

RISK – ANALYSIS (COVID-19) TOWER CRANES



VAN DER SPEK N.V.
Industrielaan 10 - 1740 Ternat
Tel: 02/582 29 79
Email: christophed@vanderspek.be

FORM D-039
Author : Prevention advisor
De Bruyn Christophe - 2023

Probability to occur P		Exposure frequency F		Damage D		Risk R	
Predictable	10	Permanent	10	Disaster – several fatalities	100	Very high = activity cessation	>400
Possible	6	Very regular (4x daily)	8	Catastrophic – several fatalities	40	High = immediate improvement	201-400
Unusual but possible	3	Regular (daily)	6	Very high – one fatality	15	Significant = measures to be taken	71-200
Improbable, possible at boundary +conditions	1	Occasional (weekly)	3	High (invalidity)	7	Possible = monitoring	21-70
Pausible but unlikely	0,5	Unusual (monthly)	2	Significant (loss of work capacity)	3	Very low risk – no measure required	1-20
Practically impossible	0,2	Rare (4x yearly)	1	Low – injury without capacity loss	1		
Virtually impossible	0,1	Very rare (yearly)	0,5				

Description of job	Tools and needs	Possible risks	R	Prevention	R
Transportation to the site	<ul style="list-style-type: none"> Company car Mobile crane Truck and lorry 	<ul style="list-style-type: none"> Traffic accidents Traffic accidents Traffic accidents 	27	<ul style="list-style-type: none"> Fix travelling route Fix travelling route (advised by FOD) Fix travelling route 	9 (1x3x3)
Access / positioning to the worksite	<ul style="list-style-type: none"> Company car Mobile crane Truck and lorry 	<ul style="list-style-type: none"> Accident (clash) 	18	<ul style="list-style-type: none"> Do not park car in working area 	6
		<ul style="list-style-type: none"> Collision with obstacles 	252	<ul style="list-style-type: none"> Remove obstacles and mark critical points 	42
		<ul style="list-style-type: none"> Non stable ground 		<ul style="list-style-type: none"> Create hardened ground access road Using metal plates Mark access and working area (resp. yard) 	
		<ul style="list-style-type: none"> Collision with obstacles Roll over 	144	<ul style="list-style-type: none"> Remove obstacles and mark critical points Ask for banksman Mark access and working area (resp. yard) 	24
Mounting or dismantling of tower crane	<ul style="list-style-type: none"> Mobile crane Lifting tools Small manual tools Tower crane parts Ballast elements (electrical) cables Lifting basket PPE's Obstacles 	<ul style="list-style-type: none"> Accident because bad position of the crane 	252	<ul style="list-style-type: none"> Check bearing capacity of crane in function of corner pressures 	42
		<ul style="list-style-type: none"> fall of person from height 	900	<ul style="list-style-type: none"> Use harness and life-line 	45
		<ul style="list-style-type: none"> fall of person from trailer 	720	<ul style="list-style-type: none"> Prohibited to hoist persons when moving of loads 	72
		<ul style="list-style-type: none"> Poor communication when moving loads with LTM 	540	<ul style="list-style-type: none"> Charge must be visible for crane operator otherwise use walkie-talkies LMRA between crane operator LTM and rigger Only the rigger communicates with the crane operator LTM 	21
		<ul style="list-style-type: none"> Drop of tools or parts 	540	<ul style="list-style-type: none"> Mark working area (resp. yard) Forbidden to work under lift Use certified tools only (respect color code) 	45
		<ul style="list-style-type: none"> Out of balance by use of sledgehammer or electrical tools 	54	<ul style="list-style-type: none"> Qualified and trained personnel only 	18
		<ul style="list-style-type: none"> Bad weather circumstances 	270	<ul style="list-style-type: none"> Correct clothes and helmet 	30
		<ul style="list-style-type: none"> Abrasions 	54	<ul style="list-style-type: none"> Extra attention during rain and cold period (stop activity with frost) Wear all PPE's 	4.5
		<ul style="list-style-type: none"> Fault of lifting tools 	135	<ul style="list-style-type: none"> Use certified tools only (check color code) and verify tools daily 	15

