

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

bridge construction work industry Code No.030105

Type of accidents in bridge 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	93	90	103	87	74	56	46	57	64	59	43	55	44	42	49	46	55	33	45	32	36	34	21	1,264	fall from height
falling to same level	26	22	18	17	11	13	11	10	10	11	10	8	14	14	12	11	6	12	16	6	3	11	10	282	falling to same level
crash	6	16	10	18	13	12	3	5	4	6	9	7	3	7	6	3	8	3	8	5	2	7	5	166	crash
struck by flying or falling object	28	33	37	31	25	25	23	28	28	28	25	23	24	9	10	18	14	7	10	13	12	22	15	488	struck by flying or falling object
collapse	23	18	7	15	5	3	11	14	12	14	5	6	6	7	16	9	8	17	5	8	6	4	3	222	collapse
crashed by	15	25	24	21	15	14	17	12	9	5	16	10	10	12	16	14	9	10	7	14	7	13	2	297	crashed by
caught in/between	40	34	28	46	38	29	32	23	25	29	18	13	22	15	13	17	19	21	21	20	14	10	18	545	caught in/between
cut	6	12	8	5	17	3	10	1	6	5	3	8	3	4	4	7	3	5	6	5	4	3	3	131	cut
injury to the sole of the foot								1						1				1				1		4	injury to the sole of the foot
drown	2	1	2	4				2					2			1			2	1			2	19	drown
contact to high/low-temperature	2	2		7	2	2	1		1	5	2	7	1	1	2	2	2	1	3	3	2	1	2	51	contact to high/low-temperature

engine						2						1											3	engine	
power transmission mechanism											1					1							2	power transmission mechanism	
circular sawing machine			3		7		6		2	2	1	5	1	3		5		1		3	1	1	1	42	circular sawing machine
band sawing machine																								band sawing machine	
wood planer machine			1									1											2	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																	1	1	1				3	chain saw	
other woodworking machines									1	1													2	other woodworking machines	
leveling, transporting or loading machine			2		2			1	3	1	3	1	1	1	3	1	4	1	3			1	28	leveling, transporting or loading machine	
excavating machine			6		11		4	5	3	7	3	4	4	7	1	4	2	6	7	5	4	3	4	90	excavating machine
foundation work machine			1		4		1	2	2	2	1		1	2	1	2	4	1	5	1		3	3	36	foundation work machine

machine																									machine
food manufacturing machine																									food manufacturing machine
printing machine																									printing machine
industrial robot																									industrial robot
other general power machines			4		8		5	5	2		1	3	1	2	1	2	3	2	5	1	3	5	2	55	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			2		5		4	1	6		3	1	1	1	5	1		2		4		5		41	crane
mobile crane			13		8		11	16	12	10	14	12	14	7	10	10	7	7	7	9	7	8	4	186	mobile crane
derrick crane																									derrick crane
elevator, lift																									elevator, lift
cargo lifting appliance																									cargo lifting appliance
gondola											1													1	gondola
lumberyard equipment, logging cableway											1													1	lumberyard equipment, logging cableway

facilities			3				2	1	1	4		3	3		2	2	2		1	1	2	1	1	29	facilities
scaffolding			36		28		16	28	32	25	14	32	25	15	22	23	20	17	13	13	16	11	5	391	scaffolding
timbering			8		3		8	8	6	2	1	6		4	2	1	3	4	5	3	2		3	69	timbering
stairs, landing stage			4		4		2	3	4	3	3	2	1	1	3	1	4		3			2	4	44	stairs, landing stage
opening			4				2	3	3	1				1	3	1	2		1	2				23	opening
roof, beam, haze, crossbeam, principal rafter			2		1			2		2	1		1			2		2		1			1	15	roof, beam, haze, crossbeam, principal rafter
working platform, boot board			20		5		6	2	5	4	4	2	4	4	4	4	3	2	8	2		5	3	87	working platform, boot board
passage			6		1		5	3	3	5	5	2	5	3	4	5	4	3	4	3	3	6	6	76	passage
building, establishment			22		24		10	6	12	13	4	11	9	11	16	10	9	13	12	9	9	7	2	209	building, establishment
other temporary buildings, establishments			3		4		3	4	4	10	5	3	5	1	2	4	8	5	1	2	3	4	1	72	other temporary buildings, establishments
explosive substance																		1						1	explosive substance
inflammable substance										1									1		1			3	inflammable substance
inflammable gas																									inflammable gas
harmful substance								1	1				2	2	1	2			2	1		7		19	harmful substance
radiation																									radiation
other hazards, harmful substances			1				1		3		1	1						1	2	1	11	2	1	25	other hazards, harmful substances

