

# DIN EN 13061:2010-01 (E)

## Protective clothing - Shin guards for association football players - Requirements and test methods

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		5
<b>1</b>	<b>Scope .....</b>	<b>6</b>
<b>2</b>	<b>Terms and definitions .....</b>	<b>6</b>
<b>3</b>	<b>Requirements .....</b>	<b>6</b>
3.1	General, including innocuousness .....	6
3.2	Ergonomics .....	7
3.3	Sizing .....	7
3.4	Restraint .....	7
3.5	Stud impact resistance .....	7
3.6	Blunt impact performance .....	7
<b>4</b>	<b>Test methods .....</b>	<b>7</b>
4.1	General .....	7
4.2	Sampling and conditioning of the test samples .....	8
4.3	Test area marking .....	8
4.4	Innocuousness .....	9
4.5	Ergonomics .....	12
4.6	Restraint .....	12
4.7	Stud impact .....	13
4.8	Blunt impact test .....	18
<b>5</b>	<b>Marking .....</b>	<b>23</b>
<b>6</b>	<b>Information supplied by the manufacturer .....</b>	<b>24</b>
<b>Annex A (informative) Significant technical changes between this European Standard and the Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC .....</b>		<b>26</b>
<b>Bibliography .....</b>		<b>27</b>
<b>Figures Figure 1 -- A plan diagram of the test area of a shin guard .....</b>		<b>8</b>
<b>Figure 2 -- Radius gauge for assessing external ridges .....</b>		<b>8</b>
<b>Figure 3 -- Diagram of the use of radius gauges on external ridges of a shin guard .....</b>		<b>10</b>
<b>Figure 4 -- The points of attachment of clamps and the direction of the force to be applied in restraint testing .....</b>		<b>11</b>
<b>Figure 5 -- Diagram illustrating the principles of the design of a horizontal cone stud impact apparatus .....</b>		<b>13</b>
<b>Figure 6 -- Diagram illustrating the construction tolerances on the guidance and falling block system .....</b>		<b>14</b>

<b>Figure 7 -- Diagram illustrating the principles of the design of the vertical inclined cone stud impact apparatus .....</b>	<b>16</b>
<b>Figure 8 -- Dimensions of the leg form cone .....</b>	<b>20</b>
<b>Figure 9 -- Diagram of the vertical impact anvil design .....</b>	<b>21</b>
<b>Figure 10 -- View of the falling mass .....</b>	<b>21</b>
<b>Figure 11 -- Plan view of the strap system to hold the shin guard in place on the leg form .....</b>	<b>22</b>
<b>Figure 12 -- A shin guard held down by a strap system on the leg form cone .....</b>	<b>23</b>