

DIN EN 16952:2022-07 (E)

Agricultural machinery - Rough-terrain Work Platforms for Orchard's operations (WPO) - Safety (includes Amendment :2021)

Contents	Page
European foreword	4
Introduction	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	8
4 List of significant hazards	11
5 Safety requirements and/or measures	20
5.1 General	20
5.2 Structural and stability calculations	20
5.3 Chassis	20
5.4 Extending structure	23
5.4.1 Methods to avoid overturning and exceeding permissible stresses	23
5.4.2 Extending structure extension and retraction	24
5.4.3 Protection against hazards related to the movements of the extending structure	24
5.4.4 Position retention of the work platform	25
5.4.5 Speed for raising and lowering of the work platform	25
5.5 Extending structure drive systems	25
5.6 Work platform	26
5.7 Controls	28
5.8 Electrical equipment	30
5.9 Hydraulic systems	31
5.10 Hydraulic cylinders	32
5.10.1 Structural design	32
5.10.2 Safety device for load holding cylinders	37
5.11 Safety devices	38
6 Verification of the safety requirements and/or measures	38
6.1 Examinations and tests	38
6.1.1 General	38
6.1.2 Design check	39
6.1.3 Manufacturing check	39
6.1.4 Tests	40
6.2 Type tests of WPOs	46
6.2.1 General	46
6.2.2 Tests before placing on the market	46
6.3 Validation of safety functions and performance levels	47
7 Information for use	47
7.1 Instruction handbook	47
7.1.1 General	47
7.2 Marking	50
Annex A (normative) Calculations	53
A.1 General	53

A.2	Loads and forces	53
A.3	Determination of loads and forces	53
A.4	Stability calculations	57
A.5	Structural calculations	58
Annex B (normative) Requirements for protective curtains		65
B.1	General	65
B.2	Tensile resistance test	65
B.3	Perforation resistance test	65
B.4	Wear resistance test	65
Annex C (normative) Additional requirements for wireless controls and control systems		66
C.1	General	66
C.2	Unauthorized use	66
C.3	Control limitation	66
C.4	Stop	66
C.5	Serial data communication	67
C.6	Use of more than one operator control station	67
C.7	Battery-powered operator control stations	67
C.8	Receiver	67
C.9	Warnings	67
C.10	Information for use	67
Annex D (informative) Calculation examples - factor "z", kerb test		68
Annex E (informative) Examples of Machines		72
E.1	Examples of Machines covered by the standard	72
E.2	Examples of Machines excluded from the scope of the standard	74
Annex ZA (informative) !Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC aimed to be covered"		78
Bibliography		82