metal material			27		18		25	16	21	15	15	12	13	11	5	10	9	9	17	11	9	12	7	262	metal material
lumber, bamboo						2	2	5	1	2		1	3				2	1	1		2	2	24	lumber, bamboo	
stone, sand, substance			2		2		3		1		1	1	3			2		2			4		2	23	stone, sand, substance
other materials			1		5		2	2	1	2	1	1		1	1		1	1	3		1	1		24	other materials
load			3		2		1	2	2	3		2	3		2	3	4		6	2		2	3	40	load
machine/equipment as load			1				2		1				2			1	1	1	1		1	1		12	machine/equipment as load
natural ground, rock			6		6		3	4	2	1	4	2	1	2	9	2	4	2	2	2	2	2	4	58	natural ground, rock
standing tree									1	1		2						2				2		8	standing tree
water			2				1	1					2						2				2	10	water
abnormal environment			2				1			1					1			1	1				1	8	abnormal environment
high/cold temperature environment			1		2				2	2	2	6	1	2	2	2	2		2	2	1	1	1	31	high/cold temperature environment
other environments			1		1				2	1			4	5	1		1	1	1	3		3	1	25	other environments
other causal agent					1		2	1		1	2	1	3			2					1	2	24	40	other causal agent
no causal agent					2		3	1	1	1		2			2	2	1	4	2	1	5	2	2	31	no causal agent
unclassifiable					1						1								1					3	unclassifiable
total			255		216		172	171	189	176	144	152	150	120	151	134	139	128	147	133	116	130	119	2,942	total

Workers age of fatal and non-fatal accidents in bridge 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	10	7	8	13	8	5	1	4	6	5	6	7	3	4	6	6	3	5	3	4	1	2		117	19 years old or less
20-29	67	60	62	66	57	29	28	32	37	31	20	29	23	12	23	17	19	18	29	24	18	28	36	765	20-29
30-39	46	48	51	55	36	39	33	40	41	34	27	38	36	25	31	20	24	29	21	18	27	25	15	759	30-39
40-49	38	46	39	46	44	35	33	20	26	26	37	22	24	29	32	31	43	32	40	39	21	22	28	753	40-49
50-59	55	93	71	63	45	43	47	53	51	46	36	31	37	27	30	29	24	24	24	20	24	30	20	923	50-59
60 years old or more	48	36	24	30	26	31	30	22	28	34	18	25	27	23	29	31	26	20	30	28	25	23	20	634	60 years old or more
total	264	290	255	273	216	182	172	171	189	176	144	152	150	120	151	134	139	128	147	133	116	130	119	3,951	total

Workers' number of workplace of fatal and non-fatal accidents in bridge 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	111	107	111	107	98	65	55	79	88	64	55	65	66	54	54	53	61	64	45	58	39	41	58	1,598	9 workers or less
10-29	105	123	86	98	84	73	86	72	71	78	63	59	56	52	53	54	55	48	68	51	48	53	38	1,574	10-29
30-49	35	29	28	40	21	31	16	14	20	25	14	13	17	8	19	20	15	9	16	14	18	24	16	462	30-49
50-99	9	22	17	19	11	9	14	5	6	8	5	12	10	4	15	4	8	5	15	7	8	8	4	225	50-99
100-299	4	8	13	8	2	4	1		4	1	6	3	1	2	10	3		2	2	2	3	4	3	86	100-299
300 workers or more		1		1				1			1								1	1				6	300 workers or more
total	264	290	255	273	216	182	172	171	189	176	144	152	150	120	151	134	139	128	147	133	116	130	119	3,951	total

