

# DIN EN 860:2007-09 (E)

## Safety of woodworking machines - One side thickness planing machines

---

| <b>Contents</b>    |  | <b>Page</b> |
|--------------------|--|-------------|
| Foreword .....     |  | 4           |
| Introduction ..... |  | 5           |
| <b>1</b>           | <b>Scope .....</b>   | <b>6</b>    |
| <b>2</b>           | <b>Normative references .....</b>  | <b>6</b>    |
| <b>3</b>           | <b>Terms and definitions .....</b>   | <b>8</b>    |
| <b>3.1</b>         | <b>General .....</b>   | <b>8</b>    |
| <b>3.2</b>         | <b>Definitions .....</b>   | <b>8</b>    |
| <b>3.3</b>         | <b>Terms .....</b>   | <b>11</b>   |
| <b>4</b>           | <b>List of significant hazards .....</b>                                   | <b>12</b>   |
| <b>5</b>           | <b>Safety requirements and/or measures .....</b>                           | <b>15</b>   |
| <b>5.1</b>         | <b>General .....</b>   | <b>15</b>   |
| <b>5.2</b>         | <b>Controls .....</b>  | <b>15</b>   |
| <b>5.2.1</b>       | <b>Safety and reliability of control systems .....</b>                     | <b>15</b>   |
| <b>5.2.2</b>       | <b>Position of controls .....</b>  | <b>16</b>   |
| <b>5.2.3</b>       | <b>Starting .....</b>  | <b>17</b>   |
| <b>5.2.4</b>       | <b>Normal stopping .....</b>   | <b>17</b>   |
| <b>5.2.5</b>       | <b>Emergency stop .....</b>  | <b>18</b>   |
| <b>5.2.6</b>       | <b>Failure of the power supply .....</b>                                   | <b>19</b>   |
| <b>5.2.7</b>       | <b>Failure of the control circuit .....</b>                                | <b>19</b>   |
| <b>5.3</b>         | <b>Protection against mechanical hazards .....</b>                         | <b>19</b>   |
| <b>5.3.1</b>       | <b>Stability .....</b>   | <b>19</b>   |
| <b>5.3.2</b>       | <b>Hazard of break up during operation .....</b>                           | <b>20</b>   |
| <b>5.3.3</b>       | <b>Cutterblock design .....</b>  | <b>20</b>   |
| <b>5.3.4</b>       | <b>Braking .....</b>   | <b>20</b>   |
| <b>5.3.5</b>       | <b>Devices to minimise the possibility or the effect of ejection .....</b> | <b>21</b>   |
| <b>5.3.6</b>       | <b>Work-piece support and guides .....</b>                                 | <b>22</b>   |
| <b>5.3.7</b>       | <b>Prevention of access to moving parts .....</b>                          | <b>22</b>   |
| <b>5.3.8</b>       | <b>Characteristics of tool guards .....</b>                                | <b>23</b>   |
| <b>5.4</b>         | <b>Protection against non-mechanical hazards .....</b>                     | <b>24</b>   |
| <b>5.4.1</b>       | <b>Fire .....</b>  | <b>24</b>   |
| <b>5.4.2</b>       | <b>Noise .....</b>   | <b>24</b>   |
| <b>5.4.3</b>       | <b>Emission of chips and dust .....</b>                                    | <b>25</b>   |
| <b>5.4.4</b>       | <b>Electricity .....</b>   | <b>26</b>   |
| <b>5.4.5</b>       | <b>Ergonomics and handling .....</b>                                       | <b>27</b>   |
| <b>5.4.6</b>       | <b>Pneumatics .....</b>  | <b>27</b>   |
| <b>5.4.7</b>       | <b>Hydraulics .....</b>  | <b>27</b>   |
| <b>5.4.8</b>       | <b>Electromagnetic compatibility .....</b>                                 | <b>27</b>   |
| <b>5.4.9</b>       | <b>Supply disconnection (isolation) .....</b>                              | <b>28</b>   |
| <b>5.4.10</b>      | <b>Static electricity .....</b>  | <b>28</b>   |
| <b>5.4.11</b>      | <b>Maintenance .....</b>   | <b>28</b>   |
| <b>6</b>           | <b>Information for use .....</b>   | <b>28</b>   |
| <b>6.1</b>         | <b>General .....</b>   | <b>28</b>   |
| <b>6.2</b>         | <b>Marking .....</b>   | <b>29</b>   |
| <b>6.3</b>         | <b>Instruction handbook .....</b>  | <b>29</b>   |

|   |           |
|---|-----------|
| <b>Annex A (normative) Kickback test .....</b>  | <b>33</b> |
| <b>Annex B (normative) Stability test for displaceable machines .....</b>   | <b>34</b> |
| <b>Annex C (normative) Impact test method for guards .....</b>  | <b>35</b> |
| <b>C.1 General .....</b>  | <b>35</b> |
| <b>C.2 Test method .....</b>  | <b>35</b> |
| <b>C.2.1 Preliminary remarks .....</b>  | <b>35</b> |
| <b>C.2.2 Testing equipment .....</b>  | <b>35</b> |
| <b>C.2.3 Projectile for guards .....</b>  | <b>35</b> |
| <b>C.2.4 Sampling .....</b>   | <b>35</b> |
| <b>C.2.5 Test procedure .....</b>   | <b>35</b> |
| <b>C.3 Results .....</b>  | <b>36</b> |
| <b>C.4 Assessment .....</b>   | <b>36</b> |
| <b>C.5 Test report .....</b>  | <b>36</b> |
| <b>C.6 Test equipment for impact test .....</b>   | <b>36</b> |
| <b>Annex D (informative) Use of well tried components .....</b>   | <b>38</b> |
| <b>Annex E (normative) Use of electronic components .....</b>   | <b>39</b> |
| <b>E.1 General .....</b>  | <b>39</b> |
| <b>E.2 SRECS design .....</b>   | <b>39</b> |
| <b>E.2.1 Components, hardware .....</b>   | <b>39</b> |
| <b>E.2.2 Safety related software .....</b>  | <b>40</b> |
| <b>Annex F (normative) Braking tests .....</b>  | <b>42</b> |
| <b>F.1 Conditions for all tests .....</b>   | <b>42</b> |
| <b>F.2 Unbraked run-down time .....</b>   | <b>42</b> |
| <b>F.3 Braked run-down time .....</b>   | <b>42</b> |
| <b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/73/EC .....</b> | <b>43</b> |
| <b>Bibliography .....</b>   | <b>46</b> |