Description of job	Tools and needs	Possible risks	R	Prevention	R
		<ul style="list-style-type: none"> Material damage due to non-prepared working area <ul style="list-style-type: none"> Unstable ground Obstacles 	720	<ul style="list-style-type: none"> Contractor shall prepare foundation in function of the corner pressures of the crane our foundation resistance 	40
		<ul style="list-style-type: none"> Pinching between ballast of mobile crane and fixed obstacle 	252	<ul style="list-style-type: none"> Mark working area 	7
		<ul style="list-style-type: none"> Crane elements "cathed" by wind 	126	<ul style="list-style-type: none"> Maximum wind speed = 45 km/h (chef-mounter and crane-driver decide eventual stop of activities) 	21
		<ul style="list-style-type: none"> Interference with other lifting equipment's 	1800	<ul style="list-style-type: none"> Stop other lifting equipment or make arrangements that collision with other equipment is not possible Use walkie-talkies if working out of sight of crane-driver 	60
		<ul style="list-style-type: none"> Pinching of hands, fingers or feet 	560	<ul style="list-style-type: none"> Wear PPE's 	63
		<ul style="list-style-type: none"> Repels danger 	144	<ul style="list-style-type: none"> Wear helmet 	18
		<ul style="list-style-type: none"> Excessive noise (f.i. sledge hammer) 	252	<ul style="list-style-type: none"> Wear ear protection 	3
		<ul style="list-style-type: none"> Irritation of skin by greasing parts of crane elements 	24	<ul style="list-style-type: none"> Wear adequate gloves 	4
		<ul style="list-style-type: none"> Manual handling of heavy parts (back injury) 	336	<ul style="list-style-type: none"> Use correct tilting position (max 25 kg) Use lifting equipment 	72
		<ul style="list-style-type: none"> Fall/Out of balance of tower crane 	1800	<ul style="list-style-type: none"> Check foundation in function of characteristics of tower crane in advance Check horizontality of foundation (resp. yard) Check bearing capacity in function of corner pressure (res. yard) Follow and check internal data sheet (ballast, tower, jib,...) Follow procedures of manufacturer 	60
		<ul style="list-style-type: none"> High voltage line, trees, other obstacles,... 	1800	<ul style="list-style-type: none"> Certificates, dimensions and markings on the yard are applied by the contractor Program working range limitation and collision avoidance system 	80
		<ul style="list-style-type: none"> Calibrating of tower crane 	540	<ul style="list-style-type: none"> Testing by experienced technician Be sure exact testing weight is known Official organism makes additional check and certification report 	42
		<ul style="list-style-type: none"> Handing-over of tower crane 	126	<ul style="list-style-type: none"> Crane may only be used after calibration and inspection of official organism 	10
Working close to moving or rotating parts	<ul style="list-style-type: none"> Manual tools PPE's 	<ul style="list-style-type: none"> Pinching between moving parts Danger to fall 	336	<ul style="list-style-type: none"> Do not place hands or feet between moving parts (training!) Take care! Cautious Long hair : Put long hair in helmet or clothing Pay attention to direction of moving or rotating parts Verifying cables : only during unwinding of winch 	63

Description of job	Tools and needs	Possible risks	R	Prevention	R
Electrical works	<ul style="list-style-type: none"> Multimeter Special electrical tools PPE's 	Physical contact with low voltage	252	<ul style="list-style-type: none"> Switch off and secure breaker before start working Check if grounding is in place(responsibility costumer) Only trained people (BA4/BA5) are allowed to work at electrical installations Wear PPE's Check electrical feed related to the type of crane Install grounding to hook of crane before start of repairs Use dry slings Wear PPE's 	1.5
		Electrocution	126		10
		Burn wound	27		1.5
		Drop of electrical power	9		1.5
		Induction voltage on crane	135		9
Climbing of tower crane	<ul style="list-style-type: none"> Climbing frame 	<ul style="list-style-type: none"> Fall of persons Fall of crane 	1800	<ul style="list-style-type: none"> Follow procedures of manufacturer Use harness and life-line No other lifting equipment in area allowed 	60
Cleaning of lifting area	<ul style="list-style-type: none"> Mobile crane Site containers 	<ul style="list-style-type: none"> Material damage Personal damage 	108	<ul style="list-style-type: none"> Wear PPE's Clean working area Be alert Third persons are not allowed to enter the yard 	18
Covid 19 – Virus outbreak	<ul style="list-style-type: none"> Staff VDS Crane operator truck/LTM Staff customer 	Contamination with coronavirus	252	<ul style="list-style-type: none"> Wash hands regularly with soap - Use regularly the disinfection. Work alone and keep the necessary distance with other employees (staff VDS – crane operator – staff customer) Follow the guidelines of the legislator Follow the guidelines of your employer 	60
		Mild symptoms of illness	135		18
		Severe symptoms of illness	1800		60