Fatal and non-fatal accidents in land consolidation civil engineering work in Japan in 1999-2022

land consolidation civil engineering work industry Code No.030109

Type of accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
fall from height	150	130	114	120	91	87	99	82	84	86	63	73	63	59	75	69	51	61	70	71	61	71	76	60	1,966
falling to same level	73	86	55	57	49	29	37	62	33	41	34	35	29	38	33	46	34	30	27	39	29	33	30	39	998
crash	48	31	34	25	17	18	25	29	17	23	12	14	15	19	20	10	15	15	9	10	13	10	9	12	450
struck by flying or falling object	100	92	71	62	68	42	50	57	44	44	37	29	34	38	42	38	32	31	30	26	23	31	22	33	1,076
collapse	33	27	31	29	19	22	20	18	31	16	10	21	19	9	14	12	10	10	13	13	13	15	5	11	421
crashed by	96	64	67	66	57	55	44	48	42	34	26	28	31	26	27	38	30	23	28	27	24	29	25	26	961
caught in/between	133	145	111	117	85	99	82	78	67	71	68	34	48	47	47	62	48	44	67	43	49	44	35	40	1,664
cut	56	51	35	43	34	42	31	29	35	27	44	28	15	24	23	23	22	19	31	30	20	22	32	26	742
injury to the sole of the foot	2		6	2	2	4	2	2	1	3	2		1	3	1	4	2	3		2		2	1		45
drown					1						1	1	2			3						1			9
contact to high/low-	8	9	6	8	5	5	7	5	7	7		5	3	4	8	5	4	1	5	5	8	8	5	10	138

temperature																									
contact to harmful substance			3				2		1	1			1										2	3	13
electric shock							1			1										1					3
explosion													1												1
burst	1									1															2
fire		1		1	1											1									4
traffic accident (public road)	26	12	28	19	30	9	11	12	18	6	8	10	8	7	13	7	11	11	9	2	12	12	13	7	301
traffic accident (others)	1	1		2				1					1					1					1	1	9
reaction to motion/improper motion	31	32	30	23	19	23	18	17	18	20	23	11	14	16	14	14	8	23	22	21	22	18	20	15	472
others	4	3	2	2	2	3	4	8	2	3	1	3	4	3	2	5	1	1	4	3	2	2	13	4	81
unclassifiable			1		2		1		1		1			1	2		1				2				12
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Causal agents (large) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
machine	189	167	140	148	132	128	118	115	105	101	101	73	80	74	71	89	80	66	88	70	72	70	74	73	2,424

crane, conveying machine	141	109	103	103	93	69	73	70	75	66	52	46	47	52	67	62	42	54	65	49	47	51	57	36	1,629
other equipment	96	68	57	64	51	43	45	50	40	62	36	36	31	33	28	39	26	30	29	35	32	40	27	40	1,038
temporary buildings, establishments	112	111	94	91	73	63	66	79	67	61	43	43	43	44	44	44	41	45	50	48	38	50	52	49	1,451
substance, material	115	112	103	90	67	55	62	66	53	36	38	36	36	29	43	37	27	34	31	28	31	24	24	28	1,205
load	14	19	14	22	7	10	5	11	8	6	7	1	4	10	9	5	7	4	8	8	5	11	7	3	205
environment	80	81	68	52	48	60	51	53	45	43	39	50	40	44	54	56	39	31	30	46	43	42	29	51	1,175
others	15	17	15	6	11	10	14	4	8	9	14	7	8	8	5	5	7	9	14	9	10	10	19	7	241
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Causal agents (middle) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
engine	1				1			1																	3
power transmission mechanism			4	2		3				1					1			1	1			1			14
woodworking machine	24	28	15	18	19	19	20	14	22	9	24	9	10	10	13	10	7	13	16	12	10	11	19	13	365

