

DIN EN 81-43:2026-09 (E)

Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 43: Lifts for cranes

Contents

Page

European foreword	5
Introduction	6
1 Scope	7
2 Normative references	8
3 Terms and definitions	9
4 Safety requirements and/or protective measures	12
4.1 Design consideration	12
4.2 Load actions and proof of competence	12
4.2.1 General	12
4.2.2 Dead weight	16
4.2.3 Rated load	17
4.2.4 Impact and dynamic factors due to movement of the lift car	18
4.2.5 Loads due to movements and deflection of the crane	18
4.2.6 Loads due to wind	19
4.2.7 Loads due to seismic accelerations	19
4.2.8 Test loads	20
4.2.9 Special load actions acting on parts of the lift car	20
4.2.10 Proof of competence	20
4.3 Base frame	21
4.4 Mast, ties and buffers	21
4.4.1 Guide rails and masts	21
4.4.2 Ties for mast and guide rails	21
4.4.3 Buffers	21
4.5 Liftway protection and landing access	22
4.5.1 General	22
4.5.2 Liftway protection	22
4.5.3 Landing access	24
4.5.4 Materials for enclosure and guarding	29
4.5.5 Landing gate locking devices	29
4.5.6 Clearances	31
4.6 Car	31
4.6.1 General	31
4.6.2 Car floor	32
4.6.3 Car walls	32
4.6.4 Car roof	32
4.6.5 Car gate	32
4.6.6 Overspeed safety device against falling of the car	34
4.6.7 Overload detection device	35
4.7 Drive unit	36
4.7.1 General	36
4.7.2 Protection and accessibility	36
4.7.3 Suspension system	36
4.7.4 Braking system	42
4.8 Electric installations and appliances	43
4.8.1 General	43
4.8.2 Protection against electric faults	43

4.8.3	Protection against the effects of external influences	44
4.8.4	Electric wiring	44
4.8.5	Contactors, relay-contactors	44
4.8.6	Electric safety devices	44
4.8.7	Safety contacts	45
4.8.8	Safety circuits	45
4.8.9	Lighting	47
4.8.10	Safety functions	48
4.9	Control and limiting devices	49
4.9.1	General	49
4.9.2	Travel limit switches	50
4.9.3	Slack rope device	50
4.9.4	Mast detection switch	50
4.9.5	Erection accessories	50
4.9.6	Stopping devices	50
4.9.7	Stopping the machine	51
4.9.8	Drive unit fault detection device for rack and pinion system with two redundant drive units	51
4.9.9	Control modes	51
4.10	Breakdown conditions	52
4.10.1	Alarm device	52
4.10.2	Emergency escape	52
4.10.3	Manual lowering device for permanently installed lifts	52
4.10.4	Manual lowering device for temporarily installed lifts	53
5	Verification of safety requirements and/or protective/risk reduction measures	53
5.1	Verification of design	53
5.2	Special verification tests	55
5.2.1	Introduction	55
5.2.2	Locking devices for car and landing gates	56
5.2.3	Overspeed safety device and overspeed governors	57
5.2.4	Energy accumulation type buffers with buffered return movement and energy dissipation buffers	59
5.2.5	Pressure-sensitive protective device	59
5.3	Verification tests for fitness for purpose	59
6	Information for use	59
6.1	Instruction handbook	59
6.1.1	Comprehensive information	59
6.1.2	of the instruction handbook	60
6.2	Markings	65
6.2.1	General	65
6.2.2	Identification plate within the car	65
6.2.3	Mast or guide section identification	65
6.2.4	Basic user information sign	65
6.2.5	Warning sign at ground level	65
6.2.6	Type plate at overspeed safety device	66
6.2.7	Drive motor label	66
6.2.8	Marking of control elements	66
Annex A (informative)	List of significant hazards	67
Annex B (informative)	Identification of subclauses applicable either to permanent or installed lifts	70
Annex C (normative)	Requirements for the installation of lifts (for cranes) on tower cranes	72
Annex ZA (informative)	Relationship between this European Standard and the essential Requirements of EU Directive 2006/42/EC aimed to be covered	74
Bibliography		77