

The Hills Turf Underlay

The Hills Turf Underlay is a superior mix that creates a thriving lawn environment. It is specially developed for the use in both residential and amenity turf areas. The mix contains minerals and inorganic components, as well as a percentage of organic product for better structure and nutrition. The Hills Turf Underlay has high permeability which creates a free draining environment to decrease the chance of fungal growth.

The Hills Turf Underlay is tested to **Specification C1** – Passive Amenity Turf from the text Soil for Landscape Development by **Leake and Haege**. It is also tested for Bulk Density, Saturated Bulk Density & Environmental Compliance as special requests outside the general Australian Standard suite.



TEST RESULTS:

MAY 2021

Physical Properties	Unit	Target Range	Results	Comments
2.0 mm (fine gravel)	% retained by mass	< 10	5.03	Acceptable
1.0 mm (very coarse sand)	% retained by mass	< 10	7.09	Acceptable
0.5 mm (coarse sand)	% retained by mass	10 - 30	7.95	Low
0.25 mm (medium sand)	% retained by mass	20 - 40	53.39	High
0.1 mm (fine sand)	% retained by mass	10 - 30	1.35	Low
0.05 mm (very fine sand)	% retained by mass	5 - 15 (max 25% combined of vfs, si +cl)	1.72 - 25.18	Low
<0.05 mm (fine particles)	% retained by mass	3 - 10	3.28	Acceptable
Large Particles	% by mass	2 - 20mm = < 10% > 20mm = 0%	5.03 <0.01	Acceptable Low
Organic matter content	% w/w	2 to 8	9.4	High - due to ash content
Permeability	mm/h	> 30 (@ 16 Drops)	1374	Acceptable - High
Wettability (AS4419)	mm/min	> 5	90	Acceptable
Dispersibility in water	Category	1 or 2 (AS4419)	2	Acceptable
Chemical Properties	Unit	Target Range	Results	Comments
pH in water (1:5)	pH units	5.4 - 8.0	6.42	Acceptable
pH in CaCl2 (1:5)	dS/m	5.2 - 7.5	6.09	Acceptable
Electrical conductivity (1:5)	mg/L	< 0.5	0.87	Slightly High
Exchangeable Na percentage	mg/L	< 7	7.7	Slightly High
Exchangeable Ca:Mg ratio	mg/L	3 - 9	3	Acceptable
Available phosphorus	-	50 - 150 20 - 50	42 -	Slightly Low
Available nitrogen (NO ₃)	mm	20 - 60	26	Acceptable

Bulk Density 0.7kg/L. Saturated Bulk Density 1.3kg/L



"We consider the material fit for purpose as a turf underlay in all but high grade sports field situations provided the turf is fertilized once established as is normal practice" **SESL Australia.**

Report Date: 14th May 2021