construction machine	140	113	103	99	89	84	78	80	60	75	53	49	57	50	45	58	53	41	57	40	45	45	37	48	1,599
metal manufacturing machine	6	8	11	11	6	6	9	5	7	7	7	5	3	6	4	5	7	4	2	7	2	6	6	3	143
general machine	18	18	7	18	17	16	11	15	16	9	17	10	10	8	8	16	12	7	12	11	14	7	10	8	295
mobile silviculture machine																	1				1		2	1	5
crane	23	21	15	20	21	18	18	14	17	18	12	5	11	8	14	13	8	13	16	12	10	11	12	7	337
conveying machine	107	77	74	68	47	48	43	46	44	40	36	32	33	37	39	43	30	31	44	33	31	29	38	24	1,074
vehicle	11	11	14	15	25	3	12	10	14	8	4	9	3	7	14	6	4	10	5	4	6	11	7	5	218
pressure vessel		2																	1						3
chemical facilities																									
welding equipment	1								2			1	1							1			1		7
kiln, caldron							1																	1	2
electric equipment										2	1	1	1	1				1			1				8
human power machine, tools	27	29	22	25	22	13	13	18	13	19	11	13	8	10	10	10	9	7	9	14	7	11	4	8	332
tools	64	30	28	33	25	25	30	27	22	36	23	15	18	21	17	26	15	19	17	17	24	25	18	28	603
other equipments,																									

facilities	4	7	7	6	4	5	1	5	3	5	1	6	3	1	1	3	2	3	2	3		4	4	3	83
temporary buildings, establishments	112	111	94	91	73	63	66	79	67	61	43	43	43	44	44	44	41	45	50	48	38	50	52	49	1,451
hazards, harmful substances	4	5	4	3	2		2	1	1				2		1	1				1			2	4	33
materials	111	107	99	87	65	55	60	65	52	36	38	36	34	29	42	36	27	34	31	27	31	24	22	24	1,172
load	14	19	14	22	7	10	5	11	8	6	7	1	4	10	9	5	7	4	8	8	5	11	7	3	205
natural environment	80	81	68	52	48	60	51	53	45	43	39	50	40	44	54	56	39	31	30	46	43	42	29	51	1,175
other causal agent	6	8	4	2	4	2	2	3	2	2			2			1		2	2	1	1		10	2	56
no causal agent	9	9	10	4	6	8	11	1	4	6	13	7	6	7	4	4	7	7	12	8	7	10	9	5	174
unclassifiable			1		1		1		2	1	1			1	1						2				11
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Causal agents (small) of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
engine					1			1																	2
power transmission mechanism			4							1					1			1	1			1			9

circular sawing machine			5		5		12	6	7	4	9	3	4	3	7	2	1	3	5	6	4	2	5	4	97
band sawing machine																									
wood planer machine					1													1			1				3
hollow chisel mortiser, wood borer																									
chamfering machine, router, woodworking milling machine																							1		1
chain saw			8		11		5	8	11	1	13	5	5	6	5	7	3	7	9	5	5	9	13	8	144
other woodworking machines			2		2		3		4	4	2	1	1	1	1	1	3	2	2	1				1	31
leveling, transporting or loading machine			18		21		14	19	14	15	7	4	6	4	6	9	11	6	10	2	8	6	6	10	196
excavating machine			49		42		48	47	33	40	29	33	32	25	28	35	23	22	29	30	29	29	26	28	657
foundation work machine			8		5		2	2	1	2	2	2	3	1	1		2	2	5	1	2			2	43
hardening machine			16		5		6	2	4	5	8	2	6	9	2	3	6	1	1	3	3		3	2	87

demolition machine			3		2		2	4	3	2	1	2	5	2	2	4	3	4	2		2	3	1	1	48
vehicle for high lift work										1		1						1	1						4
other construction machines			9		14		6	6	5	10	6	5	5	9	6	7	8	5	9	4	1	7	1	5	128
lathe																									
drill press, milling machine																									
grinding machine, buffing machine			5		2		5	2	5	5	7	4	1	6	2	2	6	3	2	6	2	6	4	1	76
power press																	1								1
forging pressure hammer																									
shearing machine																									
other metal manufacturing machines			6		4		4	3	2	2		1	2		2	3		1		1			2	2	35
centrifugal machine																									
mixer, grinder					3			2	4		4	1	1	3	3	1	2		1	1	3		1		30
roll machine (except printingroll machine)																									

