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

Figures 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