DIN EN 16486:2020-11 (E)

Machines for compacting waste materials or recyclable fractions - Compactors - Safety requirements (includes Amendment :2020)

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 7

3 Terms and definitions 9

4 List of significant hazards 13

5 Safety requirements and/or protective measures 17
5.1 Mechanical hazards 17
5.1.1 General 17
5.1.2 Feed equipment area 19
5.1.3 Feed hopper/opening area and compaction chamber 21
5.1.4 Area behind the compacting parts 23
5.1.5 Container closing devices 23
5.1.6 Interface between compaction unit and container on static compactors 24
5.1.7 Emptying process of transportable compactors 25
5.1.8 Handling of transportable compactors 25
5.1.9 Traversing systems 25
5.2 Hazards due to failures in the control system or unexpected start-up 28
5.2.1 Control devices, actuators and systems 28
5.2.2 Prevention of unauthorised operation 28
5.2.3 Emergency stop 29
5.2.4 Required performance levels PLr 29
5.3 Electrical hazards 29
5.4 Hazards from hydraulic equipment 30
5.5 Slips, trips and falls 30
5.6 Hazards generated by noise 30
5.6.1 Noise reduction at source by design 30
5.6.2 Noise reduction by protective measures 31
5.6.3 Information connected with noise hazards 31
5.7 Hazards due to neglecting ergonomic principles in the design of the machine 31

6 Verification of the safety requirements and/ or protective measures 31

7 Information for use 34
7.1 General Information 34
7.2 Information for safe operation 35
7.2.1 General 35
7.2.2 Instructions for operation 35
7.2.3 Information on noise 36
7.2.4 Installation instructions 36
7.2.5 Setting and maintenance instructions 36
7.2.6 Spare parts list 37
7.2.7 Preventing faults and fault recovery 37
7.2.8 Information for preventing and removing blockages 37

7.2.9 Information relating to connections between the compactor, container and any traversing systems ... 37
7.2.10 Transportable compactors ... 38
7.2.11 Information on examinations and/or inspections ... 38
7.3 Marking ... 39
7.3.1 Manufacturer's plate ... 39
7.3.2 Safety signs ... 39

Annex A (normative) Noise test code ... 41

A.1 Scope ... 41
A.2 Determination of emission sound pressure level at the work station(s) ... 41
A.2.1 Basic standards ... 41
A.2.2 Measurement uncertainty ... 42
A.3 Determination of sound power levels ... 42
A.3.1 Basic standards ... 42
A.3.2 Measurement uncertainty ... 42
A.4 Installation and mounting conditions for the noise measurement ... 43
A.5 Operating conditions ... 43
A.6 Information to be recorded and reported ... 43
A.6.1 General ... 43
A.6.2 Compactor data ... 43
A.6.3 Standards used ... 43
A.6.4 Noise data ... 43
A.6.5 Installation and operating conditions ... 43
A.7 Declaration and verification of noise emission values ... 43

Annex B (informative) Preliminary dialogue between manufacturer and user ... 45

Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC machinery, and amending Directive 95/16/EC (recast) [2006 L157] aimed to be covered ... 46

Bibliography ... 50