



ISA Sport USA

DMA Sports Design Group

Turf and Infill Temperature Evaluation

**Limonta Sport Max-S 60mmTurf
w/ patented, organic InfillPro Geo**

vs.:

- Natural Grass
- Crumb Tire Rubber
- Crumb Tire Rubber/Sand

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Prepared Through:

Limonta Sports Turf

Prepared by:

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Infill System Temperature Testing:

Hydra-Cone Infill Measurement · Infrared Thermometer · ACU-Rite Probe

Time/Day	Air Temp °F/ Sky	Humidity %	Wind MPH	Natural Grass °F	Raw Soil °F	Moisture %	InfillPro Geo °F	Rubber Infill °F	Sand/Rubber Infill °F
11:00/ 1	63/ Sun	44	12	80	89	2.0	84	104	103
2:00/ 1	71/ Sun	32	15	89	110	2.0	107	144	149
Moisture added after 2pm reading:									
3:00/ 1	80/ Sun	19	11	100	126	4.0	113	163	161
4:00/ 1	86/ Sun	15	14	104	131	4.0	116	174	171
Moisture added at 9am: (12 oz. per square foot)									
11:00/ 2	83/ Sun	21	21	88	117	5	109	121	119
2:00/ 2	88/ Sun	33	3	99	124	5	111	126	123
3:00/ 2	93/ Sun	26	10	101	126	4.5	115	164	163
4:00/ 2	97/ Sun	15	16	97	131	4.5	103	171	173
5:00/ 2	98/ Sun	11	20	92	126	4.3	101	147	144
Moisture added at 9am: (12 oz. per square foot)									
1:00/ 3	86/ Sun	31	7	88	117	5.0	99	141	140
2:00/ 3	88/ Sun	33	3	93	119	5.0	104	157	155
3:00/ 3	93/ Sun	21	12	98	126	4.5	115	164	163
4:00/ 3	97/ Sun	15	16	100	131	4.5	117	171	173
5:00/ 3	98/ Sun	11	20	98	126	4.3	114	169	168

These results were compiled over a period of time utilizing real world environmental conditions and practical for true field evaluations. Our goal was to observe the moisture threshold that the product would perform the best in. It's clear that the humidity level in the air will not be enough to keep the product performing at its best, however, thanks' to its' natural ability to absorb humidity, it doesn't go completely dry even baking in the southern heat. Yet, it is imperative that this product receive an even distribution of water.

The ideal amount of water for this product to perform at its peak seems to be 12 oz. of water per sq. ft., or approximately 6000 gallons of water for a 65,000 sq. ft. field- watered twice per week. It was observed over time and with different natural variables that once the field receives the correct amount of moisture, it will not normally require any additional moisture for up to three days. Therefore, even under the most intense heat and with no naturally occurring precipitation, we feel that the field will require no more than 12,000 gallons of water applied twice a week for the field to perform optimally.

This product performs very well compared to every other product on the market today. When all moisture content and amounts are comprehended by the field technician, this product would take the massive heat issue completely away from the all-weather turf field installation. As you will notice on the reports, once the moisture level knowledge was obtained, it would be no problem to keep the athletic field within 10% on average of the ambient temperature, and this accounts for full sun and wind.

DMA/ISA - Sport USA is here to assist you in the evaluation of products through engineering, design, testing & consultation to achieve successful performance from game-day fields across the country.

Yours truly,
Rusty Abell
 Principal