent					1													1	other causal agent
no causal agent					1													1	no causal agent
unclassifiable																			unclassifiable
		 1			1	1			1						 				1

total	6	3	2	5	2	8	4	6	1		3		4	3	1	2	3	2				4	2	61	total	
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Causal agents (small) of fatal accidents in railway construction work 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	engine
power transmission																									power transmission
mechanism																									mechanism
circular sawing																									circular sawing
machine																									machine
band sawing																									band sawing
machine																									machine
wood planer																									wood planer
machine																									machine
hollow chisel																									hollow chisel
mortiser, wood																									mortiser, wood
borer																									borer
chamfering																									chamfering
machine, router,																									machine, router,
woodworking																									woodworking
milling machine																									milling machine
chain saw																									chain saw
other woodworking																									other woodworking
machines																									machines

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

centrifugal machine																centrifugal machine
mixer, grinder																mixer, grinder
roll machine (except																roll machine (except
printingroll machine)																printingroll machine)
injection molding																injection molding
food manufacturing																food manufacturing
printing machine																printing machine
industrial robot																industrial robot
other general																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																crane
mobile crane			1	1	1						1				4	mobile crane
derrick crane																derrick crane
elevator, lift								1							1	elevator, lift
,		11	11	11	11	 	 11									

cargo lifting																			cargo lifting
appliance																			appliance
gondola																			gondola
lumberyard																			lumberyard
equipment, logging																			equipment, logging
cableway																			cableway
simple skyline																			simple skyline
yarding equipment																			yarding equipment
other powered																			other powered
crane																			crane
truck				3	1		1							2			2	9	truck
forklift																			forklift
railway equipment																			railway equipment
conveyor																			conveyor
loader																			loader
straddle carrier																			straddle carrier
rough terrain hauler																			rough terrain hauler
other powered																			other powered
conveying machines																			conveying machines
cars, bus,										_								1	cars, bus,
motorcycle	1	1				2				2		I I	2			2		13	motorcycle
railway vehicle	1	1	1	1	3	2		2			1		1					13	railway vehicle
other vehicles																			other vehicles
boiler																			boiler

pressure vessel														pressure vessel
other pressure														other pressure
vessels														vessels
chemical facilities														chemical facilities
gas welding														gas welding
equipment														equipment
arc welding														arc welding
equipment														equipment
other welding														other welding
equipment														equipment
kiln, caldron														kiln, caldron
industrial dryer														industrial dryer
other kiln, caldron														other kiln, caldron
transmission														transmission
electric power														electric power
facilities														facilities
other electrical														other electrical
equipment														equipment
human power							1						1	human power
cranes													<u> </u>	cranes
human power			1										1	human power
hauling equipment														hauling equipment
human power														human power
machine														machine

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

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

no causal agent						1														1	no causal agent
unclassifiable																					unclassifiable
total	6	3	2	5	2	8	4	6	1	3	4	3	1	2	3	2		4	2	61	total

Workers age of fatal accidents in railway construction work 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	19 years old or less
20-29	3		1	1		1		2			1											1	1	11	20-29
30-39				1	1	1	1						2	2		1		1					1	11	30-39
40-49	3		1	1		3		1					1									1		11	40-49
50-59		2				1	1	2	1		1			1		1	2							12	50-59
60 years old or		1		2	1	1	2	1			1		1		1		1	1				2		15	60 years old or
more																	<u> </u>							II I	more
total	6	3	2	5	2	8	4	6	1		3		4	3	1	2	3	2				4	2	61	total

Workers' number of workplace of fatal accidents in railway construction work 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	2	1		2	2	4					1						2	1				1		16	9 workers or less
10-29	1	1	2	1		4	1	1	1		2		1	3	1	2		1				2	2	26	10-29
30-49	3			2			3	3					1				1					1		14	30-49
50-99		1						1																2	50-99
1			$\overline{}$	$\overline{}$							$\overline{}$	$\overline{}$	$\overline{}$					$\overline{}$							

100-299								1			2									3	100-299
300 workers or																					300 workers or
more																					more
total	6	3	2	5	2	8	4	6	1	3	4	3	1	2	3	2		4	2	61	total

Month of fatal accidents in railway construction work 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					1																4	January
February	2			1							1			1										5	February
March						2	1						3									2		8	March
April	1	1						2										1						5	April
May					1																			1	May
June	1			1			1	1	1						1									6	June
July								1			1					1		1				1		5	July
August		1					1	1														1		4	August
September		1																						1	September
October			1	2		4											2						2	11	October
November							1									1	1							3	November
December				1	1	2					1		1	2										8	December
total	6	3	2	5	2	8	4	6	1		3		4	3	1	2	3	2				4	2	61	total

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							2	1	1								5	Hokkaido
Aomori																									Aomori
wate				1									2											3	lwate
Miyagi													1											1	Miyagi
Akita																									Akita
Yamagata						1																		1	Yamagata
Fukushima			1														1					1		3	Fukushima
Ibaraki																	2	1						3	Ibaraki
Tochigi				1		3																		4	Tochigi
Gunma																									Gunma
Saitama																		1						1	Saitama
Chiba						1																		1	Chiba
Tokyo	1			2				1	1		1		1											7	Tokyo
Kanagawa		1			1	1																2		5	Kanagawa
Niigata																									Niigata
Toyama																									Toyama
Ishikawa																									Ishikawa
Fukui																							2	2	Fukui
Yamanashi																1								1	Yamanashi
Nagano																									Nagano
Gifu																									Gifu

Shizuoka								2		1							3	3	Shizuoka
Aichi																			Aichi
Mie																			Mie
Shiga																			Shiga
Kyoto	1																1		Kyoto
Osaka		1															1		Osaka
Hyogo	2	1								1								ļ.	Hyogo
Nara																			Nara
Wakayama																			Wakayama
Tottori			1														1		Tottori
Shimane	1																1		Shimane
Okayama	1			1			1										3	8	Okayama
Hiroshima																			Hiroshima
Yamaguchi								2				1					3	3	Yamaguchi
Tokushima							1										1		Tokushima
Kagawa																1	1		Kagawa
Ehime																			Ehime
Kochi																			Kochi
Fukuoka					1	1	1										3	8	Fukuoka
Saga								1									1		Saga
Nagasaki																			Nagasaki
Kumamoto																			Kumamoto
Oita																			Oita

Miyazaki																					Miyazaki
Kagoshima						1														1	Kagoshima
Okinawa																					Okinawa
total	6	3	2	5	2	8	4	6	1	3	4	3	1	2	3	2		4	2	61	total

Data sources: <a href="https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm">https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.htm</a> (MHLW, Japan)

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