

# DIN EN 1218-4:2009-12 (E)

## Safety of woodworking machines - Tenoning machines - Part 4: Edge banding machines fed by chain(s) (include s Amendment A2:2009)

---

<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>9</b>
<b>3.1</b>	<b>General .....</b>	<b>9</b>
<b>3.2</b>	<b>Terms .....</b>	<b>9</b>
<b>3.3</b>	<b>Definitions .....</b>	<b>11</b>
<b>4</b>	<b>List of significant hazards .....</b>	<b>13</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>16</b>
<b>5.2.1</b>	<b>Safety and reliability of control systems .....</b>	<b>16</b>
<b>5.2.2</b>	<b>Position of controls .....</b>	<b>17</b>
<b>5.2.3</b>	<b>Starting .....</b>	<b>17</b>
<b>5.2.4</b>	<b>Stop controls .....</b>	<b>18</b>
<b>5.2.5</b>	<b>Emergency stop .....</b>	<b>19</b>
<b>5.2.6</b>	<b>Integrated feed .....</b>	<b>19</b>
<b>5.2.7</b>	<b>Mode selection .....</b>	<b>19</b>
<b>5.2.8</b>	<b>Speed changing .....</b>	<b>21</b>
<b>5.2.9</b>	<b>Control duplication .....</b>	<b>21</b>
<b>5.2.10</b>	<b>Failure of the power supply .....</b>	<b>21</b>
<b>5.2.11</b>	<b>Failure of the control circuits .....</b>	<b>21</b>
<b>5.3</b>	<b>Protection against mechanical hazards .....</b>	<b>22</b>
<b>5.3.1</b>	<b>Stability .....</b>	<b>22</b>
<b>5.3.2</b>	<b>Risk of break-up during operation .....</b>	<b>22</b>
<b>5.3.3</b>	<b>Tool holder and tool design .....</b>	<b>22</b>
<b>5.3.4</b>	<b>Braking .....</b>	<b>24</b>
<b>5.3.5</b>	<b>Devices to minimise the possibility or the effect of ejection or kick-back .....</b>	<b>26</b>
<b>5.3.6</b>	<b>Work-piece supports and guides .....</b>	<b>27</b>
<b>5.3.7</b>	<b>Prevention of access to moving parts .....</b>	<b>27</b>
<b>5.4</b>	<b>Protection against non-mechanical hazards .....</b>	<b>34</b>
<b>5.4.1</b>	<b>Fire .....</b>	<b>34</b>
<b>5.4.2</b>	<b>Noise .....</b>	<b>35</b>
<b>5.4.3</b>	<b>Emission of chips, and dust .....</b>	<b>36</b>
<b>5.4.4</b>	<b>Electricity .....</b>	<b>36</b>
<b>5.4.5</b>	<b>Ergonomics and handling .....</b>	<b>37</b>
<b>5.4.6</b>	<b>Lighting .....</b>	<b>37</b>
<b>5.4.7</b>	<b>Pneumatics .....</b>	<b>38</b>
<b>5.4.8</b>	<b>Hydraulics .....</b>	<b>38</b>
<b>5.4.9</b>	<b>Heat .....</b>	<b>38</b>
<b>5.4.10</b>	<b>Substances .....</b>	<b>38</b>
<b>5.4.11</b>	<b>Electromagnetic compatibility .....</b>	<b>38</b>
<b>5.4.12</b>	<b>Static Electricity .....</b>	<b>38</b>
<b>5.4.13</b>	<b>Errors of fitting .....</b>	<b>38</b>

<b>5.4.14</b>	<b>Isolation .....</b>	<b>39</b>
<b>5.4.15</b>	<b>Maintenance .....</b>	<b>39</b>
<b>6</b>	<b>Information for use .....</b>	<b>39</b>
<b>6.1</b>	<b>Warning devices .....</b>	<b>39</b>
<b>6.2</b>	<b>Marking .....</b>	<b>40</b>
<b>6.3</b>	<b>Instruction handbook .....</b>	<b>40</b>
<b>Annex A (informative) Examples of safety related control systems .....</b>		<b>44</b>
<b>Annex B (normative) Tool spindle dimensional tolerances .....</b>		<b>48</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC .....</b>		<b>50</b>
<b>Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC .....</b>		<b>51</b>
<b>Bibliography .....</b>		<b>52</b>