

Electrical Tape at Ellerslie AFC - A Report



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*"I learnt all about life
with a ball at my feet."*

RONALDINHO



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Abstract

Electrical Tape is a commonly used material in the sport of football for the purpose of holding a players shin-guards in place, and/or holding their socks up. Each and every use is for the duration of a football game only (usually 90 minutes), after which it is either discarded onto the playing field, left behind in changing rooms, or placed into the nearest bin.

The ape is unrecyclable and will remain inert in a landfill. The tape left exposed to the environment will contribute to the massive global plastic pollution crisis.

We collected the tape used by 3 senior teams at Ellerslie AFC after their games, measured the amount of tape they used, and divided that across how many players used tape in that team. This provided us with an average length of tape used per player who uses tape. We then ran a Facebook Poll on the Ellerslie Managers/Coaches Facebook page asking how many of teams used tape and how many players in each team used it.

We found that around 37.5% of Ellerslie AFC senior players wear electrical tape and collectively use a total of 228 metres each game day, or 4107 metres each season. That's enough to go around the Ellerslie AFC number one pitch 11 times.



Introduction

Earlier this year (2018) an informal group was formed at Ellerslie AFC with the ambition of drastically improving the clubs environmental impacts. One of the Green Ponies first objectives was to reduce the amount of plastic pollution being created by the club, and eventually to eliminate it entirely. It was identified that one of the major contributors to the clubs plastic pollution production was electrical tape.



Electrical tape is a material made from petrochemicals (aka plastic) with a sticky adhesive side that is most commonly used within the electrical industry. It comes in a range of colours, sizes, and qualities. Due to its functional properties, it is commonly used by football players (and other codes) to hold shinpads and/or socks in place.

Players that use electrical tape will apply it prior to the match kick-off and then rip it off once the final whistle has blown. From there it is either thrown into the nearest bin, which will be transported to the local landfill where it will remain for thousands of years. (In short no one really knows, but plastic is essentially inert in a landfill environment).



The tape that isn't discarded into a bin directly is often left behind in the changing rooms, on the pitch, or in the surrounding environment.

Aside from the challenges, the discarded tape creates for the groundskeepers (especially when mowing the grass) and the changing room cleaners, as well as being unsightly for everyone, it is contributing to a massive environmental crisis.

As with all petrochemical plastics, the electrical tape does not biodegrade back into carbon, nitrogen, and water, like natural materials do, and over time will simply break apart into smaller and smaller pieces eventually becoming microplastics.

Microplastics have now been found in bottled water, honey, salt, and beer (1).



The electrical tape collected by report author in a 5 minute pick up directly after a game on Michaels Ave Field 2.



Eight million tonnes of plastic enter the world's oceans every year (2) and on current projections, there will be more plastic than fish, by weight, in the world's ocean by 2050 (3).

Due to its structural nature and the current challenges facing the plastics recycling industry in New Zealand (and globally) it is safe to assume that none of this material will be recycled. Due to it having an adhesive side electrical tape is not accepted in the Soft Plastics Recycling Scheme. There is a small chance a tiny fraction may be recycled within community recycling schemes, but that is beyond the scope of this research.

With the knowledge of the plastic pollution crisis in mind, the Green Ponies want to ensure Ellerslie AFC is no longer contributing to this problem while also highlighting this issue to the club's members and the wider Auckland and New Zealand football communities.

A simple bit of research was undertaken to identify how much electrical tape was being used by the club each season (the methodology and results outlined below), and a commitment was made by the Green Ponies members to influence the teams they were involved with to stop using the electrical tape and replace that with reusable guards stays, shin pad socks, shin pads with a velcro tie, and/or sock ties.

It should also be noted that independent of this research a Grounds Clean-Up was undertaken at Michaels Ave Reserve (the home ground of Ellerslie AFC) during the time frame of this study. Over 2,000 pieces of litter were collected which included 586 individual pieces of electrical tape.



Shin pads & shin pad socks.



Shin pads with velcro straps



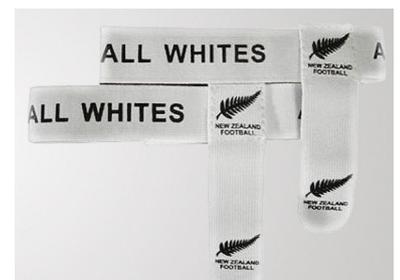
Shin pads with velcro straps and ankle protectors.



