quarrying industry Code No.0202

## Type of accidents in quarrying 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	115	99	107	77	88	75	87	76	78	71	74	55	60	49	61	78	62	48	56	61	59	65	80	1,681	fall from height
falling to same level	50	44	39	29	31	17	29	29	23	28	26	18	31	29	26	32	18	21	21	24	24	20	24	633	falling to same level
crash	38	29	19	31	18	17	20	23	23	6	11	17	10	6	13	7	11	10	7	17	9	5	9	356	crash
struck by flying or falling object	51	52	52	47	38	23	28	39	27	28	21	24	19	16	22	23	16	15	12	13	11	18	6	601	struck by flying or falling object
collapse	20	18	16	18	12	10	14	9	14	6	4	6	6	6	2	5	6	2	8	4	5	4	1	196	collapse
crashed by	30	20	20	23	27	18	25	28	18	15	11	22	7	9	11	8	11	8	12	12	12	11	11	369	crashed by
caught in/between	95	107	98	85	90	87	86	68	76	54	46	41	47	52	58	59	43	45	46	38	38	38	44	1,441	caught in/between
cut	6	9	13	16	2	7	3	5	7	5	4	1	1	4	2	5	3	3	8	5	5	6	1	121	cut
injury to the sole of the foot	2		1		1		1		2							1			1	1	1			11	injury to the sole of the foot
drown		1			1	1		1					1		1	1		1						8	drown
contact to high/low- temperature	16	5	6	3	5	5	7		3		1	2	2		2		1	3	3	1	4	6	2	77	contact to high/low- temperature

contact to harmful																									contact to
substance	2		1		1							1				2			1	1	1	1		11	harmful
																									substance
electric shock		2	2			2	1		1															8	electric shock
explosion	2		4										1	2					1	2				12	explosion
burst		2		1	2			1							2							1	2	11	burst
fire		1					1									1	1							4	fire
traffic accident (public	8	12	13	7	4	1	4	5	7	3	6		5	2	4		5	5	7	3	3	2	5	113	traffic accident
road)	0	12	13	,	4	I	4	5	/	3	0		3			2	3	5	/	3	3		3	113	(public road)
traffic accident	1		1	2		1		1				1		1	1	1	2							12	traffic accident
(others)	I		ľ			I		1																12	(others)
reaction to																									reaction to
motion/improper	29	22	19	14	15	23	17	10	10	12	11	11	12	7	9	9	13	5	9	9	14	12	15	307	motion/improper
motion																									motion
others	2	5		1	2	1	2	1	3	1	2	2	2		1		4	1	2	1			1	34	others
unclassifiable			1													1								2	unclassifiable
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	total

Causal agents (large) of fatal and non-fatal accidents in quarrying 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		Causal (L)
causar (L) agents		2000	2001	2002	2003	2004	2003	2000	2007	2000	2003	2010	2011	2012	2013	2014	2013	2010	2017	2010	2017	2020	2021	l 1	agents
machine	106	95	128	80	66	67	84	68	76	46	45	48	35	40	52	44	41	34	44	47	32	51	39	1,368	machine
crane, conveying																									crane,

machine	112	125	104	104	107	86	92	95	81	77	82	53	58	65	71	74	69	66	71	58	64	63	71	1,848	conveying
machine																									machine
athor aguinment	53	40	36	43	38	31	39	31	29	29	22	20	23	16	25	20	19	15	19	17	27	14	22	628	other
other equipment	33	40	30	43	30	31	39	31	29	29	22	20	23	10	23	20	19	13	19	17	27	14	22		equipment
tompovom buildings																									temporary
temporary buildings, establishments	81	58	56	40	45	37	43	41	42	30	30	31	36	21	34	50	30	24	28	40	36	22	36	891	buildings,
establistifferits																									establishments
substance material	55	46	43	47	36	33	38	32	34	28	13	21	18	19	13	17	9	17	12	16	9	9	11	576	substance,
substance, material	33	40	43	47	30	33	36	32	34	20	13	21	10	19	13				12	10	9		11	370	material
load	4	7	5	1	5	2	3	1	6	2	3	5	2		1	1	1		1	1	3	3	3	60	load
environment	42	45	32	30	28	28	20	23	16	13	15	16	26	16	16	23	20	7	15	8	10	20	11	480	environment
others	14	12	8	9	12	4	6	5	8	4	7	7	6	6	3	6	7	4	4	5	5	7	8	157	others
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	total

