The role of Ghent University in artificial turf developments and sports application

Stijn Rambour, Dagmar D’hooge, Paul Kiekens
What is artificial turf?
What is artificial turf?
Why installing artificial turf?

Less climate dependant
More playing hours
More equal properties

Stijn Rambour, Dagmar D’hooge, Paul Kiekens - ERCAT – ercat@ugent.be
What is ERCAT?

- Part of MaTcH (Department of Materials, Textiles and Chemical engineering) of Ghent University
- Accredited by FIFA (football), World Rugby (rugby) and FIH (hockey) for field and lab testing
- Test on the complete structure of artificial turf
- Independent advise and project guide
- Research on all different components of the artificial turf
Lab tests
Lisport XL
Field tests all over the world
Interaction between ball and surface:

Ball rebound

<table>
<thead>
<tr>
<th>FIFA Quality World Rugby EN15330-1</th>
<th>60-100 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFA Quality Pro</td>
<td>60-85 cm</td>
</tr>
</tbody>
</table>
Interaction between ball and surface:

Ball roll

<table>
<thead>
<tr>
<th>Standard</th>
<th>Distance Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFA Quality Pro (original en retest)</td>
<td>4-8 m</td>
</tr>
<tr>
<td>FIFA Quality EN 15330 (original)</td>
<td>4-10m</td>
</tr>
<tr>
<td></td>
<td>4-12m (retest)</td>
</tr>
</tbody>
</table>
Interaction between player and surface:

Shock absorption, vertical deformation, energy restitution

<table>
<thead>
<tr>
<th></th>
<th>FR</th>
<th>VD</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFA Quality &amp; World Rugby</td>
<td>55-70 %</td>
<td>6-11 mm</td>
</tr>
<tr>
<td>FIFA Quality Pro</td>
<td>60-70 %</td>
<td>6-10 mm</td>
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</tbody>
</table>
Interaction between player and surface:

Rotational resistance

<table>
<thead>
<tr>
<th>Standard</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFA Quality World Rugby EN 15330-1</td>
<td>25-50 Nm</td>
</tr>
<tr>
<td>FIFA Quality Pro</td>
<td>30-45 Nm</td>
</tr>
</tbody>
</table>
Identification of carpet and infill materials
Subbase check
Project to develop fire retardant artificial turf and promote awareness to use fire-retardant artificial turf
Cooperation
ERCAT
European Research Centre for Artificial Turf

Questions?

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