

Industrial accidents in tunnel construction work in Japan in 1999-2020

tunnel construction work industry Code No.030102

Type of accidents in tunnel construction work in 1999-2020

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
fall from height	24	18	30	20	14	22	21	15	22	20	13	8	6	12	10	10	5	10	10	7	13	9
falling to same level	6	7	12	9	7	2	4	8	5	5	7	3	4	4	4	4	8	4	6	6	9	7
crash	3	8	7	9	3	4	3	8	3	5	3	0	4	2	1	3	3	9	5	4	3	0
struck by flying or falling object	32	24	26	25	14	13	25	22	9	15	12	14	9	14	9	3	13	13	13	12	10	14
collapse	17	17	11	18	10	6	8	10	7	7	10	5	4	8	4	8	7	11	9	8	4	2
crashed by	12	20	16	6	14	6	14	6	7	12	7	5	10	8	7	6	6	5	3	7	7	7
caught in/between	34	32	27	17	22	20	16	17	25	19	18	12	13	12	18	9	22	12	12	15	16	23
cut	2	3	2	2	4	4	3	3	1	1	2	2	1	1	1	2	1	1	4	0	0	1
injury to the sole of the foot	0	0	2	-	0	-	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
drown	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
contact to high/low-temperature	1	2	1	1	1	1	1	0	3	2	0	2	1	4	1	0	0	1	1	2	2	0
contact to harmful substance	1	7	6	8	1	6	5	0	2	3	1	2	1	1	0	0	0	1	2	0	6	2
electric shock	0	0	0	-	0	-	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
explosion	0	2	0	-	0	-	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0
burst	1	0	0	-	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0
fire	0	1	1	-	1	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
traffic accident (public road)	3	4	4	12	15	3	8	3	1	1	3	6	3	1	2	1	0	3	0	4	0	1
traffic accident (others)	0	0	0	-	0	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
reaction to motion/improper motion	4	5	4	3	2	2	4	2	1	1	2	2	4	1	2	1	0	2	3	3	5	4
others	0	1	0	-	0	1	1	22	0	0	0	1	0	0	0	1	1	2	11	0	2	16

unclassifiable	1	0	0	-	1	-	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	
total	141	151	149	130	109	92	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86

Causal agents (middle) of industrial accidents in tunnel construction work in 1999-2020

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
engine	0	0	0	-	0	-	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
power transmission mechanism	0	0	0	-	0	-	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
woodworking machine	1	1	1	1	2	4	2	1	1	1	0	0	1	1	1	0	0	2	2	0	0	0
construction machine	32	44	35	19	29	21	18	17	14	18	13	10	14	10	12	11	12	19	13	15	10	17
metal manufacturing machine	1	1	0	-	0	-	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	1
general machine	6	6	5	2	0	2	1	1	5	3	1	1	0	3	1	2	1	0	1	0	1	0
mobile silviculture machine																	0	0	1	0	0	0
crane	5	7	9	3	5	6	5	8	3	5	1	2	3	2	4	1	6	3	3	2	3	3
conveying machine	21	17	9	18	11	10	12	9	9	9	17	6	9	9	10	4	12	5	5	10	4	11
vehicle	1	2	4	4	7	3	8	3	1	2	0	5	1	0	1	2	0	3	0	4	0	1
pressure vessel	1	0	0	-	1	-	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
chemical facilities	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
welding equipment	1	1	0	-	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kiln, caldron	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
electric equipment	0	0	0	-	0	-	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
human power machine, tools	6	0	1	7	2	-	3	2	3	4	3	2	2	1	1	1	1	1	2	2	2	2
tools	2	7	5	5	7	2	8	7	4	5	4	3	0	5	2	0	1	6	3	4	5	3
other equipments, facilities	1	3	5	4	1	1	4	3	1	0	0	1	0	0	0	3	1	2	4	2	1	2
temporary buildings,	18	20	37	26	13	16	17	20	17	18	14	10	13	20	13	10	14	8	13	6	17	14

establishments																							
hazards, harmful substances	0	3	4	7	1	6	5	1	2	6	1	2	0	7	0	0	0	1	0	0	2	2	
materials	16	11	13	8	11	9	15	10	7	9	6	5	7	3	5	7	7	3	6	8	15	6	
load	1	4	3	-	0	-	2	1	5	0	1	0	1	1	0	0	2	2	0	2	2	0	
natural environment	27	22	18	24	15	10	13	33	11	14	14	11	7	9	8	7	9	15	14	12	10	8	
other causal agent	1	0	0	-	0	-	0	1	0	0	1	1	0	0	0	0	0	2	9	0	2	15	
no causal agent	0	2	0	1	2	1	0	0	2	1	1	0	1	1	0	0	2	2	0	1	4	1	
unclassifiable	0	0	0	1	1	-	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	
total	141	151	149	130	109	92	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86	