Causal agents (middle) of fatal and non-fatal accidents in quarrying 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	2					2						1				8	engine
power transmission mechanism	9	8	9	7	6	5	8	6	7	6	1	1	3	3	4	4	7	7	3	4	3	6	3	120	power transmission mechanism
woodworking machine		5	3	5	1	2	2		2		1	1	1	1		3	1	1		1	1	1		32	woodworking machine

construction machine	62	46	77	34	39	33	50	35	31	24	29	31	22	24	29	27	23	16	23	28	21	28	28	760	construction machine
metal manufacturing machine	1	2	2	5	2	4		2	2	3	1		1	2	3	1	1	1	1	1					metal manufacturing machine
general machine	34	34	37	28	18	23	23	24	32	13	13	15	8	8	16	9	9	9	16	12	7	16	8	412	general machine
mobile silviculture machine																			1					1	mobile silviculture machine
crane	6	6	9	11	3	2	2	6	8	5	2	3	6	3	2	8	4	5	5	1	6	8	4	115	crane
conveying machine	101	111	89	92	98	84	84	84	69	68	80	48	49	59	67	63	62	57	63	54	54	53	60	1,649	conveying machine
vehicle	5	8	6	1	6		6	5	4	4		2	3	3	2	3	3	4	3	3	4	2	7	84	vehicle
pressure vessel							1					1					1			1				4	pressure vessel
chemical facilities							1																	1	chemical facilities
welding equipment	6	1	1	1	1		2	1			1		1		1	1						2	1	20	welding equipment
kiln, caldron	1								1								1							3	kiln, caldron
electric equipment		3	1			3	1		1			1		1		1			1				1	14	electric equipment
human power machine,	19	13	13	14	8	7	7	11	7	6	4	5	6	3	6	8	6	6	5	4	7	2	3	170	human power

tools	19	10	15	21	16	13	21	13	13	16	11	6	8	9	10	6	8	7	11	11	12	8	14	278	tools
other equipments,	8	13	6	7	13	8	6	6	7	7	6	7	8	3	8	4	3	2	2	1	8	2	3		other equipments, facilities
temporary buildings, establishments	81	58	56	40	45	37	43	41	42	30	30	31	36	21	34	50	30	24	28	40	36	22	36		temporary buildings, establishments
hazards, harmful substances	4	3	3		2	5	2					1	1	3		1		3	3	2	2	1		36	hazards, harmful substances
materials	51	43	40	47	34	28	36	32	34	28	13	20	17	16	13	16	9	14	9	14	7	8	11	540	materials
load	4	7	5	1	5	2	3	1	6	2	3	5	2		1	1	1		1	1	3	3	3	60	load
natural environment	42	45	32	30	28	28	20	23	16	13	15	16	26	16	16	23	20	7	15	8	10	20	11	480	natural environment
other causal agent	5	2	1	2		1	3	1	3				2	1	1		2		1			2	1	28	other causal agent
no causal agent	8	10	6	6	12	3	3	4	5	4	7	6	4	5	2	5	5	4	3	5	5	5	7	124	no causal agent
unclassifiable	1		1	1								1				1								5	unclassifiable
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	total

Causal agents (small) of fatal and non-fatal accidents in quarrying 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	2					2						1				7	engine
power transmission mechanism		9	6	8	6	7	6	1	1	3	3	4	4	7	7	3	4	3	6	3	91	power transmission mechanism
circular sawing machine		1	1	1				1					1	1	1		1	1			9	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		2		1		1					1		1						1		7	chain saw
other woodworking machines						1			1	1			1								4	other woodworking machines
leveling, transporting or loading machine		34	15	23	17	13	9	11	11	12	8	9	9	8	4	12	11	8	15	14	243	leveling, transporting or loading machine
excavating machine		34	18	20	15	16	13	15	17	9	15	15	15	14	8	8	11	12	10	11	276	excavating machine
foundation work machine			1	2								1								1	5	foundation work

<u> </u>	السلا		 	 																		
hardening machine			1																		1	hardening machine
demolition machine		1	1	2	1			1	1			2	1			1	4	1	2		18	demolition machine
vehicle for high lift work																						vehicle for high lift work
other construction machines		8	3	3	2	2	2	2	2	1	1	2	2	1	4	2	2		1	2	42	other construction machines
lathe			1													1					2	lathe
drill press, milling machine						1	1							1	1						4	drill press, milling machine
grinding machine, buffing machine		2	1		1	1	1			1	2	2					1				12	grinding machine, buffing machine
power press																						power press
forging pressure					1																1	forging pressure hammer
shearing machine																						shearing machine
other metal manufacturing machines							1	1				1	1								4	other metal manufacturing machines
centrifugal machine												1									1	centrifugal machine
mixer, grinder		17	10	9	10	12	4	9	4	3	4	8	2	5	4	7	2	4	5	2	121	mixer, grinder
roll machine (except printingroll machine)				1																		roll machine (except printingroll machine)
injection molding																						injection molding

machine																						machine
food manufacturing																			1		1	food manufacturing machine
printing machine																						printing machine
industrial robot									1												1	industrial robot
other general power machines		20	8	13	14	20	9	4	10	5	4	7	7	4	5	9	10	3	10	6	168	other general power machines
felling machine																1					1	felling machine
mobile logging machine																						mobile logging machine
skyline yarding machine																						skyline yarding machine
other mobile																						other mobile
silviculture machine																						silviculture machine
crane		2	3	1	4	2	3		1	2	2	1	2	1	2	3	1	3	4		37	crane
mobile crane		1			2	5	1	1	1	4	1		6	3	2			3	2	1	33	mobile crane
derrick crane																						derrick crane
elevator, lift																						elevator, lift
cargo lifting appliance																						cargo lifting appliance
gondola																						gondola
lumberyard																						lumberyard
equipment, logging																				1	1	equipment, logging
cableway																						cableway

