DIN EN 848-2:2010-04 (E)

Safety of woodworking machines - One side moulding mac hines with rotating tool - Part 2: Single spindle hand fed/integrated fed routing machines (includes Amendment A1:2009)

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 8
3.1 General 8
3.2 Definitions 8
3.3 Terms 14

4 List of significant hazards 15

5 Safety requirements and/or measures 19
5.1 General 19
5.2 Controls 19
5.2.1 Safety and reliability of control systems 19
5.2.2 Position of controls 20
5.2.3 Starting 21
5.2.4 Normal stopping 22
5.2.5 Additional stop 22
5.2.6 Emergency stop 23
5.2.7 Mode selection 23
5.2.8 Spindle speed monitoring 24
5.2.9 Integrated feed 25
5.2.10 Failure of the power supply 25
5.2.11 Failure of the control circuits 25
5.3 Protection against mechanical hazards 25
5.3.1 Stability 25
5.3.2 Hazard of break up during operation 26
5.3.3 Tool holder and tool design 26
5.3.4 Braking 28
5.3.5 Devices to minimise the possibility or the effect of ejection 29
5.3.6 Workpiece supports and guides 31
5.3.7 Prevention of access to moving parts 33
5.3.8 Characteristics of guards and safety devices 35
5.3.9 Clamping device 35
5.3.10 Safety appliances 35
5.4 Protection against non mechanical hazards 36
5.4.1 Fire 36
5.4.2 Noise 36
5.4.3 Emission of chips and dust 37
5.4.4 Electricity 37
5.4.5 Ergonomics and handling 38
5.4.6 Pneumatics 39
5.4.7 Hydraulics 39
5.4.8 Electromagnetic compatibility 39

5.4.9 Static electricity 39
5.4.10 Errors of fitting 39
5.4.11 Supply disconnecting devices 39
5.4.12 Maintenance 40

6 Information for use 40
6.1 Warning devices 40
6.2 Marking 40
6.3 Instruction handbook 41

Annex A (informative) Use of well tried components 46

Annex B (normative) Stability test for displaceable machines 47

Annex C (normative) Braking tests 48

C.1 Conditions for all tests 48
C.2.1 Un-braked run-down time 48
C.2.2 Braked run-down time 48

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC 49

Annex ZB (informative) !Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC" 52

Bibliography 56