Causal agents (small) of industrial accidents in tunnel construction work in 1999-2020

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
engine			0		0		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
power transmission mechanism			0		0		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
circular sawing machine			1		2		2	1	1	1	0	0	0	0	1	0	0	2	2	0	0	0
band sawing machine			0		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
wood planer machine			0		0		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
hollow chisel mortiser, wood borer			0		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chamfering machine, router, woodworking milling machine			0		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chain saw			0		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other woodworking machines			0		0		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
leveling, transporting or loading machine			0		3		1	1	2	1	1	1	0	1	0	1	2	5	0	1	0	1
excavating machine			12		4		6	5	1	6	2	0	3	3	5	4	6	0	2	5	3	1





equipment																						
arc welding equipment			0	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other welding equipment			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kiln, caldron			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
industrial dryer			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other kiln, caldron			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
transmission			0	0		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
electric power facilities			0	0		0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
other electrical equipment			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
human power cranes			0	0		0	2	0	1	0	1	0	1	1	0	0	0	1	0	0	0	0
human power hauling equipment			0	1		1	0	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0
human power machine			0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
hand tool			1	1		2	0	1	2	3	1	2	0	1	1	1	1	2	1	2		2
ladder			3	2		3	2	3	2	1	1	0	2	1	0	0	4	0	0	4	1	
slinging tool			0	1		3	0	0	1	3	1	0	1	0	0	1	0	1	0	0	1	
other tools			2	4		2	5	1	2	0	1	0	2	1	0	0	2	2	4	1	1	
other equipment, facilities			5	1		4	3	1	0	0	1	0	0	0	3	1	2	4	2	1	2	
scaffolding			4	3		2	2	2	4	1	1	5	3	0	2	0	2	2	0	2	0	
timbering			9	2		3	2	2	0	1	0	1	6	3	0	5	1	2	2	1	0	
stairs, landing stage			2	0		0	1	2	1	3	0	0	2	1	0	2	1	1	0	0	0	
opening			2	0		2	1	1	1	0	0	0	2	0	1	0	0	2	2	1	1	
roof, beam, haze, crossbeam, principal rafter			0	0		0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	
working platform, boot board			4	4		2	3	1	0	2	1	1	0	0	0	2	0	0	0	2	2	
passage			4	1		3	1	0	4	3	3	3	3	0	1	2	0	2	1	4	2	
building, establishment			7	3		4	5	5	6	2	3	2	2	6	1	1	2	4	1	4	5	



19 years old or less	1	1	2	1	1	-	1	2	0	2	1	2	1	0	0	0	0	0	1	1	1	1
20-29	20	22	17	17	17	7	18	12	3	7	6	6	5	5	7	3	7	8	8	3	8	12
30-39	28	33	29	20	25	23	35	34	25	27	21	13	16	13	8	18	12	16	8	11	11	10
40-49	35	32	42	41	23	18	27	26	16	16	21	15	16	21	18	9	18	15	26	21	20	24
50-59	42	48	43	42	32	35	27	34	30	32	22	16	19	22	16	13	15	23	20	19	22	16
60 years old or more	15	15	16	9	11	9	6	10	13	11	8	12	4	11	10	5	16	12	16	13	17	23
total	141	151	149	130	109	92	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86

Workers' number of workplace of industrial accidents in tunnel construction work in 1999-2020

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
9 workers or less	27	32	31	28	34	19	18	33	21	20	19	17	14	18	15	10	17	13	24	13	18	26
10-29	70	79	73	63	43	47	57	55	49	53	36	29	22	26	28	24	34	32	32	30	31	35
30-49	32	34	28	20	16	20	24	14	13	14	21	13	14	18	8	4	11	15	17	15	12	17
50-99	8	5	11	14	13	4	13	15	2	4	1	1	6	9	6	4	5	11	4	7	12	6
100-299	3	1	5	5	3	2	2	1	2	3	2	4	5	1	2	6	1	1	2	1	5	2
300 workers or more	1	0	1	—	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	2	1	0
total	141	151	149	130	109	92	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86

Month of industrial accidents in tunnel construction work in 1999-2020

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	14	6	13	9	10	6	13	10	8	10	15	1	7	7	4	4	7	8	5	4	5	5
February	11	15	10	5	13	8	7	8	10	7	9	6	4	11	7	2	4	9	8	4	3	8
March	10	8	27	20	16	8	8	13	9	9	5	6	7	11	4	6	4	5	12	7	3	9
April	8	15	12	4	4	6	8	6	4	8	7	3	7	6	7	2	3	4	2	4	12	5
May	12	18	7	7	3	8	15	3	7	9	4	5	2	10	8	5	4	5	6	6	6	8
June	9	10	16	13	5	8	8	5	7	13	8	3	5	3	6	5	6	8	8	7	8	5
July	6	11	8	14	7	8	6	10	5	8	5	8	4	3	4	2	9	9	9	8	7	4
August	10	7	7	9	5	8	9	9	11	6	9	4	2	7	3	2	4	6	7	5	5	4
September	20	16	9	21	13	11	18	5	10	7	3	3	7	2	3	2	6	6	3	5	6	4
October	13	14	15	8	13	6	6	8	4	6	3	8	10	2	4	11	5	4	8	4	13	14
November	16	12	18	9	7	10	6	32	5	6	5	8	1	2	6	4	11	3	6	10	4	16
December	12	19	7	11	13	5	10	9	7	6	6	9	5	8	3	3	5	7	5	4	7	4