			<u></u>		$\square$		<u> </u>	<u> </u>			<u> </u>	<u> </u>			<u> </u>			<u> </u>		<u> </u>				
simple skyline yarding equipment																								simple skyline yarding equipment
other powered		6				1		1	1	1	1			1			1	2			2	2	19	other powered
truck		40		37		27	37	23	40	40	21	24	23	35	26	37	27	28	22	26	31	43	587	truck
forklift		1		3		1	1	2		2		1	1	1		2		1		1	1	1	19	forklift
railway equipment				1																			1	railway equipment
conveyor		43		53		51	42	39	28	33	25	21	33	30	35	21	24	30	25	22	20	15	590	conveyor
loader		3		2		4	3	2		3		2	2		1	1	3	3	5	3	1	1	39	loader
straddle carrier																								straddle carrier
rough terrain hauler																		1	1				2	rough terrain hauler
other powered conveying machines		2		2		1	1	3		2	2	1		1	1	1	3		1	2			23	other powered conveying machines
cars, bus,		4		6		5	5	4	2		1	3	2	1	3	1	4	3	2	4	1	6	57	cars, bus, motorcycle
railway vehicle																								railway vehicle
other vehicles		2				1			2		1		1	1		2			1		1	1	13	other vehicles
boiler																								boiler
pressure vessel						1										1			1				3	pressure vessel
other pressure vessels											1												1	other pressure vessels
chemical facilities						1																	1	chemical facilities
gas welding				1		1				1		1		1	1						2		8	gas welding

equipment																						equipment
arc welding equipment		1			1															1	3	arc welding equipment
other welding equipment				1																	1	other welding equipment
kiln, caldron						1								1							2	kiln, caldron
industrial dryer																						industrial dryer
other kiln, caldron																						other kiln, caldron
transmission											1									1	2	transmission
electric power facilities		1		1		1			1							1					5	electric power
other electrical equipment													1								1	other electrical equipment
human power cranes			3		1	2						3	2		3		1				15	human power cranes
human power				1														2			3	human power hauling equipment
human power		1						1				1						1			4	human power machine
hand tool		12	5	6	10	5	6	3	5	6	3	2	6	6	3	5	3	4	2	3	95	hand tool
ladder		8	6	10	6	3	8	4	4	6	7	8	1	5	4	6	4	9	4	8	111	ladder
slinging tool		5	3	4	2	4	3	4		1	1	1	1	1	2	2	4	2	2	1	43	slinging tool
other tools		2	7	7	5	6	5	3	2	1	1	1	4	2	1	3	3	1	2	5	61	other tools
other equipment,																						other equipment,

facilities		6	13	6	6	7	7	6	7	8	3	8	4	3	2	2	1	8	2	3	102	facilities
scaffolding		4	2	2	3	4	2		3	3	2		3	2	2		1	2	2	2	39	scaffolding
timbering																				1	1	timbering
stairs, landing stage		4	9	9	7	8	5	9	2	3	5	6	5	4	3	4	5	6	5	6	105	stairs, landing stage
opening		2	2		3	3	1	1	1	2			1	1		1		1		1	20	opening
roof, beam, haze, crossbeam, principal rafter		4	1	3	1	1	1	2	1	2	1		1				1			1	20	roof, beam, haze, crossbeam, principal rafter
working platform, boot board		10	7	6	4	2	4	4	5	2	1	5	8	6	7	4	7	6	4	7	99	working platform, boot board
passage		15	10	13	10	8	9	7	12	12	8	14	16	12	8	15	15	7	5	15	211	passage
building, establishment		10	9	6	10	13	7	2	5	9	3	5	7	2	3	3	6	7	6	3	116	building, establishment
other temporary buildings, establishments		7	5	4	3	3	1	5	2	3	1	4	9	3	1	1	5	7			64	other temporary buildings, establishments
explosive substance			1	2						1	1					2	1				8	explosive substance
inflammable substance		1																1	1		3	inflammable substance
inflammable gas											2										2	inflammable gas
harmful substance		1	1						1												3	harmful substance
radiation																						radiation
other hazards,		1											1		3	1	1	1			8	other hazards,