injection molding machine																									
food manufacturing machine																									
printing machine																									
industrial robot																									
other general power machines			7		14		11	13	12	9	13	9	9	5	5	15	10	7	11	10	11	7	9	8	195
felling machine																	1				1			1	3
mobile logging machine																							1		1
skyline yarding machine																									
other mobile silviculture machine																							1		1
crane			2		2		3	1	3	1			2			2	2			1	1			2	22
mobile crane			13		19		14	13	14	16	11	5	9	7	14	10	6	12	16	10	9	11	10	5	224
derrick crane																									
elevator, lift																				1					1
cargo lifting appliance																									
gondola														1											1

lumberyard equipment, logging cableway											1														1
simple skyline yarding equipment																									
other powered crane							1			1						1		1					2		6
truck			63		40		42	41	41	36	31	32	30	37	35	40	28	27	38	32	24	22	34	21	694
forklift			2				1						1				1					1	1	1	8
railway equipment								1			1				1				1						4
conveyor			1		2			1	1		1		1			1			2		2	1	1	1	15
loader			2						1						2						1	2			8
straddle carrier																									
rough terrain hauler			2		3			2		2	1		1		1	1		1	3		3	2	2		24
other powered conveying machines			4		2			1	1	2	2					1	1	3		1	1	1		1	21
cars, bus, motorcycle			14		24		11	10	14	8	4	7	3	7	14	6	4	9	5	4	6	11	7	5	173
railway vehicle																									
other vehicles					1		1					2						1							5
boiler																									

pressure vessel																									
other pressure vessels																			1						1
chemical facilities																									
gas welding equipment									1				1										1		3
arc welding equipment									1			1								1					3
other welding equipment																									
kiln, caldron																								1	1
industrial dryer																									
other kiln, caldron							1																		1
transmission										1															1
electric power facilities											1	1													2
other electrical equipment										1			1	1				1			1				5
human power cranes					2					1							1	1	1						6
human power hauling equipment			4		1		2	2		3		2	1	1	1	1				2	1	1			22

human power machine								1							1				1	1	1	1			6
hand tool			18		19		11	15	13	15	11	11	7	9	8	9	8	6	7	11	5	9	4	8	204
ladder			13		11		21	16	12	19	16	11	15	12	14	13	6	15	10	13	12	19	14	12	274
slinging tool			7		8		6	5	4	7	4	1	1	5	1	5	5	2	4	1	5	3		8	82
other tools			8		6		3	6	6	10	3	3	2	4	2	8	4	2	3	3	7	3	4	8	95
other equipment, facilities			7		4		1	5	3	5	1	6	3	1	1	3	2	3	2	3		4	4	3	61
scaffolding			8		6		11	8	7	5	6	1	3	1	5	1	4	3	3	1	2	3	2	1	81
timbering			9		6		2	3	3	2	2	2	2	1	1	1			1	2	3	2	1		43
stairs, landing stage			4		2		1	3	6	2	6	2	2	3	4	2	1	4	2	1	2	4	4	4	59
opening			7		1		1	1	2		1	1	1	2	2		3	1	3	1	3	2	2	2	36
roof, beam, haze, crossbeam, principal rafter			2		3		3	3	1	4	3	2	3		2	1		2	1	2		1	2	1	36
working platform, boot board			13		8		8	11	10	11	1	6	6	6	4	9	7	8	6	8	1	6	10	3	142
passage			17		22		12	20	9	11	7	9	7	13	9	11	14	13	15	16	14	14	15	20	268
building, establishment			27		17		20	20	18	19	7	15	11	12	12	14	8	9	14	12	10	10	13	10	278
other temporary buildings,			7		8		8	10	11	7	10	5	8	6	5	5	4	5	5	5	3	8	3	8	131

