

# 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:

Oct 2021

Physical Properties	Unit	Target Range	Results	Comments
2.0 mm (fine gravel)	% retained by mass	< 10	4.2	Acceptable
1.0 mm (very coarse sand)	% retained by mass	< 10	6.9	Acceptable
0.5 mm (coarse sand)	% retained by mass	10 - 30	28.76	Acceptable
0.25 mm (medium sand)	% retained by mass	20 - 40	38.55	Acceptable
0.1 mm (fine sand)	% retained by mass	10 - 30	1.26	Low
0.05 mm (very fine sand)	% retained by mass	5 - 15 (max 25% combined of vfs, si +cl)	1.54 - 20.33	Low
<0.05 mm (fine particles)	% retained by mass	3 - 10	2.33	Low
Large Particles	% by mass	2 - 20mm = < 10% > 20mm = 0%	4.2 <0.01	Acceptable Low
Organic matter content	% w/w	2 to 8	22	High - due to ash content
Permeability	mm/h	> 30 (@ 16 Drops)	1490	Acceptable - High
Wettability (AS4419)	mm/min	> 5	180	Acceptable
Dispersibility in water	Category	1 or 2 (AS4419)	4	High
Chemical Properties	Unit	Target Range	Results	Comments
pH in water (1:5)	pH units	5.4 - 8.0	5.92	Acceptable
pH in CaCl2 (1:5)	dS/m	5.2 - 7.5	5.53	Acceptable
Electrical conductivity (1:5)	mg/L	< 0.5	0.82	Slightly High
Exchangeable Na percentage	mg/L	< 7	5.7	Acceptable
Exchangeable Ca:Mg ratio	mg/L	3 - 9	3.5	Acceptable
Available phosphorus	-	50 - 150    20 - 50	37    -	Slightly Low
Available nitrogen (NO <sub>3</sub> )	mm	20 - 60	63	High

### 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