	 		 	$\square$			<u> </u>	<u> </u>	<u> </u>		<u> </u>		<u> </u>		<u> </u>	<u> </u>	<u> </u>				<u> </u>	<u> </u>	<u> </u>
metal material	8		12		14	16	9	11	2	8	6	6	4	7	5	5	6	9	3	3	8	142	metal material
lumber, bamboo	4		2			1	1	1	1	2	1				1	1			1			16	lumber, bamboo
stone, sand,	2	6	18		19	14	22	16	9	10	8	10	7	9	3	7	2	4	3	4	3	194	stone, sand,
substance																							substance
other materials	2		2		3	1	2		1		2		2			1	1	1		1		19	other materials
load	3		4		3	1	5	2	3	4	2			1			1	1	3	3	2	38	load
machine/equipment	2		1				1			1			1		1						1	8	machine/equipment
as load			•																				as load
natural ground,	2	0	19		14	18	12	10	11	10	13	10	9	13	14	3	10	3	8	13	5	215	natural ground,
rock																						213	rock
standing tree	2		5		1	1	3		2	2	2	2		1	2	1	2	1		1	1	29	standing tree
water						1					2		1			1		1			1	7	water
abnormal								1					1									2	abnormal
environment																							environment
high/cold																							high/cold
temperature	2		3		1					1	1		1		1			1		3	1	15	temperature
environment																							environment
other environments	8		1		4	3	1	2	2	3	8	4	4	9	3	2	3	2	2	3	3	67	other environments
other causal agent	1				3	1	3				2	1	1		2		1			2	1	18	other causal agent
no causal agent	6		12		3	4	5	4	7	6	4	5	2	5	5	4	3	5	5	5	7	97	no causal agent
unclassifiable	1									1				1								3	unclassifiable
total	4	12	337		325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	4,471	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	3	2	5	4	3	5	5	3						5	3	1	2			2		1	47	19 years old or less
20-29	54	56	42	26	22	22	18	18	21	15	12	10	9	8	19	10	9	12	8	11	11	11	9	433	20-29
30-39	60	48	51	54	43	45	51	59	32	37	31	31	39	26	22	37	28	23	18	18	17	16	22	808	30-39
40-49	96	88	95	72	72	60	61	56	65	43	45	42	40	54	42	49	45	35	49	44	46	40	26	1,265	40-49
50-59	165	146	146	121	125	104	127	107	106	79	73	54	60	56	58	66	49	38	54	49	50	50	66	1,949	50-59
60 years old or	89	87	76	76	71	54	63	51	65	55	56	64	56	39	69	70	64	57	65	70	60	72	77	1,506	60 years old or
more		07																						'	more
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	total

Workers' number of workplace of fatal and non-fatal accidents in quarrying 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	186	152	133	141	139	125	133	114	117	88	87	86	90	74	81	87	80	55	68	54	42	64	65	2,261	9 workers or less
10-29	215	202	214	154	159	130	148	151	138	119	113	92	90	85	100	119	92	87	102	108	103	97	100	2,918	10-29
30-49	55	57	50	47	30	25	31	26	32	19	12	19	22	19	27	23	21	20	15	24	32	22	22	650	30-49
50-99	7	17	13	12	9	7	10	4	2	2	4	3	2	4	6	4	3	3	7	6	3	3	12	143	50-99
100-299	4		2			1	2	1	3	1	1	1		1	1	2		2	2		6	3	2	35	100-299
300 workers or							1																	1	300 workers or
more							•																	•	more
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	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	34	29	38	23	26	29	21	20	26	17	23	15	17	14	16	15	13	14	12	16	19	14	18	469	January
February	34	40	36	28	38	32	30	26	26	17	8	7	24	20	15	23	23	14	14	11	15	16	16	513	February
March	28	38	48	32	26	22	24	24	26	23	19	23	18	22	15	19	17	19	16	21	14	14	16	524	March
April	38	35	31	28	27	22	29	23	30	25	14	15	17	14	17	26	10	14	19	11	11	21	18	495	April
May	42	34	30	24	35	20	23	26	23	21	15	19	8	13	23	14	19	11	19	15	11	11	15	471	May
June	45	35	29	34	24	26	30	29	18	21	24	13	32	14	17	24	18	17	18	21	16	14	24	543	June
July	48	36	33	19	26	24	31	23	26	22	23	20	13	14	15	15	15	21	18	14	18	14	19	507	July
August	36	36	25	31	34	25	32	37	26	17	18	19	10	14	17	16	19	12	15	13	10	14	16	492	August
September	49	28	37	36	26	27	20	26	28	17	23	22	17	10	15	17	17	5	16	15	19	18	9	497	September
October	32	41	39	27	21	26	36	21	21	23	24	17	13	17	19	22	12	15	18	21	21	18	22	526	October
November	38	42	41	37	28	16	29	25	21	14	12	16	20	20	21	26	14	13	18	16	16	15	11	509	November
December	43	34	25	35	26	19	20	16	21	12	14	15	15	11	25	18	19	12	11	18	16	20	17	462	December
total	467	428	412	354	337	288	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	6,008	total