establishments																									
explosive substance									1						1										2
inflammable substance			1		1		1	1								1									5
inflammable gas			1																	1					2
harmful substance			2																				1		3
radiation																									
other hazards, harmful substances					1		1						2										1	4	9
metal material			41		20		28	27	27	16	19	16	15	12	18	13	12	17	15	13	17	9	11	9	355
lumber, bamboo			16		12		8	12	8	2	5	5	2	6	4	5	5	6	7	3	7	6	3	5	127
stone, sand, substance			21		21		14	13	13	11	9	8	8	7	11	8	4	6	5	9	5	4	2	5	184
other materials			21		12		10	13	4	7	5	7	9	4	9	10	6	5	4	2	2	5	6	5	146
load			11		5		4	8	5	6	6	1	2	7	8	4	7	4	8	6	4	10	7	3	116
machine/equipment as load			3		2		1	3	3		1		2	3	1	1				2	1	1			24
natural ground, rock			42		26		24	22	26	20	13	24	19	22	26	20	16	14	13	19	17	15	10	17	405
standing tree			13		16		17	19	12	15	22	18	11	12	12	15	15	14	7	13	16	13	10	15	285
water					2						1		5	1		3			1	3		2			18
abnormal																									

environment														1					1						2
high/cold temperature environment			4		1		6	5	4	6		3	2	3	9	5	4	1	3	4	8	9	4	7	88
other environments			9		3		4	7	3	2	3	5	3	5	7	13	4	2	5	7	2	3	5	12	104
other causal agent			4		4		2	3	2	2			2			1		2	2	1	1		10	2	38
no causal agent			10		6		11	1	4	6	13	7	6	7	4	4	7	7	12	8	7	10	9	5	144
unclassifiable			1		1		1		2	1	1			1	1						2				11
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Workers age of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
19 years old or less	20	16	24	17	16	2	4	5	6	3	1	4	4	3	10	9	7	5	7	4	4	1	6	3	181
20-29	113	104	93	114	55	67	57	58	55	41	37	39	33	45	32	34	30	32	35	26	19	48	39	42	1,248
30-39	79	77	78	82	75	70	61	80	73	72	57	54	57	46	46	42	35	45	40	34	36	26	35	25	1,325
40-49	119	110	99	81	92	68	65	64	51	67	43	50	42	60	59	67	62	59	57	58	61	52	60	55	1,601
50-59	194	198	154	151	131	134	127	132	101	99	94	74	71	60	68	85	42	55	63	71	59	58	57	54	2,332
60 years old or more	237	179	146	131	113	97	120	109	115	102	98	71	82	80	106	100	93	77	113	100	99	113	92	108	2,681
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Workers' number of workplace of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
9 workers or less	397	373	307	298	275	238	272	257	218	238	197	162	174	174	169	195	157	132	166	149	142	147	161	152	5,150
10-29	278	228	207	200	153	147	115	147	146	121	98	107	89	96	119	100	80	105	116	110	100	107	104	100	3,173
30-49	54	55	52	46	29	34	37	32	21	16	25	12	18	13	26	28	24	25	26	26	22	36	17	23	697
50-99	25	21	24	24	20	12	8	9	13	7	9	6	4	8	4	12	8	6	4	6	10	5	7	6	258
100-299	8	7	4	8	5	7	2	3	2	2	1	4	3	3	2	2		5	3	1	4	3		6	85
300 workers or more									1			1	1		1					1					5
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Month of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
January	53	65	56	37	43	37	41	31	36	22	38	31	23	19	27	30	18	17	27	24	23	15	27	17	757
February	69	64	55	57	54	49	33	43	37	26	34	21	31	21	25	35	18	27	24	33	28	28	24	22	858
March	79	77	59	77	43	48	40	39	41	39	33	36	22	33	31	25	23	17	26	25	16	27	31	34	921
April	60	42	60	45	33	39	42	38	37	30	22	29	18	27	32	26	19	22	25	25	22	23	21	17	754
May	61	43	54	52	31	37	22	19	29	41	34	11	20	17	24	20	22	29	23	14	21	16	30	18	688
June	55	52	38	46	43	28	38	47	31	26	19	18	25	26	22	29	21	26	23	33	21	29	24	32	752

July	84	56	55	31	39	38	43	40	25	55	31	25	20	23	28	39	16	28	35	33	27	18	33	19	841
August	53	65	34	48	31	33	30	33	31	34	16	15	21	25	25	29	32	21	24	27	21	24	20	23	715
September	55	63	44	45	42	28	35	44	39	33	23	27	24	24	32	27	40	22	20	21	30	33	23	28	802
October	56	61	48	48	40	34	34	44	31	28	24	30	30	22	23	29	19	25	36	24	26	32	21	26	791
November	64	46	48	45	42	37	42	36	33	21	28	22	29	22	29	23	20	19	25	18	23	27	24	31	754
December	73	50	43	45	41	30	34	34	31	29	28	27	26	35	23	25	21	20	27	16	20	26	11	20	735
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Prefecture of fatal and non-fatal accidents in land consolidation civil engineering work in 1999-2022

