

## **Sand Filled Artificial Grass Courts - hereafter referred to as SG (synthetic grass)**

In the Master Plan for redevelopment of Gardens Tennis Courts, the possibility of using SG courts was pre-emptively dismissed on the grounds of climate and costs but without explanation. What follows is a review of SG courts based on my experience and knowledge from spending 3 to 4 months every year playing on SG courts at the Penang Sports Club in Malaysia -a place which is wetter and just as hot as Darwin.

1. It is claimed that SG courts are not suitable for the Darwin climate - I presume this is claimed because of high rainfall since SG courts are well proven in the dry summer climate of Canberra where I have friends and family playing tennis. But there is no climate or weather problem with the SG courts in Penang, where I play tennis for 3 to 4 months of the year, both in their wet season and their dry season. Penang is subject to torrential tropical downpours like Darwin. The annual rainfall at the tennis courts in Penang is about 105 inches(2700mm) per year compared with 70 inches (<1800mm) per year in Darwin.. There is some movement of sand after heavy rain but this is not heaped and does not create a problem with play . The courts are swept once per week - this is the only maintenance required - which is sufficient to redistribute the sand perfectly. I believe that it is claimed there was a problem with sand heaping at the previously in stalled SG courts at Bagot Rd in Darwin after heavy rain. Well, that was 30 years ago. We need to consult with a person with recent experience in SG courts in this climate -it is simply a matter of making the right choice of SG specifications.

2. In fact, SG tennis courts are more suited to a wet tropical climate than hard courts for 3 reasons:

(a) club level players can play in even moderate rain as the rain simply saturates the sand and drains off through the sand to the side or back of the court -a simple drain then clears away the runoff. An adequate slope in the underlying base is required (as allowed under ITF court guidelines). In Penang they use a concrete base for 8 SG courts, and an asphalt base for the other 2 SG courts. The balls get damp - not soaked - and fluff up, but this doesn't worry even good club players. On a hard court, you can't even play in a light drizzle because the lines get slippery;

(b) play can resume 20 minutes after heavy rain ceases without any need to sweep or squeegee the courts, given adequate drainage;

(c) SG courts are much cooler than hardcourts. A study at the University of California, Berkeley, USA shows that, at an air temperature of 30 deg Centigrade on a clear day, the surface temperature of a an asphalt ground level surface is 20 degrees hotter than a grass surface due to the cooling effect of evapotranspiration processes. There is similar evaporative cooling effect for SG surfaces if wet i.e. after rain or if watered. This conforms with anecdotal evidence of players (note: on average it rains on 50% of days in Jan, Feb, March in Darwin).

3. It is true that some maintenance of SG courts are required. In Penang they are swept once per week - that is it. In the Australian situation this should be done by club members i.e the players. On the other hand SG courts never require sweeping or drying after rain, unlike hard courts.

4. SG courts are undeniably easier on the legs than hard courts. They have both horizontal and vertical "give". The website [sportsinjurybulletin.com](http://sportsinjurybulletin.com) quotes an Association of Tennis Professionals (ATP) study on the impact of court surface on injuries. This showed that clay was "far more forgiving than hard court" and less injuries were incurred. It went on to say that synthetic grass has similar qualities to clay ( as SG is not used for ATP events there are no figures for injury rates on SG). Anecdotal evidence supports this. Many senior tennis players in Penang will not play on hard courts because it gives them problems with their knees but SG does not.

5. It is claimed that the problem of the hardness of hard courts can be overcome by wearing better shoes. Well, lets have twice the effect by wearing these "better" shoes on a better, softer surface.

6. Obviously there is an additional capital expense associated with SG courts. Penang Sports Club recently had the carpet and sand replaced on 2 existing SG courts at a cost of A\$23,500 per court. The work included removing the existing carpet and sand (a substantial task) and repairing irregularities on the underlying concrete base so there is more work than installing carpet and sand on existing hard courts in Darwin.

7. However, this additional cost is easily offset by the lesser wear on balls and shoes and increased revenue collection. From my experience in Penang, a pair of tennis balls lasts 2 to 3 times as long on SG court than an hard court. If a court is used for 3 hours per day this amounts to A\$9 to A\$12 per day or A\$3285 to A\$4380 p.a. In other words the extra cost of the SG courts is recouped in balls costs over 10 years without adding in the savings on shoes which would be many hundreds of

dollars p.a. for a person playing socially 3 days per week. Also, if one is paying for court use on an hourly basis, the SG courts are available for many more hours during the rainy season for revenue collection

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Note 1. I go to Penang to play tennis for 2 reasons (i) a bigger pool of players my age/level - more than 60 players come to the Sports Club every afternoon (ii) the beautiful SG and grass tennis courts - so much nicer than the hot and hard Darwin tennis courts

Note 2. It is essential that SG courts have adequate slope in the base so the drainage works in the tropics - as per Para 2(a).