## Prefecture of fatal and non-fatal accidents in quarrying 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	43	41	27		25		28	23	21	15	23	22	25	18	23	24	24	14	21	18	24	23	24	506	Hokkaido
Aomori	8	5	10		10		5	3	3	4	5	5	4	3	2	3	1	3	2	1	4	2	4	87	Aomori
lwate	12	4	11		7		7	7	6	7	5	6	2	3	5	6	5	7	5	2	2	4	8	121	lwate

Miyagi	6	6	7	4	10	12	3	3	7	2	6	7	7	13	15	7	8	9	4	3	6	145	Miyagi
Akita	9	11	6	7	6	8	4		2	3	3	3	5	6	3	2	2	5	6	2	3	96	Akita
Yamagata	13	18	14	9	8	6	6	4	1	5	5	4	5	5	3	6	4		6	5	5	132	Yamagata
Fukushima	10	15	4	14	12	8	5	5	2	4	3	4	9	7	6	8	9	11	4	5	5	150	Fukushima
Ibaraki	13	13	9	11	11	6	9	9	5	7	6	8	3	4	6	5	5	7	6	10	6	159	Ibaraki
Tochigi	9	10	10	10	12	10	13	13	7	7	11	8	10	6	3	6	4	8	7	6	8	178	Tochigi
Gunma	9	8	10	7	3	3	4	6	4	2	3	2	4	1		2	3	2	1	1	1	76	Gunma
Saitama	6	9	1	2	3	1	5	1	1	4	2	1	1	1		1	3	3	1		1	47	Saitama
Chiba	6	8	3	3	1	3	6	2	2	4	4	3	4	1	2	3	4	5	4	3	2	73	Chiba
Tokyo	8	8	4	2	3	4	5	1	3	1	3	4	2	2	2	1	2	3		2	2	62	Tokyo
Kanagawa	6	4	8	5	1	4	3	4	1	2	1	1	2	5	2	1	2	1	1	4	2	60	Kanagawa
Niigata	13	15	13	13	10	11	9	8	3	4	5	10	7	5	6	5	4	6	5	3	17	172	Niigata
Toyama	7	4	9	2	8	1		4	5	4	4	1	4	4	3	1	2	3	1	1	2	70	Toyama
Ishikawa	5	2	6	7	6	1	1	1	3	1	4	1	4	2	3	1	3		1	2	2	56	Ishikawa
Fukui	7	10	1	2	2		2			1	2	2	2	1	4	3	4	2		3		48	Fukui
Yamanashi	9	3	6	7	7	3	6	4	2	4	4	3	2	4	1	1	2	3	2	3	4	80	Yamanashi
Nagano	18	8	15	11	7	4	10	8	10	6	4	2	5	4	4	2	3	6	10	8	7	152	Nagano
Gifu	14	15	13	13	13	12	10	11	5	3	5	4	2	7	5	8	4	11	6	5	4	170	Gifu
Shizuoka	16	6	8	15	8	12	13	14	16	4	6	11	5	9	4	3	9	7	6	3	7	182	Shizuoka
Aichi	12	13	17	10	6	6	6	9	6	6	6	12	7	9	2	5	2	7	6	8	5	160	Aichi
Mie	11	29	26	17	10	5	4	8	5	5	3	4	10	10	9	6	4	7	6	5	10	194	Mie
Shiga	2	3	5	5	2	3	2	1	2	2	3		2		2	1	1		1	2		39	Shiga
Kyoto	7	4	8	11	6	3	5	3	1	1	3	3	6	6	5	2	8	2	1	6	3	94	Kyoto

Osaka	5	3	7	2	3		4	4	1	3	3	3	1		5	3	6	2	2	3	1	61	Osaka
Hyogo	21	15	20	6	13	9	12	7	10	13	8	10	6	11	6	3	5	2	7	11	9	204	Hyogo
Nara	1	1		2	2	4	3	1	1		2	2	2	1	4	3			4	1		34	Nara
Wakayama	4	4	4	2	2	2	2	1	1		2	1	2	1	2	3	1	1	1	2	2	40	Wakayama
Tottori	3	4	2	5	4	1	2	1	1	2	1		1	1		2	1	2		1		34	Tottori
Shimane	9	7	4	5	7	3	7	5	5	4	5	2	2	1	3	3	1	4	2	2	3	84	Shimane
Okayama	9	11	11	8	10	9	12	7	6	4	6	6	9	8	5	7	10	5	4	6	8	161	Okayama
Hiroshima	15	17	12	8	8	6	12	2	6	3	5	3	8	7	5	2	7	8	6	5	4	149	Hiroshima
Yamaguchi	5	7	7	6	3	8	4	1	4	5	1	3	3	5	5	3	1	2	1	3	3	80	Yamaguchi
Tokushima	1	7	3	3	1	4	2	1	4	1	1	2	1	3	1	1	5	2	3	3	2	51	Tokushima
Kagawa	18	7	9	8	11	7	7	7	5	3		1	2	4	2	6	4	3	4	3	1	112	Kagawa
Ehime	14	11	15	16	17	15	14	8	11	11	13	6	13	13	9	4	4	6	3	4	4	211	Ehime
Kochi	7	1	6	1	3	2	4	2	2	2	1	1		1		1	1	1	3	2		41	Kochi
Fukuoka	18	12	13	7	3	13	6	8	8	6	8	4	5	6	6	5	4	5	5	3	7	152	Fukuoka
Saga	6	3	7	3	1	5	2	4	2	4	1	2	1	3	4	1	1	4	2	2	4	62	Saga
Nagasaki	10	6	7	3	7	6	6	4	5	2	5	1	4	6	2	2	4	2	7	5	2	96	Nagasaki
Kumamoto	20	23	11	10	12	18	8	8	10	10	5	8	5	5	6	5	7	5	11	7	3	197	Kumamoto
Oita	9	6	4	5	8	8	5	6	2	3	3	1	3	6	4	5	1	2	2	2	2	87	Oita
Miyazaki	6	3	11	1	3	6	4	3	4	6	2	1	3	3	4		4	1	2	2	5	74	Miyazaki
Kagoshima	7	8	7	7	10	11	15	4	3	4	5	4	5	4	3	4	6	5	2	3	2	119	Kagoshima
Okinawa			1		2								1	1			1	1			1	8	Okinawa
total	467	428	412	337	325	296	292	229	217	201	204	183	215	235	196	167	194	192	186	189	201	5,366	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>

