

DIN EN 1034-4:2022-05 (E)

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 4: Pulpers and their loading facilities

Contents	Page
European foreword	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	8
4 List of significant hazards	12
5 Safety requirements and/or measures	12
5.1 General	12
5.2 Requirements for safety devices	12
5.3 Power transmission elements	12
5.4 Workplaces, access stairs, walkways, passageways	12
5.5 Falling hazard on pulpers	13
5.6 Loading facilities on pulpers	16
5.7 Start-up warning devices	17
5.8 Emergency stop devices	17
5.9 Emptying of the stand-alone pulper/under machine pulper	18
5.10 Isolation and energy dissipation, prevention of unexpected start-up	18
5.11 Control systems and actuators	18
5.12 Integrated lighting	20
5.13 Ergonomic principles	20
5.14 Electrical equipment	20
5.15 Hydraulic equipment	20
5.16 Pneumatic equipment	20
5.17 Noise	20
5.18 Hazards from hazardous substances	20
5.19 Equipment and measures for maintenance and inspection and cleaning	20
5.20 Hazards generated by material	22
5.21 Powered valves	22
6 Verification of compliance with safety requirements and/or protective measures	22
7 Information for use	23
7.1 General	23
7.2 Specific information on machinery	23
7.3 Specific information in the instruction handbook	23
Annex A (informative) Example of a commercially available safety systems for securing access/rescue lifting device together with examples of fastening device	25
Annex B (informative) Example of a noise declaration for pulpers according to the specifications of EN 13023:2003+A1:2010 and EN 1034-1:2021	27
Annex C (informative) List of significant hazards	29
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered	31
Bibliography	33