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
Hokkaido	37	20	26		9		19	13	10	12	23	19	10	10	13	14	16	19	16	20	12	28	18	24	388
Aomori	9	7	8		1		1	4	2	2	2	1	3	1	2	2	2	1	2	1	1	3	2	2	59
Iwate	12	10	9		11		2	10	3	2	5	4	10	3	4	13	10	6	9	8	8	4	2	4	149
Miyagi	6	7	6		13		3	12	9	15	9	4	9	7	3	10	11	8	4	6	14	6	16	12	190
Akita	12	4	10		6		6	11	9	1	7	6	5	9	14	8	5	1	13	7	10	16	12	7	179
Yamagata	6	11	4		2		2	1	6	4	4	2	1	6	2	2	1	5	4	7	4	5	4	10	93
Fukushima	19	13	9		12		8	6	16	10	6	10	5	14	12	8	4	4	6	5	7	5	11	9	199
Ibaraki	24	13	17		9		7	14	8	11	7	7	1	3	5	1	3	2	4	1	3	4	6	4	154
Tochigi	12	9	11		5		2	4	3		5	4	4	7	8	5	1	5	6	1	3	4	2	3	104
Gunma	18	17	13		15		7	8	5	9	8	4	10	4	4	4	5	5	3	5	5	7	12	7	175

Saitama	16	31	29		13		11	16	23	19	12	6	6	15	9	15	7	5	16	16	11	9	10	9	304
Chiba	18	19	18		21		11	24	15	25	18	14	12	18	18	16	16	12	21	16	11	28	7	15	373
Tokyo	17	15	21		16		15	15	20	12	17	14	11	9	16	10	10	9	23	8	10	11	11	7	297
Kanagawa	14	34	38		36		42	36	33	30	29	16	37	33	27	25	26	30	16	24	17	17	20	11	591
Niigata	18	18	17		8		10	17	12	3	7	9	8	6	4	9	1	4	5	8	4	3	7	8	186
Toyama	9	10	3		3		5	2	5	5	1	7	2		4	4	5	5	5	1	3	6	2	5	92
Ishikawa	5	8	6		2		4	4	2	2		5	3	3		1	1	2	5	3	2	3	5	2	68
Fukui	10	8	2		5		4	1	2	2	2	3	2	3	1	1	7			2	2	2		2	61
Yamanashi	10	9	10		2		3		3	1		1	1	2	1	4	1	4	1	5			1	5	64
Nagano	23	13	9		16		10	5	3	10	8	4	6	2	5	6	5		8	3	8	5	5	6	160
Gifu	33	20	24		8		2	2	8	3	2	8	3	2	4	7	7	3	4	2	8	6		2	158
Shizuoka	25	25	14		13		11	15	16	13	10	11	15	11	12	14	12	6	6	14	12	7	12	8	282
Aichi	26	15	15		10		16	9	15	13	18	10	12	11	11	12	12	15	13	8	7	7	13	14	282
Mie	22	8	11		10		10	11	12	13	12	5	7	6	8	7	8	8	8	9	6	4	11	15	211
Shiga	2	5	9		5		9	3	5	7	1			3	3		2				3	7	1	3	68
Kyoto	18	10	6		3		7	9	10	8	6	4	5	3	3	3	2	1	4	2	1	1	3	4	113
Osaka	13	14	14		18		8	15	23	27	23	14	7	7	8	9	5	8	11	4	6	8	14	5	261
Hyogo	33	36	27		30		32	21	11	16	8	11	11	9	11	17	8	9	15	15	9	6	4	6	345
Nara	32	16	10		17		6	12	6	14	8	4	8	9	3	5	2	7	5	5	2	1	8	1	181
Wakayama	26	7	12		9		10	13	11	9	5	7	6	3	9	7	4	8	2	4	3	2	1	6	164
Tottori	2	1	2		8		3	2	3	1	1	4	3	4	1	3									38

