THE CONSTRUCTION PERSPECTIVE

Mike Abbott,
SAPCA and Sports Labs Ltd.

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Factors affecting useful life of a sports surface

- Utilisation
- Climate/location
- Maintenance
- Construction methods & materials
Utilisation

- Football Foundation: 85 hours per week

- Modern suspended water table, natural grass pitch: 60 games per season.
Utilisation

- Athletics surfaces...training or competition
- Tennis........footwear, other sports
- Hockey..........stick damage
Climate / Location

- Incidence of flooding
- Recurrence of freeze-thaw conditions
- Proximity of trees.
Unfortunate Location?
Construction methods/materials

- Drainage design
- Foundation design
- Shockpad specification
- Type of surface
- Type of infill
- Irrigation.
Irrigation
Maintenance

- Dependent on surface type
- Routine essential
- No maintenance free surfaces
- Follow manufacturers instructions
Indicators of Surface Degradation

- Surface water drainage problems: Flooding
- Ball surface interaction: bounce and roll
- Ball surface interaction: pace
- Player surface interaction: resilience
- Loss of texture: slip
Performance Testing
Flooding on athletics track
Lack of maintenance
Football Specific Carpets

- Bounce
- Roll
- Pace off surface
A Polyolefin fibre from a Third generation pitch.

At installation | After 5 Years wear
Filled carpets at mid-life

- Fibres have started to fibrillate and bend over
- Fill has reached optimum compaction
- Drainage is good
- Sports related performance is good
Filled carpets in need of attention

- Pile has folded over trapping the fill
- Fill is contaminated and compacted
- Drainage has become very slow
- Court becomes hard
- Ball bounce is erratic
Contaminated sand after 5 years
Brushing
Decompacting
Scarifying Synthetic Turf
Data Required

- Intensity of use on different types of surface
- Rates of degradation of pile height on carpets
- Rates of degradation of surface texture on polymerics
- Relationship between age and hardness on surfaces
- Relationship between age and porosity of surfaces
- Relationship between age and ball/surface characteristics.
Potential Data Sources

- Sports facility owners/managers
- Test houses
- Consultants
- Governing bodies of sport
- Research establishments
- Manufacturers
- Installers/contractors
Future Challenges

- Non irrigated hockey pitches
- Slow down the rate of degradation
- Environmentally acceptable disposal of old sport surfacing systems
- Test methods more closely related to athlete performance.