\_\_\_\_\_\_

Fatal accidents in quarrying in Japan in 1999-2021

quarrying industry Code No.0202

Type of fatal accidents in quarrying 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	7	2	12	6	2	5	4	3	5	3	7	2	6	2	2	4	3	1	5	1	2	1	4	89	fall from height
falling to same level				1				1						1	1						1	1		6	falling to same
crash						1	1																	2	crash
struck by flying or falling object	4	2	2	1			2			1									2			1		15	struck by flying or falling object
collapse	5	4	4	3	3	2	3	3			1			1		2	2	1	2		2	2		40	collapse
crashed by	2			2			2	3	1			1			1				2			1		15	crashed by
caught in/between	4	9	4	3	3	4	4	4	3	3	1	1	4	1	3	5	2	2	2		4	2	7	75	caught in/between
cut																									cut

		-	-	1					-					-	1	-	-	-	-	:	-				
injury to the sole of																									injury to the sole
the foot																									of the foot
drown		1			1	1		1					1		1	1		1						8	drown
contact to high/low-																									contact to
temperature																	1							1	high/low-
temperature																									temperature
contact to harmful																									contact to
substance																									harmful
Substance																									substance
electric shock		1	1			1																		3	electric shock
explosion	1													1						1				3	explosion
burst																									burst
fire																1								1	fire
traffic accident (public	_																								traffic accident
road)	1	1		I	I				I								2				I			8	(public road)
tureffice a caid and (ath and																									traffic accident
traffic accident (others)																									(others)
reaction to																									reaction to
motion/improper																									motion/improper
motion																									motion
others		1							1				1					1						4	others
unclassifiable																									unclassifiable
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2 201	3 2014	2015	2016	2017	2018	2019	2020	2021	total	Causal (L) agents
machine	8	6	9	6	2	5	4	4	3	3	3	1	6	1	3	6	2	1	3		2	2	5	85	machine
crane, conveying machine	5	6	3	5	4	3	4	6	7	3	5	2	2	2	2	2	4	2	5		5	3	5	85	crane, conveying machine
other equipment		2	4		1	2										1	1							11	other equipment
temporary buildings, establishments	1	1	1	1		1	2						1	1	1	2	1		2		1		1	17	temporary buildings, establishments
substance, material	3	2	1		1		2	2				1		1				1	1	1		2		18	substance, material
load																									load
environment	7	4	5	5	2	3	4	3		1	1		3	1	2	2	2	1	2	1	2	1		52	environment
others									1									1						2	others
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total

Causal agents (middle) of fatal accidents in quarrying in 1999-2021

Causal (M) agents	1000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2000	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	total	Causal (M)
ausai (M) ageilts	1999	2000	2001	2002	2003	2004	2003	2000	2007	2008	2009	2010	2011	2012	2013	2014	2013	2010	2017	2010	2019	2020	2021	totai	agents

engine																								engine
power transmission mechanism																								power transmission mechanism
woodworking machine																								woodworking machine
construction machine	7	2	6	6	1	5	4	2	3	3	3	1	6	1	2	5	2	1	3	2	2	4	71	construction machine
metal manufacturing machine																								metal manufacturing machine
general machine	1	4	3		1			2							1	1						1	14	general machine
mobile silviculture machine																								mobile silviculture machine
crane				1																			1	crane
conveying machine	4	6	3	4	3	3	4	6	7	3	5	2	2	2	2	2	4	2	5	5	3	3	80	conveying machine
vehicle	1				1																	2	4	vehicle
pressure vessel																								pressure vessel
chemical facilities																								chemical facilities
welding equipment			1													1							2	welding equipment