Shimane	10	9	14		6		4	5	3	1	2		1	2	2	1	1	1		1	4	1	1		69
Okayama	31	19	16		14		13	4	5	5	6	5	3	1	4	3	3	5	3	5	3	5	4	4	161
Hiroshima	24	13	15		12		13	8	12	10	4	4	8	7	11	6	2	3	6	1		12	4	3	178
Yamaguchi	7	12	9		10		7	9	5	13	3	1	3	5	6	7	4	6	4	6	7	8	6	4	142
Tokushima	2	7	3		4		4	4	1	6	2	1	2	1	3	3	4	3		1	1	8	1	1	62
Kagawa	4	6	2		6		5	2	2		3	5	3	6	2			6	5	2		4	4	4	71
Ehime	17	23	15		10		12	3	2		3	4	5	6	4	6	2	3	2	4	3	2	3	2	131
Kochi	7	10	15		6		3	9	7	3	4	4	1	7	3	1	1	3	4	6	4	4	4	2	108
Fukuoka	43	54	30		22		26	36	25	11	12	17	12	17	23	23	24	16	15	18	17	13	12	13	479
Saga	6	10	4		6		3	4	1	2	3	4	6	2	7	4	6	5	7	5	4	6	7	9	111
Nagasaki	17	21	19		11		9	2	3	8	6	1	2	4	5	6	5	3	2	6	9	3	2	7	151
Kumamoto	9	5	8		5		5	9	4	5	5	9	2	3	5	8		5	7	7	9	4	6	5	125
Oita	15	16	10		13		16	9	7	7	1	6	5	4	10	7	9	9	8	6	2	2	3	1	166
Miyazaki	5	7	5		4		5	6	2	4	3	4	4	2		2		2	1	4	9	2	5	7	83
Kagoshima	31	38	19		13		19	20	8	5	7	5	2	3	11	13	7	8	11	9	10	7	4	6	256
Okinawa	7	1			4		4	3	5	5	2	4	7	1		5	2	3	5	2	4	2	3	3	72
total	762	684	594	576	482	438	434	448	401	384	330	292	289	294	321	337	269	273	315	293	278	298	289	287	9,368

Fatal and non-fatal accidents mean fatal and non-fatal injuries and occupational diseases with work absence of 4 days and more.

Data of 2022 year do not include Covid-19 cases. Data of 2020 & 2021 year include Covid-19 cases. Fatal and non-fatal data are same situation.

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.html (MHLW, Japan)

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Fatal accidents in land consolidation civil engineering work in Japan in 1999-2022

land consolidation civil engineering work industry Code No.030109

Type of fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
fall from height	6	5	2	1	3	3	2	3	4		1	1	1	1	1			1	3	2			1		41
falling to same level	1	3	1	1	1		1	1		1		2		1		1						1			15
crash	1																								1
struck by flying or falling object	1	1	1							1	1					1	1	1							8
collapse	3	3	1	4	1	3	6	1	3	1	1	1			1				4		2	2		4	41
crashed by	1	4	3	1	1	4	1	3		3	1	1		1		2	2		4	1	2	1		3	39
caught in/between	2	3	1	2		3		3	1	1	2			1	1	3	2		2	1	1	1	1		31
cut										1															1
injury to the sole of the foot																									

drown											1		2			2									5
contact to high/low-temperature	2	1				1		1		1											1			2	9
contact to harmful substance		1								1															2
electric shock								1																	1
explosion																									
burst																									
fire																									
traffic accident (public road)	4	2	4	1	3		2				1	1				1			1		2				22
traffic accident (others)																									
reaction to motion/improper motion																									
others			1				1						6												8
unclassifiable																									
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Causal agents (large) of fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
machine	6	8	2	2	3	5	3	8	3	4	5	2		2	1	4	1	2	5	1	3	2	1		73
crane, conveying machine	7	7	7	4	3	3	2	2	1	1	1	2		2		2	2		4		2		1	2	55
other equipment			1			1				1		1			1		1								6
temporary buildings, establishments	2		1	3					1	2			1						2	1					13
substance, material		2		1																					3
load	1		1																						2
environment	5	6	1		3	5	8	3	3	2	2	1	8		1	4	1		3	2	3	3		7	71
others			1																						1
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Causal agents (middle) of fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
engine																									
power transmission mechanism																									