Month of fatal and non-fatal accidents in bridge 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	25	25	26	19	25	41	9	15	8	12	18	17	14	21	9	12	8	5	17	8	6	9	11	360	January
February	24	34	24	27	16	10	21	10	13	21	14	9	14	9	7	13	10	14	14	11	5	10	17	347	February
March	34	27	24	31	24	25	12	16	23	10	13	19	8	5	17	17	6	13	12	12	7	14	10	379	March
April	21	19	17	17	17	10	8	12	15	9	10	10	13	9	7	9	10	20	9	5	11	11	4	273	April
May	10	19	21	15	12	6	15	8	9	14	15	12	11	9	6	8	13	11	6	15	8	12	10	265	May
June	14	17	18	11	15	16	17	7	16	11	9	8	9	7	13	9	11	7	8	23	6	9	5	266	June
July	16	28	19	23	13	6	12	18	12	19	14	9	6	9	16	10	13	5	14	7	13	9	8	299	July
August	18	14	21	20	19	9	13	12	13	26	11	8	11	11	10	6	6	9	8	11	14	7	18	295	August
September	32	19	12	24	23	16	15	15	21	19	11	10	8	9	23	5	10	12	13	7	7	18	7	336	September
October	17	33	28	30	21	16	14	27	19	10	9	9	16	8	18	17	12	17	15	14	11	11	10	382	October
November	30	22	21	33	15	10	18	14	15	14	5	20	24	9	15	14	20	4	21	7	20	13	9	373	November
December	23	33	24	23	16	17	18	17	25	11	15	21	16	14	10	14	20	11	10	13	8	7	10	376	December
total	264	290	255	273	216	182	172	171	189	176	144	152	150	120	151	134	139	128	147	133	116	130	119	3,951	total

Prefecture of fatal and non-fatal accidents in bridge 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	25	18	11		14		8	10	14	7	3	11	17	12	25	7	11	12	12	8	4	7	9	245	Hokkaido
Aomori	3	3	6		2		4	3	5	1	3	2	8	4	4	2	2		4	1	6	4		67	Aomori
Iwate	4	7	3		4		4	4	2	1	2	5	1	1	9	1	3	5	9	9	1	6	4	85	Iwate

Miyagi	2	7	3		2		4	4	1	8	2	2	4	1	5	6	6	5	6	4	2	1	6	81	Miyagi
Akita	1	2	1		2		3	1	1	2	1	2	2	2	7	3		2	1	7	2	1	2	45	Akita
Yamagata	9	10	1		6		3	4	4		1	2	1	3				3	1	1		3	3	55	Yamagata
Fukushima	3	2	3		3		2		2	4	2	2	6	1	4	5	6	4		5		1	1	56	Fukushima
Ibaraki		6	3		6		4	2		1		3		4	3	5	4	3	2		1	3	1	51	Ibaraki
Tochigi	4	2	6		1		2	1	2	1	1	1				1	3	1	2			1	4	33	Tochigi
Gunma	3	8	1					1	2	4	3	5	6	1	1	1	3	3	3	1		1	3	50	Gunma
Saitama	6	3	5		2		2	3	3	8	6	2		2	2	6	3	2	4	3	2		2	66	Saitama
Chiba	7	3	9		9		5	1	5	10	10	7	2	4	2	5	2	2	3		2	2	2	92	Chiba
Tokyo	15	18	10		8		12	9	10	12	5	10	9	6	2	6	6	7	6	1	6	4	7	169	Tokyo
Kanagawa	15	7	9		7		11	10	24	6	5	2	10	6	8	4	6	7	8	8	8	6	4	171	Kanagawa
Niigata	6	5	5		5		3	4	4	6	7	7	4	4	1	1	5	1		2	2	4		76	Niigata
Toyama	3		4		5		2	1	1	1	4	9	9	1	3	3	4	1	1	1	2	8	3	66	Toyama
Ishikawa	5	4	3		3			1		1			2	1		1	1	2	3	7	12	5	1	52	Ishikawa
Fukui	2	1	3		5		4	1	1	2	1	3	1	2	1	1	1	1		3	5	6	3	47	Fukui
Yamanashi	1	2	5		1			3			1	1	1	1	1	2	4	1	2	1				27	Yamanashi
Nagano	5	5	4		2		2	5	2	3	6	2		2	3	3	8	2	5	2		2	1	64	Nagano
Gifu	6	10	8		12		4	3	3	1		4	6	6	3	5	4	2	8	3	3	6	5	102	Gifu
Shizuoka	7	16	23		14		10	14	8	10	12	5	4	4	5	6	7	6	6	5	13	10	8	193	Shizuoka
Aichi	19	20	30		24		9	7	6	6	8	13	7	4	9	5	5	6	7	6	10	6	4	211	Aichi
Mie	6	8	7		6		1	1	4	2	1	1	5	1	4	3	7	2	4	8	4	1	3	79	Mie
Shiga	4	2	1		3		4	4	3	3	3		1	3		3		1		4		2	1	42	Shiga
Kyoto	3	5	3		3		3	7	2	4	5	1		2	3	1	4		2	3		2	3	56	Kyoto