										<u> </u>															<u> </u>
kiln, caldron																									kiln, caldron
electric equipment						1																		1	electric equipment
human power machine,																									human power
tools																									machine, tools
tools		1	2			1											1							5	tools
other equipments,		1	1		1																			3	other equipments, facilities
temporary buildings, establishments	1	1	1	1		1	2						1	1	1	2	1		2		1		1	17	temporary buildings, establishments
hazards, harmful substances	1						1							1					1	1				5	hazards, harmful substances
materials	2	2	1		1		1	2				1						1				2		13	materials
load																									load
natural environment	7	4	5	5	2	3	4	3		1	1		3	1	2	2	2	1	2	1	2	1		52	natural environment
other causal agent																									other causal agent
no causal agent									1									1						2	no causal agent
unclassifiable																									unclassifiable
																							===		

total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total	
-------	----	----	----	----	----	----	----	----	----	---	---	---	----	---	---	----	----	---	----	---	----	---	----	-----	-------	--

Causal agents (small) of fatal accidents in quarrying 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																									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	2	1	4	4	1	2		2	2	2			5		1	3		1		2	2	3	37	transporting or
loading machine																								loading machine
excavating machine	4	1	2	2		2	4		1		3	1	1		1	2	2		3			1	30	excavating machine
foundation work																								foundation work
machine																								machine
hardening machine																								hardening machine
demolition machine	1					1																	2	demolition machine
vehicle for high lift																								vehicle for high lift
work																								work
other construction														1										other construction
machines														I									2	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	1	2	2		1		1				1	1				1	10	mixer, grinder
roll machine (except printingroll machine)																		roll machine (except printingroll machine)
injection molding machine																		injection molding
food manufacturing machine																		food manufacturing
printing machine																		printing machine
industrial robot																		industrial robot
other general power machines		2	1				1										4	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	mobile crane
derrick crane																		derrick crane
elevator, lift																		elevator, lift

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	2	2	2	2	2	1	3	2	4	2	4	1	2	1		1	3	1	1	3		2	41	truck
forklift								1	1										1		1		4	forklift
railway equipment																								railway equipment
conveyor	2	4	1	2	1	2	1	3	2	1	1	1		1	2	1	1	1	2	2	2	1	34	conveyor
loader																								loader
straddle carrier																								straddle carrier
rough terrain hauler																			1				1	rough terrain hauler
other powered																								other powered
conveying machines																								conveying machines
cars, bus,	1				1																	,	4	cars, bus,
motorcycle	I				I																	2	4	motorcycle
railway vehicle																								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		1												1	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				1										1	transmission
electric power															electric power
facilities															facilities
other electrical															other electrical
equipment															equipment
human power															human power
cranes															cranes
human power															human power
hauling equipment															hauling equipment
human power															human power
machine															machine

hand tool																				hand tool
ladder														1					1	ladder
slinging tool		1	2																3	slinging tool
other tools						1													1	other tools
other equipment,		1	1		1														3	other equipment,
scaffolding																				scaffolding
timbering																				timbering
stairs, landing stage															1				1	stairs, landing stage
opening						1								1					2	opening
roof, beam, haze, crossbeam, principal rafter																				roof, beam, haze, crossbeam, principal rafter
working platform, boot board							1					1	1						3	working platform, boot board
passage	1			1									1					1	4	passage
building, establishment		1	1							1	1				1		1		6	building, establishment
other temporary buildings, establishments							1												1	other temporary buildings, establishments
explosive substance	1						1								1	1			4	explosive substance
inflammable substance																				inflammable substance

inflammable gas													1									1	inflammable gas
harmful substance																							harmful substance
radiation																							radiation
other hazards,																							other hazards,
harmful substances																							harmful substances
metal material	1							1														2	metal material
lumber, bamboo											1											1	lumber, bamboo
stone, sand,	1		1		1		1	1									1				_	10	stone, sand,
substance	ı	2	I		I		I	I									I				2	10	substance
other materials																							other materials
load																							load
machine/equipment																							machine/equipment
as load																							as load
natural ground,	7	4	5	5	2	2	4	2	1	1		1	1		2			1	1	2	1	42	natural ground,
rock	,									'			<u> </u>								•	TZ	rock
standing tree																1		1				2	standing tree
water						1		1				2		1			1					6	water
abnormal																							abnormal
environment																							environment
high/cold																							high/cold
temperature																1						1	temperature
environment																							environment
other environments														1								1	other environments
other causal agent																							other causal agent

		<u> </u>																							
no causal agent									1									1						2	no causal agent
unclassifiable																									unclassifiable
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total