woodworking machine										1											1				2
construction machine	6	8	2	1	3	5	3	8	3	3	5	2		2	1	4	1	2	5	1	2	2	1		70
metal manufacturing machine																									
general machine				1																					1
mobile silviculture machine																									
crane		1	2	2								1					1						1	1	9
conveying machine	6	4	5	1	2	3	1	2	1	1	1	1		2		2	1		3		1			1	38
vehicle	1	2		1	1		1												1		1				8
pressure vessel																									
chemical facilities																									
welding equipment																									
kiln, caldron																									
electric equipment																									
human power machine, tools																									
tools			1			1				1		1			1		1								6
other equipments,																									

facilities																									
temporary buildings, establishments	2		1	3					1	2			1						2	1					13
hazards, harmful substances		1																							1
materials		1		1																					2
load	1		1																						2
natural environment	5	6	1		3	5	8	3	3	2	2	1	8		1	4	1		3	2	3	3		7	71
other causal agent			1																						1
no causal agent																									
unclassifiable																									
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Causal agents (small) of fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
engine																									
power transmission mechanism																									

circular sawing machine																									
band sawing machine																									
wood planer machine																									
hollow chisel mortiser, wood borer																									
chamfering machine, router, woodworking milling machine																									
chain saw										1											1				2
other woodworking machines																									
leveling, transporting or loading machine	1	1		1	1	2	1	2	2	1	2							2	2	1		1			20
excavating machine	4	7	1		1	2	2	6	1	1	1	2		1	1	4			3		1	1			39
foundation work machine					1					1															2
hardening machine											1												1		2

demolition machine											1														1
vehicle for high lift work																									
other construction machines	1		1			1								1			1				1				6
lathe																									
drill press, milling machine																									
grinding machine, buffing machine																									
power press																									
forging pressure hammer																									
shearing machine																									
other metal manufacturing machines																									
centrifugal machine																									
mixer, grinder																									
roll machine (except printingroll machine)																									

injection molding machine																									
food manufacturing machine																									
printing machine																									
industrial robot																									
other general power machines				1																					1
felling machine																									
mobile logging machine																									
skyline yarding machine																									
other mobile silviculture machine																									
crane																							1		1
mobile crane		1	2	2								1					1							1	8
derrick crane																									
elevator, lift																									
cargo lifting appliance																									
gondola																									

lumberyard equipment, logging cableway																									
simple skyline yarding equipment																									
other powered crane																									
truck	4	2	4		2	1	1	1	1	1	1	1		1		2	1		1		1				25
forklift		1	1																						2
railway equipment																			1						1
conveyor																									
loader		1																							1
straddle carrier																									
rough terrain hauler	2			1		2		1						1					1					1	9
other powered conveying machines																									
cars, bus, motorcycle	1	2		1	1		1												1		1				8
railway vehicle																									
other vehicles																									
boiler																									

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

human power machine																									
hand tool																									
ladder			1			1						1			1										4
slinging tool										1							1								2
other tools																									
other equipment, facilities																									
scaffolding			1																						1
timbering																									
stairs, landing stage																									
opening																									
roof, beam, haze, crossbeam, principal rafter													1							1					2
working platform, boot board																									
passage																									
building, establishment	2			3					1	2									2						10
other temporary buildings,																									

establishments																									
explosive substance																									
inflammable substance																									
inflammable gas																									
harmful substance		1																							1
radiation																									
other hazards, harmful substances																									
metal material																									
lumber, bamboo		1		1																					2
stone, sand, substance																									
other materials																									
load	1		1																						2
machine/equipment as load																									
natural ground, rock	2	3			2	3	6	1	3			1			1				3		2	2		3	32
standing tree	1	2	1		1	1	1			1	1					2	1			1		1		2	16
water											1		8			2				1					12
abnormal																									

environment																									
high/cold temperature environment	2	1				1	1	1		1											1			2	10
other environments								1																	1
other causal agent			1																						1
no causal agent																									
unclassifiable																									
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Workers age of fatal accidents in land consolidation civil engineering work in 1999-2022