Osaka	8	8	2		8			3	4	13	5	4	8	2	2	5	3	4	3	3	1	4		90	Osaka
Hyogo	12	14	10		3		3	3	9	3	4	8	6	4	8	4	2	13	3	1		2	5	117	Hyogo
Nara	2	3	2		1		5	4	1	3	1	1	1	5	1	2			2			1	2	37	Nara
Wakayama	2	5	5		5		5	10	3		6	3	7	1	1	7	5	1	2	1	1	3	8	81	Wakayama
Tottori	7	2	2		3		5	1	1	2	1			1	1	1	1	1	4		1			34	Tottori
Shimane	3	6	6		1			1	3	3	2				1		1	1		1		2	1	32	Shimane
Okayama	3	3	4					1	2	1	1	2		4	2	2			1	2	1	2	4	35	Okayama
Hiroshima	3	7	7		8		5	7	5	2	6	3	2	1	2	3	1	2	2	3	3	2	3	77	Hiroshima
Yamaguchi	10	1	3		1		4	3	6	10	1	4	1	1		2	2	1	4	1	2	3	1	61	Yamaguchi
Tokushima	4	4	2		1			1	1	3		5	2		2	4	3	2	1	2		4	2	43	Tokushima
Kagawa	2	4	1				2	4	2	1				3	1	1		2				1		24	Kagawa
Ehime	6	8	5		3			1	2	1	2	1	1	4	1				1	2	1		1	40	Ehime
Kochi	3	3	3		1		6	5	5	2	1	1	1	1	1	1	3		1			1		39	Kochi
Fukuoka	10	9	9		10		13	9	15	10	8	3	3	4	7	5	4	4	4	6	3	4	5	145	Fukuoka
Saga	1	4	1		2			1	3	2	1	1			2	1		3	1	1	2	1	1	28	Saga
Nagasaki	3	5	2		5		2	2	3	3	2	1	1		1	1	2	2	1	4	4	3		47	Nagasaki
Kumamoto	1	6	2		3		6	3	5	2	1	3			2	3	2	3	1	2	2	5	4	56	Kumamoto
Oita	8	6	4		4		2	3	4	3	3	1	3	3	4	1	1		6	9	6		1	72	Oita
Miyazaki	2	5	7		2		3	1	1	5	2	4	3	2	2	1		2	4		2			48	Miyazaki
Kagoshima	8	12	10		3		1	3	4	1	3	2	3	4	5	3		4	2	2			1	71	Kagoshima
Okinawa	2	1	1		3		4	1	1	2	2	3	2	2		1	4	2	5		2			38	Okinawa
total	264	290	255		216		172	171	189	176	144	152	150	120	151	134	139	128	147	133	116	130	119	3,496	total

injury to the sole of the foot																								injury to the sole of the foot	
drown	2	1	1	2	1							1			1			1	1			2	13	drown	
contact to high/low-temperature				3						1													4	contact to high/low-temperature	
contact to harmful substance							1	2				1									1		5	contact to harmful substance	
electric shock																								electric shock	
explosion																								explosion	
burst																								burst	
fire																								fire	
traffic accident (public road)		2	4		2	4		1				2	1	2		1	1	2	2	1			25	traffic accident (public road)	
traffic accident (others)																								traffic accident (others)	
reaction to motion/improper motion																								reaction to motion/improper motion	
others												5					1		1				7	others	
unclassifiable											1		1										2	unclassifiable	
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total

no causal agent																		1		1					2	no causal agent
unclassifiable													1												1	unclassifiable
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total	

