

DIN EN 1034-4:2010-07 (E)

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 4: Pulpers and their loading facilities (includes Amendment A1:2009)

Contents	Page
Foreword	4
Introduction	5
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 List of significant hazards	8
5 Safety requirements and/or measures	9
5.1 General	9
5.2 Requirements for safety devices	9
5.3 Power transmission elements	10
5.4 Workplaces, access stairs, catwalks, passageways	10
5.5 Falling hazard on pulpers	10
5.6 Loading facilities on pulpers	13
5.7 Start-up warning devices	14
5.8 Emergency stop devices	14
5.9 Isolation and energy dissipation, prevention of unexpected start-up	15
5.10 Control systems and actuators	15
5.11 Integrated lighting	15
5.12 Ergonomic principles	15
5.13 Electrical equipment	16
5.14 Hydraulic equipment	16
5.15 Pneumatic equipment	16
5.16 Noise hazards	16
5.17 Dangers from hazardous substances	16
5.18 Equipment and measures for maintenance and inspection and cleaning	16
5.19 Hazards generated by material	16
5.20 Powered valves	16
6 Verification of compliance with safety requirements and/or protective measures	17
7 Information for use	17
7.1 General	17
7.2 Specific information on machinery	17
7.3 Specific information in the instruction handbook	17
Annex ZA (informative) Relationship of this European Standard with the Essential Requirements of EU Directive 98/37/EC	19
Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	20
Bibliography	21

Figure 1 -- Pulper with loading facility (example)	7
Figure 2 -- Drum pulper (example)	8
Figure 3 -- Protection against falling from a height at discharge openings for waste (recovery stock)	12
Figure 4 -- Protection against falling from a height on recovery pulper underneath the Pope reel winder	13