

# DIN EN 500-4:2010-03 (E)

## Mobile road construction machinery - Safety - Part 4: Specific requirements for compaction machines (includes Amendment A1:2009)

---

| <b>Contents</b>   |  | <b>Page</b> |
|---|--|-------------|
| Foreword .....  |  | 4           |
| Introduction .....  |  | 5           |
| 1 Scope .....   |  | 6           |
| 2 Normative references .....  |  | 6           |
| 3 Terms and definitions .....   |  | 7           |
| 4 List of significant hazards .....   |  | 8           |
| 5 Safety requirements and/or protective measures .....  |  | 8           |
| 5.1 Lighting, signalling and marking lights and reflex-reflector devices .....  |  | 8           |
| 5.2 Operation and handling .....  |  | 8           |
| 5.3 Operator's station .....  |  | 10          |
| 5.4 Operator's seat .....   |  | 10          |
| 5.5 Controls and indicators .....   |  | 10          |
| 5.6 Starting .....  |  | 10          |
| 5.7 Stopping .....  |  | 10          |
| 5.8 Access system to operator's station and to maintenance points .....   |  | 11          |
| 5.9 Hand-guards on explosion rammers .....  |  | 12          |
| 5.10 Roll-over protective structure (ROPS) .....  |  | 12          |
| 5.11 Noise and vibration .....  |  | 13          |
| 6 Verification of safety requirements and/or protective measures .....  |  | 13          |
| 7 Information for the user .....  |  | 14          |
| 7.1 Warning signals and devices .....   |  | 14          |
| 7.2 Instruction handbook .....  |  | 14          |
| 7.3 Marking .....   |  | 14          |
| Annex A (normative) Remote infrared controls for rollers with attending operator .....  |  | 16          |
| Annex B (normative) Noise test code for hand-guided and remote-controlled vibratory ground compaction machines .....                |  | 19          |
| Annex C (normative) Measurement of the hand-arm vibration of hand-guided vibratory ground compaction machines .....                 |  | 30          |
| Annex D (normative) Noise test code for rollers for ride-on operation .....   |  | 36          |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EC Directive 98/37/EC .....    |  | 41          |
| Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC" ..... |  | 42          |
| Bibliography .....  |  | 43          |
| Figures Figure 1 -- Vertical swinging of single-drum walk-behind rollers .....  |  | 9           |

|  |    |
|--|----|
| Figure 2 -- Position of the safety device at pedestrian-controlled rollers .....   | 9  |
| Figure 3 -- Minimum clearance of lower limbs at access to the operator's station on machines with articulated steering ..... | 12 |
| Figure 4 -- Deflection-limiting volume, front view, side view .....  | 13 |
| Figure !B.1" -- Arrangement of test positions for hand-guided machines .....   | 20 |
| Figure !B.2" -- Arrangement of test positions for remote-controlled machines .....   | 21 |
| Figure !B.3" -- Grading-size diagram of the material to be compacted (gravel) .....  | 25 |
| Figure !B.4" -- Test site and arrangement with test track .....  | 26 |
| Figure !C.1" -- Directions of measurement and examples for attachment of the acceleration transducer .....                   | 32 |
| Figure !C.2" -- Arrangement of the coupling device on the drawbar .....  | 33 |
| Figure !D.1" -- Basic length L .....   | 37 |
| Figure !D.2" -- Microphone positions .....   | 37 |
| Tables Table !B.1" -- Coordinates of microphones .....   | 22 |
| Table !B.2" -- Operating conditions .....  | 27 |
| Table !B.3" -- Uncertainties .....   | 27 |