total	141	151	149	130	109	92	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86
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Prefecture of industrial accidents in tunnel construction work in 1999-2020

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Hokkaido	5	12	7		12		7	30	9	7	8	3	1	2	6	2	4	1	3	6	5	16
Aomori	0	3	0		1		2	0	2	1	0	0	1	1	0	0	0	1	1	0	1	0
Iwate	10	5	7		0		1	3	0	1	3	0	0	0	1	5	6	8	4	4	5	3
Miyagi	1	2	0		1		0	2	4	1	1	1	1	1	1	0	1	1	0	0	0	0
Akita	2	2	0		0		3	3	2	1	1	1	2	0	1	0	0	0	2	0	0	0
Yamagata	3	2	2		0		0	2	0	0	3	2	2	1	0	1	0	0	5	1	1	0
Fukushima	2	2	3		2		0	3	3	6	0	3	1	1	0	4	4	3	3	2	2	0
Ibaraki	1	0	0		1		1	3	1	0	0	0	0	0	2	0	0	0	0	0	0	0
Tochigi	1	1	1		0		1	0	2	1	3	1	0	0	1	0	1	0	1	0	0	0
Gunma	5	0	5		1		0	2	1	1	0	0	0	0	0	0	0	0	0	0	1	0
Saitama	2	0	3		1		0	1	0	0	1	0	0	0	3	3	1	3	0	0	0	0
Chiba	0	0	0		2		6	0	0	1	1	0	0	1	1	0	3	0	2	0	1	1
Tokyo	7	3	10		12		21	8	2	9	4	11	14	15	8	6	4	3	1	6	6	7
Kanagawa	10	8	3		2		2	4	4	4	4	3	2	0	2	2	0	4	5	8	6	3
Niigata	5	5	3		9		5	3	4	6	1	2	1	2	3	1	3	2	0	1	1	2
Toyama	7	2	2		2		0	1	0	1	1	1	3	1	2	2	1	0	0	0	0	0
Ishikawa	5	2	0		2		3	0	1	0	1	1	1	0	0	0	1	1	1	2	7	3
Fukui	0	1	7		2		3	0	1	8	2	3	2	3	3	1	1	5	15	3	7	9
Yamanashi	1	2	0		0		0	1	1	1	1	1	6	4	0	2	3	6	3	1	1	3
Nagano	4	3	5		5		2	1	1	3	2	0	0	0	2	1	0	1	1	6	3	1
Gifu	4	5	9		2		8	7	2	1	0	2	1	0	0	1	6	2	2	3	2	2
Shizuoka	7	7	18		10		10	4	4	4	3	3	0	3	2	0	0	3	1	2	1	1
Aichi	5	1	1		2		1	2	2	5	1	5	1	5	2	2	7	1	1	1	5	5
Mie	2	3	2		4		3	2	6	2	1	2	4	3	1	1	0	1	0	1	0	0
Shiga	0	2	3		2		0	0	0	2	1	0	0	0	0	0	0	0	1	0	0	0
Kyoto	7	11	8		5		2	2	3	1	1	1	1	5	2	1	1	0	0	1	1	0
Osaka	5	1	2		2		2	3	3	4	7	1	3	3	1	2	1	2	4	2	3	0
Hyogo	5	13	5		1		2	4	2	6	1	1	0	3	0	4	2	6	1	1	2	1
Nara	1	4	0		3		1	0	0	0	3	0	1	1	0	0	0	1	0	1	0	0
Wakayama	1	1	0		2		1	3	1	2	0	0	1	0	2	2	1	2	0	0	1	14
Tottori	0	0	1		0		0	0	0	2	0	0	1	0	0	0	1	3	2	3	1	0

