DIN EN 1034-27:2012-12 (E)

Safety of machinery - Safety requirements for the design and construction of paper making and f inishing machines - Part 27: Roll handling systems

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 8

4 List of significant hazards 10

5 Safety requirements and/or measures 11
5.1 General 11
5.2 Handling systems with rolling rolls, roll kicker, lowering and lifting cradle, roll stopper 14
5.3 Conveyors 15
5.4 Crossing of passage ways and conveyors 17
5.5 Conveyors passing through fire resistant doors 18
5.6 Transfer carriages, upenders, horizontal transfer devices, vertical transfer devices, handling devices for narrow rolls 18
5.7 Vertical conveyor 19
5.8 Rotating device with carrying rolls 20
5.9 Transfer points for industrial trucks 20
5.10 Interfaces/transfer points to adjacent conveying systems, the delivering machine and the receiving machine 21
5.11 Emergency stop device 21
5.12 Devices for make-ready and maintenance 21
5.13 Noise 22

6 Verification of compliance with safety requirements and/or measures 22

7 Information for use 22
7.1 General 22
7.2 Instruction handbook 23
7.3 Marking 23

Annex A (informative) Figures 24

Annex B (informative) Application of electro-sensitive protective equipment (ESPE) on roll loading (entry) and unloading (exit) areas of paper finishing machines and roll handling systems 26

B.1 Muting 26
B.2 Partial blanking - Automatic selection of active detection fields 28

Annex C (informative) Trilingual index of terms 30

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 31

Bibliography 32

Table 1 -- List of significant hazards 10

Table 2 -- Requirements from EN 1034-1:2000+A1:2010 and related B standards 11

Table 3 -- List of safety functions, Performance Level und Safety Integrity Level 13

Table 4 -- Verification of compliance with safety requirements and/or measures 22

Figure A.1 -- Example of a reel and roll handling system (picture provided by Metso) 24

Figure A.2 -- Example of a reel and roll handling system (picture provided by Metso) 25