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
19 years old or less			1																1						2
20-29	2	5	2	1	2	1		2			1	1							2						19
30-39	1	3		2			2	2	1	3	1		1				1							1	18
40-49	4	5	2	2	1	3	1	3	1	1	2	2	2	1		4	2		1		2	1	1	1	42
50-59	7	4	5	3	1	8	4	4	5		1	1	4	1	2	1		1	2	1	2	1	1		59
60 years old or more	7	6	4	2	5	2	6	2	1	6	3	2	2	2	1	5	2	1	8	3	4	3		7	84
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Workers' number of workplace of fatal accidents in land consolidation civil engineering work in 1999-2022

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	2022	total
9 workers or less	9	12	8	6	6	6	4	9	4	7	4	6	4	1	2	6	3	1	6	1	5	4	2	5	121
10-29	9	9	3	2	3	5	4	4	4	2	4		5	3		1	2		7	2	2	1		3	75
30-49	1	1	3	2		3	4			1					1	2		1	1					1	21
50-99	2	1														1				1					5
100-299							1														1				2
300 workers or more																									
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Month of fatal accidents in land consolidation civil engineering work in 1999-2022

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
January	1	3		1		2	1	1						1		1			4		1	1			17
February	2	1		1	2				2	1	2			1		1			2		1	1			17
March	1	1	2	1	1		1	1		1	2	1	8			1	1			1	2				25
April	3	2	2	1	1	2	3	3								1						2		2	22
May	3	1	2	1	1	1		1	2	1					3		1						1	1	19
June		2	1				1	1	2					1		1			2	1	1				13

July	1	3	3		1	2		3		1	1			1			1		3	1					21
August	6	1	1	2		1				2	1					2			1		1			1	19
September		3				1	1	1	2	2	2	1						1				1		2	17
October	1	1		2	2	1		1		1		3				1	1		2		1				17
November		4	1		1	4	5					1	1			1	1	1		1	1		1	2	25
December	3	1	2	1			1	1		1						1								1	12
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

Prefecture of fatal accidents in land consolidation civil engineering work in 1999-2022

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
Hokkaido			1			1	4											1	2					1	10
Aomori																									
Iwate		1			1					1			6								1			1	11
Miyagi								1		1	1		2											1	6
Akita				1					1																2
Yamagata																		1							1
Fukushima			1				1									1								1	4
Ibaraki	1	1			1																1	1			5
Tochigi						1		1																	2
Gunma																									

Saitama					1	2		1		1							1								6
Chiba		1	1	2	1	1		1	1	1	1	1		1	1		1		1			1			16
Tokyo	2	1			1				1	1						1									7
Kanagawa		1	2			1		1	1		1	1									1				9
Niigata	1	1										1													3
Toyama																			2		1				3
Ishikawa							1												1						2
Fukui						1				1															2
Yamanashi																									
Nagano	2	2	1				1																		6
Gifu	1	1	1	1								1				1	1								7
Shizuoka	1		1					2			1			1	1	1				2					10
Aichi	1		2				1	1		1						1	1				1			2	11
Mie				2		1			1								1							2	7
Shiga		1		1																					2
Kyoto		1								1									3						5
Osaka		4																	2			1			7
Hyogo	2	4		1		1	1	2						1						1	1	1			15
Nara	1	1																							2
Wakayama				1		1																			2
Tottori																									

Shimane	1		2											1											4
Okayama	1	1				1		1							1										5
Hiroshima	1					1	1		1										1	1					6
Yamaguchi	1				1																				2
Tokushima											1					1									2
Kagawa																			1						1
Ehime	1		1																		1				3
Kochi	1					1			1		1												1		5
Fukuoka	1				2		1	1				1				1					1				8
Saga										1														1	2
Nagasaki					1	1	1				2														5
Kumamoto	1	1					1	1								1									5
Oita	1		1							1									1						4
Miyazaki									1							1							1		3
Kagoshima																1						1			2
Okinawa		1		1								1	1												4
total	21	23	14	10	9	14	13	13	8	10	8	6	9	4	3	10	5	2	14	4	8	5	2	9	224

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

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