




Recycling, Repurposing, and Reusing Rubber Infill Systems

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History of 3rd Generation Synthetic Turf

- ▶ 1997 was the 1st time installed
- ▶ By 2012 there were over 8,000 synthetic turf fields
- ▶ Currently 12,000–13,000 fields in US
- ▶ Typical field has 80,000 sq. ft.
 - 40,000 lbs. of turf
 - 400,000 lbs. of infill

History – Continued

- ▶ In 2018 over 1,000 fields will be annually deconstructed
 - More than 40,000,000 lbs. of turf
 - More than 400,000,000 lbs. of infill
- ▶ Average lifespan of synthetic turf is 10 years
- ▶ Normal cost of landfilling a synthetic turf field is \$30,000–\$60,000

Synthetic Turf Removal

- ▶ Reuse/Repurpose
- ▶ Recycle
- ▶ Convert to Energy
- ▶ Landfill





Old Turf – Reuse/Repurpose

- ▶ Play areas
- ▶ Dog runs/Pet Parks
- ▶ Airports
- ▶ Batting cages
- ▶ Bullpens
- ▶ Driving ranges
- ▶ Sand trap liners
- ▶ Driving Mats
- ▶ Band practice field
- ▶ Indoor practice field
- ▶ Turf Recycling Companies





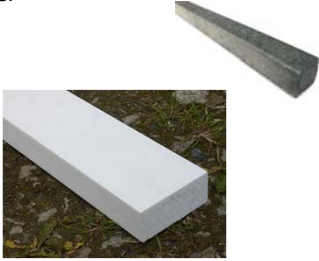

Infill – Reuse/Repurpose

- ▶ Reuse on new synthetic field
- ▶ Topdressing on natural turf
- ▶ Road base
- ▶ Speed bumps
- ▶ Roofing
- ▶ Carpet underlay
- ▶ Children’s playground
- ▶ Equestrian surfaces



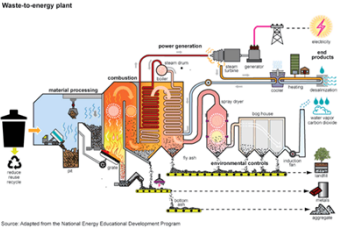

Recycle

- ▶ Can be done but is limited
- ▶ Synthetic Lumber
 - Posts
 - Boards
 - Railroad ties
- ▶ Molded Parts
 - Injection
 - Compression



Convert to Energy

- ▶ Turf
- ▶ Infill



Waste-to-energy plant

Source: Adapted from the National Energy Educational Development Program

Options to Remove Infill

- ▶ Option #1 – Redexim Eliminator
- ▶ Option #2 – SMG
- ▶ Option #3 – TRS
- ▶ Option #4 – Manual



Option #1 – Redexim

- ▶ Eliminator
- ▶ Brush and conveyor belts
- ▶ Uses
 - Infill removed in 2–5 days
 - Fix problem areas
- ▶ Extremely cost effective




Option #2 – SMG

- ▶ Turf Muncher
- ▶ Picks up turf
- ▶ Removes infill
- ▶ Rolls up turf
- ▶ Takes 3–7 days



Option #3 – TRS

- ▶ Process includes 3 different units
 - Viper
 - Rattlesnake
 - Winder
- ▶ Cuts into 45” strips
- ▶ Takes 4–7 days



Option #4 – Manual

- ▶ Takes 7-14 days
- ▶ Remove in 15 foot wide strips
- ▶ Little disturbance to base



Infill Options

- ▶ Crumb Rubber
- ▶ EPDM
- ▶ TPE
- ▶ Organic Infill
 - Cork
 - Coconut Fiber
 - Walnut Shell
- ▶ Silica Sand
- ▶ Coated Silica Sand
- ▶ Coated Crumb Rubber



Summary

- ▶ Size of the synthetic turf market is large/increasing
- ▶ Options are numerous
 - Recycle/Reuse/Repurpose
 - Equipment to remove
 - New infill choices

