

DIN EN 12609:2021-04 (E)

Truck mixers - Safety requirements

Contents		Page
	European foreword	5
	Introduction	6
1	Scope	7
2	Normative references	7
3	Terms, definitions, symbols and abbreviated terms	9
4	Safety requirements and/or protective measures	11
4.1	General requirements	11
4.1.1	General	11
4.1.2	Mechanical hazards	12
4.1.3	Electrical hazards	13
4.1.4	Thermal hazards	13
4.1.5	Noise	13
4.1.6	Electromagnetic compatibility (EMC)	13
4.2	Control system	14
4.2.1	Stop system	14
4.2.2	Multiple control stations	14
4.2.3	Cable-less remote control	15
4.3	Manual control devices for emergency operation	15
4.4	Positioning of control devices	15
4.4.1	Control devices at the work station	15
4.4.2	Other control devices	15
4.5	Working lights	15
4.6	Additional removable equipment	15
4.7	Interface mixer unit and truck or trailer	15
4.8	Mixer drum	16
4.8.1	Manhole	16
4.8.2	Mixer drum-locking device	16
4.8.3	Mixer drum opening	16
4.9	Flip-over chute	17
4.10	Swivel chute	17
4.11	Mixer drum closure system	17
4.12	Power transmission from the power source to the mixer drum drive system	17
4.13	Water system	17
4.14	Exhaust system of the auxiliary engine	17
4.15	Platform at the charging hopper	18
4.16	Tread at rear underrun protective device	18
4.17	Visual aid	18
5	Verification of safety requirements and/or protective measures	19
6	Information for use	20
6.1	General	20
6.2	Instruction handbook	20
6.2.1	General	20
6.2.2	Noise	21
6.2.3	Operation	22
6.2.4	Maintenance and repair	23

6.3	Information and warnings	24
6.3.1	Labelling for the control device	24
6.3.2	Warnings	24
6.4	Marking	24
Annex A (informative) Figures		25
A.1	Typical design	26
A.2	Types of drive, diagrams	27
A.3	Dimensions for access ladder to platform	28
A.4	Minimum clearance 'a' depending on distance 'W' to the reference plane, according to Table 1	29
A.5	Cross-sections (view from cabin side) of the truck mixer to indicate the positions of the manhole when the mixer drum is locked by the mixer drum-locking device	29
A.6	Fixed guard at mixer drum opening	30
A.7	Minimum clearance between mixer drum roller cover and mixer drum track ring	31
A.8	Minimum clearance between mixer drum and supporting arm	32
A.9	Minimum clearance between mixer drum and charging hopper bracket	33
A.10	Minimum clearance between mixer drum and discharge hopper	34
A.11	Minimum clearance between mixer drum and guard rail at platform	35
A.12	Minimum distance between mixer drum closure system and discharge hopper	36
A.13	Minimum clearance between mixer drum and additional equipment	37
A.14	Minimum clearance between mixer drum and rear splash guard	39
A.15	Minimum dimensions of the visibility test rectangle (VTR)	39
A.16	Example of flip-over chute	40
A.17	Example of technical solution for enforced two-hand operation to bring the flip-over chute to its lowered end position	41
Annex B (normative) Noise-test code for truck mixers		42
B.1	Scope	42
B.2	Determination of the A-weighted sound-power level	42
B.2.1	General	42
B.2.2	Measurement surface and microphone positions	43
B.2.3	Period of observation	43
B.3	Determination of the A-weighted emission sound pressure level at the work station	43
B.3.1	General	43
B.3.2	Machine work station	43
B.3.3	Period of observation	43
B.4	Measurement procedure and operating conditions	44
B.4.1	Specific measurement procedure for truck mixers powered by a truck engine	44
B.4.2	Measurement procedure for mixer units not powered by a truck engine	44
B.4.3	Operating conditions during test	44
B.4.4	Fan speed	44
B.5	Information to be recorded during the test	44
B.6	Information to be reported	44
B.7	Declaration and verification of noise emission values	45
Annex C (informative) Example of a noise emission declaration		46
Annex D (informative) List of significant hazards		47
Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 2006/42/EC aimed to be covered		50
Bibliography		53