Workers age of fatal accidents in bridge 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		2			1			1		2		2		1	1	1			1					12	19 years old or less	
20-29	2	3	1	2		3		2	1	2	1	4	1	1			1		1	3	1	2	2	33	20-29	
30-39	4	5	3	4	4	3	2	4		2	4	3	4	1	1	3	2	4	2	1	1	1	1	59	30-39	
40-49	2	6	3	4	1	2		1	1	1		3	3			2	3	2	3	4		2	1	44	40-49	
50-59	15	2	5	5	3	3	4	4	3	2	1	1	6	3	2	1	1	2	5	3	1	1	1	74	50-59	
60 years old or more	4	7	3	2	5	3				1	2	1		3	4	1	2			3	2	2	3	1	49	60 years old or more
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total	

Workers' number of workplace of fatal accidents in bridge 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	11	10	7	9	6	5	2	7	3	3	2	6	5	2	1	2	2	5	8	3	2	4	1	106	9 workers or less
10-29	10	12	5	4	5	7	1	4		5	3	4	8	3	1	3	3	3	6	6	2	2	2	99	10-29
30-49	2	2		2	1		1		2	2	1	1	3	2	1	2	1			2	1	3	1	30	30-49
50-99	3			1	2		1	1				1		2	2	2	1		1	2				19	50-99

100-299	1	1	3	1		2	1		1	1	1	1	1	1									1	16	100-299	
300 workers or more																								1	1	300 workers or more
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total	

Month of fatal accidents in bridge 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	2			2		1			1	2	1			1			1			1	2	16	January
February	2	2		5	5		2	1		1	1	1	2	1		2	2		1			1	2	31	February
March	3	2	1	1	1	3		2				1	4			1		1	3	1	1			25	March
April	4	1	2	1		1	1	1	1	1			1	2			1	2		1		1		21	April
May	1	1	1	1	1					2		1	2				1		1	2	1			15	May
June	4	3	2			2			2		1		1	2			1			3				21	June
July	1	2		3	1	2		2	1		2				1		1		2		1	1		20	July
August	2		2	4				1		2		1	2	1						1	1			17	August
September	3	2	1	1	3				1	2		1		1	1			1	2	1		2		22	September
October		4	1	1	1	3	1	3	1	1	1		1	2	1	3		3	1	1		2		31	October
November	4	2			1					1		3	1		2	2	1		1	1			1	20	November
December	3	4	3		1	1	2	1		1	1	3	2	1				1	3	2	1	1	1	32	December
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total

Prefecture of fatal accidents in bridge construction work in 1999-2021

Shizuoka				4	1		1		2	1	1	1				1			1		1	1	15	Shizuoka
Aichi	2	2	1	1	4	4		1		1		1			2			1	1				21	Aichi
Mie	1	2	2	1					1	1				1		1			1		1		12	Mie
Shiga	1	1									1			1									4	Shiga
Kyoto		1		1							1				1			1					5	Kyoto
Osaka		1		1				1			1			1			1		1				7	Osaka
Hyogo	1	4		1		1		1						1		3							12	Hyogo
Nara															1								1	Nara
Wakayama	1							4						1						1			7	Wakayama
Tottori	3																						3	Tottori
Shimane			1		1					1	1												4	Shimane
Okayama			1															1					2	Okayama
Hiroshima			1						1	1	1	1	1										6	Hiroshima
Yamaguchi	1					1			2								1						5	Yamaguchi
Tokushima	1	1																		1			3	Tokushima
Kagawa	1									1													2	Kagawa
Ehime			1																				1	Ehime
Kochi							2																2	Kochi
Fukuoka		1	1		1			1										1					5	Fukuoka
Saga																								Saga
Nagasaki		1				2				1					1			1					6	Nagasaki
Kumamoto		1										3					1			1			6	Kumamoto
Oita	1	1															1	1					4	Oita

Miyazaki													1	1				1	1					4	Miyazaki
Kagoshima	1	4																						5	Kagoshima
Okinawa								2								1								3	Okinawa
total	27	25	15	17	14	14	6	12	6	11	7	13	17	10	5	9	7	8	15	13	5	9	6	271	total

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

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