

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

subway construction work industry Code No.030103

Type of accidents in subway 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	12	7	4	3	4	2		5	1	5	1	3		1	2	1	1	3	1					56	fall from height
falling to same level	7	1		3	1	1	1	2			2	1		2	1	1	1	1		2	1	1	1	30	falling to same level
crash	3	2		1			1				1				1					2	1			12	crash
struck by flying or falling object	10	3	2	2		4	5		1	2	1	2			1			1		1				35	struck by flying or falling object
collapse	5	2	2	1			1	1		1														13	collapse
crashed by	3	1	5	1	1	1	1		3		1	3	1		1	1								23	crashed by
caught in/between	4	5	3	1	3	2	1	2	1	3	1	2	1				1	1	2		2	4		39	caught in/between
cut	1					1		3	1		1									1	1			9	cut
injury to the sole of the foot								1																1	injury to the sole of the foot
drown				1																				1	drown
contact to high/low-temperature		2																						2	contact to high/low-temperature

construction machine	1	2	2		2	1	2		1		1	2				1		1	1		2		19	construction machine	
metal manufacturing machine								1										1		1			3	metal manufacturing machine	
general machine		1							1								1				2		5	general machine	
mobile silviculture machine																								mobile silviculture machine	
crane	4	1	3	1			2	1	2	1										1	1	1		18	crane
conveying machine	3	1				5		1		1		1	4	1										18	conveying machine
vehicle	8		1	1									2											18	vehicle
pressure vessel																									pressure vessel
chemical facilities																									chemical facilities
welding equipment																									welding equipment
kiln, caldron																									kiln, caldron
electric equipment		1										1												2	electric equipment
human power machine, tools	3			2		1	1	2		1					1									11	human power machine, tools

machine																						machine								
food manufacturing machine																						food manufacturing machine								
printing machine																						printing machine								
industrial robot																						industrial robot								
other general power machines								1										1			2	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			1																				1	crane						
mobile crane			2						2		1	1												1	1	1		9	mobile crane	
derrick crane																														derrick crane
elevator, lift																														elevator, lift
cargo lifting appliance																														cargo lifting appliance
gondola																														gondola
lumberyard equipment, logging																														lumberyard equipment, logging

gas welding equipment																								gas welding equipment	
arc welding equipment																									arc welding equipment
other welding equipment																									other welding equipment
kiln, caldron																									kiln, caldron
industrial dryer																									industrial dryer
other kiln, caldron																									other kiln, caldron
transmission																									transmission
electric power facilities																									electric power facilities
other electrical equipment											1												1	other electrical equipment	
human power cranes							1																1	human power cranes	
human power hauling equipment						1							1										2	human power hauling equipment	
human power machine																									human power machine
hand tool							1		1														2	hand tool	
ladder				1					4	1							1	1					8	ladder	
slinging tool			1				2				2												5	slinging tool	
other tools				1														1					2	other tools	

harmful substances																									harmful substances
metal material			3			1	1			2	2	1		1						1				12	metal material
lumber, bamboo					1																			1	lumber, bamboo
stone, sand, substance									1		2													3	stone, sand, substance
other materials										1														1	other materials
load			1					1														1		3	load
machine/equipment as load							1																	1	machine/equipment as load
natural ground, rock							1																	1	natural ground, rock
standing tree																									standing tree
water																									water
abnormal environment																									abnormal environment
high/cold temperature environment																									high/cold temperature environment
other environments														1		1								2	other environments
other causal agent															1									1	other causal agent
no causal agent																									no causal agent
unclassifiable																									unclassifiable
total			17		9		10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	151	total

Workers age of fatal and non-fatal accidents in subway construction work in 1999-2021

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Age
19 years old or less	1	1				1							1											4	19 years old or less
20-29	13	2	3	2	1	4	1	2	1	1	2		1		1			1						35	20-29
30-39	7	5	2	6	2	3	3	3	4	3	1	3	2	1	2		1	1			2			51	30-39
40-49	14	7	4	2	3	4	1	2	2	5	1	5	1	4	1	2	1	5	2	4			2	72	40-49
50-59	16	7	6	2	3	3	5	5	1	4	3	1			1		1	2	1	1	2	5		69	50-59
60 years old or more	6	2	2	2		1		2			2	3	1		2	1		3	1	2	1			31	60 years old or more
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	262	total

Workers' number of workplace of fatal and non-fatal accidents in subway 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	19	9	5	2	3	6	3	6	4	7	4	4	4	1	3		2	5	3	3	1		1	95	9 workers or less
10-29	15	5	5	7	2	4	4	6	2	6	4	7	2	2	1	1		2		4	4	4	1	88	10-29
30-49	11	3	2	2	3	5	1	2	2		1			2	1	2	1	5	1					44	30-49
50-99	10	5	2	2	1	1	2					1			2							1		27	50-99
100-299	2	2	2	1																				7	100-299
300 workers or more			1																					1	300 workers or more
total	57	24	17	14	9	16	10	14	8	13	9	12	6	5	7	3	3	12	4	7	5	5	2	262	total

mobile crane																							1		1	mobile crane
derrick crane																										derrick crane
elevator, lift																										elevator, lift
cargo lifting appliance																										cargo lifting appliance
gondola																										gondola
lumberyard equipment, logging cableway																										lumberyard equipment, logging cableway
simple skyline yarding equipment																										simple skyline yarding equipment
other powered crane																										other powered crane
truck	1																								1	truck
forklift																										forklift
railway equipment																										railway equipment
conveyor																										conveyor
loader																										loader
straddle carrier																										straddle carrier
rough terrain hauler																										rough terrain hauler
other powered conveying machines																										other powered conveying machines
cars, bus, motorcycle																										cars, bus, motorcycle

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

Fukui																								Fukui	
Yamanashi																								Yamanashi	
Nagano																								Nagano	
Gifu																								Gifu	
Shizuoka																								Shizuoka	
Aichi																								Aichi	
Mie																								Mie	
Shiga																								Shiga	
Kyoto																								Kyoto	
Osaka						2																	2	Osaka	
Hyogo	1																						1	Hyogo	
Nara																								Nara	
Wakayama																								Wakayama	
Tottori																								Tottori	
Shimane																								Shimane	
Okayama																								Okayama	
Hiroshima																								Hiroshima	
Yamaguchi																								Yamaguchi	
Tokushima																								Tokushima	
Kagawa																								Kagawa	
Ehime																								Ehime	
Kochi																								Kochi	
Fukuoka			1																				1	2	Fukuoka

Saga																								Saga	
Nagasaki																									Nagasaki
Kumamoto																									Kumamoto
Oita																									Oita
Miyazaki																									Miyazaki
Kagoshima																									Kagoshima
Okinawa																									Okinawa
total	1		1	1			2																1	6	total

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

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