

USGA Greens Guide

compliments of -

Turf & Soil Diagnostics



Particle Size Distribution of a USGA Rootzone Mix		
Fraction Size Name	Sieve Size US Standard (mm)	Acceptable Range % Retained
Gravel	10 (2.00)	≤ 3%
Very Coarse	18 (1.00)	≤ 7% to 10%
Coarse	35 (0.50)	At least 60% in this range.
Medium	60 (0.25)	
Fine	100 (0.15)	20% Maximum
Very Fine	270 (0.05)	5% Maximum
Silt	0.002	5% Maximum
Clay	< 0.002	3% Maximum
Uniformity Coefficient	1.8 - 3.5 for mixes with peat	2.0 - 3.5 for sand or inorganic mixes

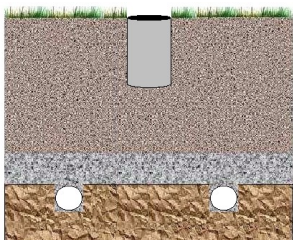
This information was compiled from the 2018 revision of the USGA Recommendations for a Method of Putting Green Construction, which can be found on the internet at www.usga.org.

Physical Performance of a USGA Rootzone Mix	
Test	Allowable Ranges
Infiltration Rate	Minimum 6 inches/hour
Total Porosity	35 - 55%
Capillary Porosity	15 - 25%
Noncapillary Porosity	15 - 30%

Regardless of the amendment choice, the rootzone mix must meet the physical properties requirements as defined in the USGA Recommendations.

Amendment Selection	
Type	Requirement
Organic	Peat: > 85% organic matter by dry wt. Compost: must be in mesophilic stage.
Inorganic	Porous inorganic amendments only
Soil	> 60% Sand and 5 - 20 % Clay.

USGA Recommendations for a Method of Putting Green Construction



- Rootzone: uniform depth of 12"
- Intermediate Layer (if needed): 2 to 4" depth
- Gravel Layer: 4" depth
- A subsurface drainage system is required.
- Sub grade: should conform to the general slope of the finished grade

See other side of this document for USGA rootzone mix recommendations.

Gravel Criteria of USGA Green Design (Without an Intermediate Sand Layer)	
Sieve Size US Standard (mm)	Allowable Ranges
1/2" (12.5)	100% Passing
#10 (2.0)	≤ 10% Passing
#18 (1.0)	≤ 5% Passing
Uniformity Coefficient	≤ 3.0
Bridging	D15 Gravel ≤ 8 x D85 Sand
Permeability	D15 Gravel ≥ 5 x D15 Sand
Microdeval testing may be required if stability is questionable.	

Turf & Soil Diagnostics

with 2 labs to serve your testing needs

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