# DIN EN ISO 12643-3:2024-11 (E)

## Graphic technology - Safety requirements for graphic technology equipment and systems - Part 3: Binding and finishing equipment and systems (ISO 12643-3:2023)

## Contents

Page


**European foreword** ... **4**

**Foreword** ... **5**

**Introduction** ... **7**

**1 Scope** ... **8**

**2 Normative references** ... **8**

**3 Terms and definitions** ... **8**

**4 Significant hazards** ... **11**

**5 Guarding of significant hazards** ... **11**

5.1 General ... 11

5.2 Interlocks ... 12

5.2.1 Interlocking with guard locking ... 12

5.2.2 Exception for machine motion at inching speed ... 13

5.2.3 Exception for machine motion at production speed ... 13

5.3 Guarding of hoppers and hopper feeders ... 13

5.3.1 Manually loaded hoppers ... 13

5.3.2 Guarding of automatically fed hoppers ... 13

5.3.3 Protection of unused hoppers and hopper feeders ... 14

5.3.4 Separating elements on hopper feeders ... 14

5.4 Guarding on binding and finishing machines ... 14

5.4.1 Hand-fed riveting, eyeletting and attaching machines ... 14

5.4.2 Hand-fed flat- and saddle-stitching machines ... 14

5.4.3 Gang stitchers and drum stitchers ... 15

5.4.4 Gathering machines ... 18

5.4.5 Perfect binders ... 20

5.4.6 Paper drills ... 22

5.4.7 Book signature presses ... 24

5.4.8 Book press ... 24

5.4.9 Sheet-folding machines ... 25

5.4.10 Book production lines for the production of hard-cover books ... 26

5.4.11 Back-rounding and pressing machines ... 27

5.4.12 Backlining and head-banding machines ... 27

5.4.13 Casing-in (case-binding) machines ... 28

5.4.14 Book-cover crease-forming machines (presses) ... 30

5.5 Inserting and collating machines ... 30

5.6 Counter-stackers ... 30

5.6.1 Safeguarding divert gates (waste separator) ... 30

5.6.2 Safeguarding hazard points at turntable ... 31

5.6.3 Pneumatic system ... 31

5.7 Paper-embossing machines ... 31

5.7.1 Safeguarding in-running nips on guide rollers ... 31

5.7.2 Stretch rollers and counter rollers ... 31

5.7.3 Safeguarding movement of counter roller ... 31

5.7.4 Insulation of heated parts ... 32

5.8 Finishing machines ... 32

5.8.1 Coaters ... 32

5.8.2 Laminators ... 34

5.9 Guillotine cutters ... 37
5.9.1 Knife cycles ... 37
5.9.2 Interruption of cutting cycles ... 38
5.9.3 Clamping ... 38
5.9.4 Failure of knife and clamp bar linkages ... 39
5.9.5 Backgauge ... 39
5.9.6 Guarding front (operating side) of a guillotine ... 41
5.9.7 Pile-support angles (jogging blocks) ... 45
5.9.8 Knife changing and adjustment ... 46
5.9.9 Hazards from integral feeding and delivery equipment on guillotine cutters ... 46
5.10 Trimmers and three knife trimmers ... 48
5.11 Three-knife trimmer with manual infeed ... 49
5.12 Inserters/attaching machines ... 50
5.13 Overcover/protective wrapper gluers ... 50
5.14 Corner-rounding machines ... 50

**6 Verification of the safety requirements and/or protective/ risk reduction measures ... 51**

**7 Information for use — Contents of instruction handbook ... 54**
7.1 Information for gang stitchers ... 54
7.2 Information for gathering machines ... 54
7.3 Information for perfect binders ... 54
7.4 Information for sheet folding machines ... 55
7.5 Information for inserting machines ... 55
7.6 Information for machines for the production of envelopes ... 55
7.7 Information for guillotine cutters ... 56
7.8 Information for integral feeding and delivery equipment for guillotine cutters ... 56
7.9 Information for trimmers ... 56
7.10 Information for corner-rounding machines ... 57
7.11 Information for contact with hot surfaces above 65 °C ... 57

**Annex A** (normative) **Safety distance of ESPDs on guillotine cutters and three knife trimmers with manual infeed — Formulae for the calculation of safety distance of ESPDs ... 58**

**Annex B** (informative) **List of significant hazards ... 59**

**Bibliography ... 69**