Shimane	1	1	4	0	2	1	2	0	3	5	1	1	0	0	1	0	1	0	1	0
Okayama	0	4	2	1	1	1	1	2	3	0	2	6	2	0	0	0	0	1	0	0
Hiroshima	1	6	3	2	3	2	3	2	1	2	2	0	2	1	0	0	2	0	1	0
Yamaguchi	1	3	2	0	1	1	0	1	3	0	0	0	0	0	0	1	1	0	0	0
Tokushima	3	1	1	0	1	2	1	0	1	1	0	1	0	0	0	2	0	0	3	0
Kagawa	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	2
Ehime	0	0	3	3	4	4	2	0	1	0	0	0	0	1	0	0	3	2	0	1
Kochi	4	4	3	1	0	1	3	0	3	0	0	1	0	0	0	2	1	0	1	1
Fukuoka	2	8	4	0	6	2	4	2	1	2	0	0	0	1	2	1	0	1	0	2
Saga	0	1	0	0	0	1	0	0	1	0	0	0	1	1	2	1	2	1	0	0
Nagasaki	5	1	2	2	1	0	1	1	0	0	0	0	0	0	3	3	5	5	2	0
Kumamoto	2	4	7	4	0	5	0	1	0	0	1	0	1	0	1	0	1	1	2	2
Oita	4	4	3	1	0	1	2	1	2	0	1	2	4	0	1	2	2	1	2	3
Miyazaki	2	6	3	6	1	2	3	4	1	2	2	2	3	0	1	0	0	1	1	3
Kagoshima	7	5	4	1	4	0	3	0	0	4	2	4	0	1	3	1	1	0	1	0
Okinawa	1	0	1	0	3	1	1	0	2	0	0	0	0	0	1	1	0	0	2	1
total	141	151	149	109	114	118	87	95	79	64	61	72	59	48	68	74	79	68	79	86

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

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

Return to [https://www.jisha.or.jp/english/statistics/2020e\\_industry.html](https://www.jisha.or.jp/english/statistics/2020e_industry.html)

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**Fatal accidents in tunnel construction work in Japan in 1999-2020**

tunnel construction work industry Code No.030102

**Type of fatal accidents in tunnel construction work in 1999-2020**

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
fall from height	2	1	0	1	3	0	0	3	3	0	0	0	1	1	1	1	0	0	3	0	0	0
falling to same level	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
crash	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
struck by flying or	0	2	2	2	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1



construction machine	2	3	3	3	4	0	0	3	2	3	2	0	2	2	0	1	2	3	1	2	0	2
metal manufacturing machine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
general machine	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
mobile silviculture machine																	0	0	1	0	0	0
crane	0	0	1	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
conveying machine	3	2	1	0	0	3	1	0	0	1	1	2	0	1	0	0	1	0	0	3	0	3
vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pressure vessel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chemical facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
welding equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kiln, caldron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
electric equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
human power machine, tools	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
tools	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
other equipments, facilities	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
temporary buildings, establishments	2	2	3	1	2	0	0	1	3	0	0	0	1	6	2	1	0	0	2	0	0	1
hazards, harmful substances	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
materials	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
load	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
natural environment	3	4	2	4	1	0	1	9	1	0	2	1	0	0	2	1	1	2	1	1	2	1
other causal agent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
no causal agent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
unclassifiable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	11	13	10	8	10	3	2	15	7	7	5	3	3	12	4	4	4	6	7	6	2	7











stone, sand, substance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
load	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
machine/equipment as load	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
natural ground, rock	3	4	2	4	1	0	1	0	1	0	2	1	0	0	2	0	1	2	1	0	1	1
standing tree	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
abnormal environment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
high/cold temperature environment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other environments	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	1	0	0
other causal agent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
no causal agent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
unclassifiable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	11	13	10	8	10	3	2	15	7	7	5	3	3	12	4	4	4	6	7	6	2	7

#### Workers age of fatal accidents in tunnel construction work in 1999-2020

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
19 years old or less	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-29	1	2	3	1	2	0	0	1	0	0	0	1	0	0	0	0	1	1	0	0	1	1
30-39	0	1	1	0	1	0	0	6	1	1	3	0	3	2	0	2	0	2	1	3	0	0
40-49	4	4	3	1	2	1	2	2	0	2	0	1	0	3	2	1	0	1	4	0	0	1
50-59	4	6	3	6	4	2	0	4	6	3	2	1	0	4	1	1	1	1	1	3	0	0
60 years old or more	2	0	0	0	1	0	0	2	0	1	0	0	0	3	1	0	2	1	1	0	1	5
total	11	13	10	8	10	3	2	15	7	7	5	3	3	12	4	4	4	6	7	6	2	7

#### Workers' number of workplace of fatal accidents in tunnel construction work in 1999-2020

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
9 workers or less	1	2	1	3	0	0	0	6	3	0	0	0	1	4	2	0	0	2	3	0	0	3





Oita	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miyazaki	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Kagoshima	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Okinawa	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
total	11	13	10	8	10	3	2	15	7	7	5	3	3	12	4	4	4	6	7	6	2	7

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

Return to [https://www.jisha.or.jp/english/statistics/2020e\\_industry.html](https://www.jisha.or.jp/english/statistics/2020e_industry.html)