Workers age of fatal accidents in quarrying 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	1	2	2		2			2					2	1	1	2						1		16	20-29
30-39	3	1	2	2		4	2	2	1	1	2					1				1	1			23	30-39
40-49	2	5	2	8	4		4	1	1	1	3		3	1	1		1	1	2		1	2	2	45	40-49
50-59	11	8	9	4	2	6	7	8	7	3	1	2	2	2	1	4	5	3	4		3	1	3	96	50-59
60 years old or more	7	5	8	3	2	4	3	1	2	2	3	2	5	2	5	6	4	2	7	1	5	4	6	89	60 years old or more
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total

Workers' number of workplace of fatal accidents in quarrying 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	5	12	5	5	3	6	5	3	4	1	2	2	4	3	3	6	4	3	9	1	3	5	1	95	9 workers or less
10-29	17	8	13	9	5	8	10	11	6	6	6	2	7	2	5	6	5	2	3	1	6	3	6	147	10-29
30-49	2	1	4	3	2		1		1		1		1	1		1	1	1			1		1	22	30-49
50-99								1											1				3	5	50-99
		$\overline{}$							$\Box$	$\overline{}$		$\Box$							$\Box$	$\overline{}$				i	

100-299			1																					1	100-299
300 workers or																									300 workers or
more																									more
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	total

## Month of fatal accidents in quarrying 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	3	4	3	1		2	2	2			1				2			1	1		1		1	24	January
February		2	4	2	3		3						1		1	1	2	1	2		1	1		24	February
March		1	3	2		1				1	1		2	1	1	2	1				2			18	March
April	2	3		1	1	2	2	4	2			1		1		2	1	1	2			1	1	27	April
May	2			1		2	2		1	2		1	1	1		1			1			1		16	May
June	5	1	1		1		1	1	1	1	4		3	1			1	1	2			1	2	27	June
July	1		2	1	1		2	3	2	1	1	1	1	1	1	1	2		1		1			23	July
August	3	2	1	2	1	4		1	1	1			1			1	1	1		1			2	23	August
September	2		2	2		2	2	1	1				1				2		1	1	2	1		20	Septembe
October	1	1	4	1	1		1	2				1			2	1			2		3		2	22	October
November	3	3	2	3	1	1	1		1				2			3		1	1			2	2	26	November
December	2	4	1	1	1			1	2	1	2			1	1	1						1	1	20	December
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	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	2	1	3	1	1	1	1	1		1			3		1	1	2	1	2			1	1	24	Hokkaido
Aomori											1					1								2	Aomori
lwate		1		1				1	1		1		1		1	1							1	9	lwate
Miyagi	1						2	1			1		1				1						1	8	Miyagi
Akita	3	1		1				1			1				1	1								9	Akita
Yamagata		1	3											1								1		6	Yamagata
Fukushima	1	1					1		1	1					1				2					8	Fukushim
Ibaraki		2			1	2	2					1	1			1			1	1				12	Ibaraki
Tochigi	1							1							1	1		2			2		1	9	Tochigi
Gunma								1						1										2	Gunma
Saitama	1																							1	Saitama
Chiba		3				1						1			1	1			1		1			9	Chiba
Tokyo				1																				1	Tokyo
Kanagawa					2					1								1						4	Kanagawa
Niigata			2		2	1		1	2				1										2	11	Niigata
Toyama				1																				1	Toyama
Ishikawa	2																		1				1	4	Ishikawa
Fukui	1	2				1			1				1											6	Fukui
Yamanashi			1				1																1	3	Yamanasl
Nagano				1												1								2	Nagano
Gifu				1					1															2	Gifu

Shizuoka		2		1		1	1			1									1		1	1		9	Shizuoka
Aichi	1		1	1			1			1			1	1		1						1		9	Aichi
Mie	1		1										1	1		1	2							7	Mie
Shiga	1	1																						2	Shiga
Kyoto					2		1	1	1		1						2					1	1	10	Kyoto
Osaka													1	1			1		1					4	Osaka
Hyogo			2			1			1		1	1						1						7	Hyogo
Nara							1																	1	Nara
Wakayama							1																	1	Wakayama
Tottori					1		1																	2	Tottori
Shimane		1			1					1					1									4	Shimane
Okayama	1		2																3					6	Okayama
Hiroshima	3			1				2			1					1					1	1		10	Hiroshima
Yamaguchi		1															1	1				1		4	Yamaguchi
Tokushima				1			1																	2	Tokushima
Kagawa						1		1						1										3	Kagawa
Ehime			1	1			1								1	1					1			6	Ehime
Kochi			1			1	1				1										1			5	Kochi
Fukuoka			4	1		1		2															1	9	Fukuoka
Saga		1	1																				1	3	Saga
Nagasaki								1					1						1	1	1			5	Nagasaki
Kumamoto	1	2		1		1				1	1										1			8	Kumamoto
Oita	3			1													1				1			6	Oita

Miyazaki	1		1			1			1							1						1		6	Miyazaki
Kagoshima		1		2		1		1	2			1												8	Kagoshima
Okinawa																									Okinawa
total	24	21	23	17	10	14	16	15	11	7	9	4	12	6	8	13	10	6	13	2	10	8	11	270	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)

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