Guard stays



Sock ties



Elasticated sock ties



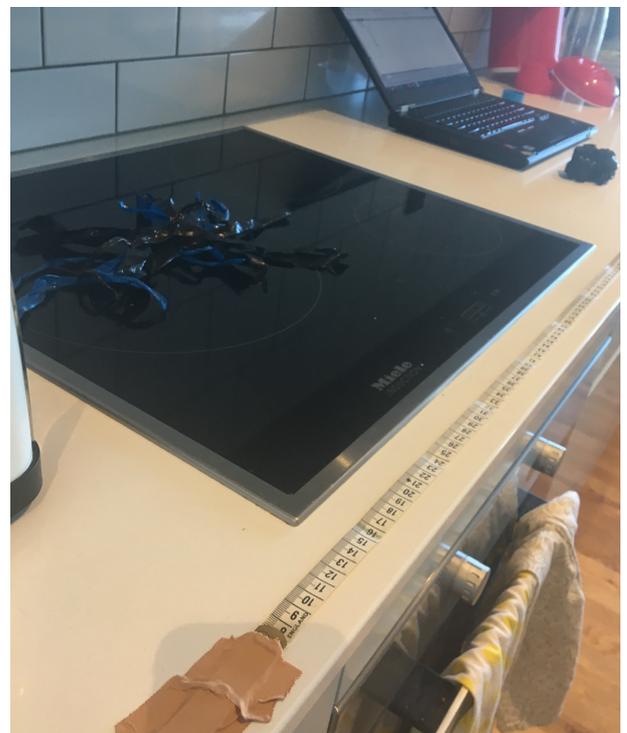
Methodology

Ellerslie AFC has a Facebook Managers Page on which all senior teams at the club have at least one representative as a member. This is the primary form of communication amongst the senior members of the club. A request was made via this page for all those responsible for a senior team at the club to collect the total tape used by their team after one game and deliver that to the club office with a note of how many players played, and how many players wore tape (football is an 11-a-side game, with up to 5 more players allowed as substitutes).

Of the 26 senior teams at the club, samples were received from just 3. This relatively small sample size can likely be contributed to a lack of buy-in, forgetfulness, or due difficulties in getting the tape to the club office.

The tape that was collected was then unravelled, measured, and recorded.

The resulting measurements were then multiplied out across the entire senior club to estimate the total number of tape being used each season.



Results

Team 1

total number of players = 13
 players that used tape = 7
 length of each tape sample (cm):

28
 40.5
 13.5
 40.5
 17.5
 20.5
 23
 39.5
 14
 129.5
 29.5
 29
 30.5
 37
 14
 29.5
 44
 13
 35
 58.5
 14
 37
 35

Total
 672.5 cm
 6.725 m

Avg length per player using tape
 0.96 m

Team 2

total number of players = 14
 players that used tape = 5
 length of each tape sample (cm)

4.5
 6
 29
 10
 29
 14
 18
 26
 19
 17.5
 28
 28
 27
 30
 38
 28.5
 27.5
 3.5
 10
 28.5
 71
 37.5
 12
 33.5
 38
 32
 37.5
 34.5
 33
 12
 33
 31.5
 81.5
 87
 91.5
 37
 41
 29.5
 90.5
 21.5
 7
 29
 28
 3
 20
 21

Total
 1415 cm
 14.15 m

Avg length per player using tape
 2.83 m

Team 3

total number of players = 14
 players that used tape = 4
 length of each tape sample (cm)

79
 86
 54
 23.5
 8
 24.5
 100
 37
 29
 17.5
 80
 29.5
 17.5
 21
 45
 34.5
 45.5
 97

Total
 828.5 cm
 8.285 m

Avg length per player using tape
 2.07 m

Average tape length by players using tape

Team 1 = 0.96m

Team 2 = 2.83m

Team 3 = 2.07m

Average tape length by all players using tape = 1.95m



Results

In order to calculate how many senior players were wearing tape each weekend, and due to the small sample size, an online poll was run on the Ellerslie Managers Facebook Page.

 **Nick Morrison** created a poll. ...
16 July at 22:20

Ok, so the tape collecting has been...fragmented. But after a few conversations around the clubrooms, I realised there are a lot fewer players using tape than I had anticipated. So to our research can you please select below, the choice that best represents your team on game days.

<input type="checkbox"/>	4 or less players in my team use electrical tape	  +7
<input type="checkbox"/>	No one in my team uses electrical tape	+3
<input type="checkbox"/>	8 or less players in my team use electrical tape	 +2
<input type="checkbox"/>	everyone in my team uses electrical tape	+1
<input type="checkbox"/>	I don't know and I don't care	
<input type="checkbox"/>	+ Add option	

 Tim Adams and 1 other 10 Comments Seen by 59

 Like  Comment

Of the 26 senior teams at Ellerslie AFC, there was a response from 16. Using this data we calculated how many players were wearing tape each game using the conservative number of 12 players per team (16 players are allowed, 11 on the field plus 5 substitutes) and a conservative average of 18 games (some teams play 22 or more depending on how well they perform in the knock out competitions). These figures were then combined with the average length of tape per 'player who uses tape' to estimate the total amount of tape used by Ellerslie AFC every season.



Results

Facebook Poll of Senior Players using tape and percentages of sample size (16 teams)

No players in my team use electrical tape x 3 teams (19% of sample size) = 0 players using tape

4 or less players in my team use electrical tape x 9 teams (56% of sample size) = 36 players using tape

8 or less players in my team use electrical tape x 3 teams (19% of sample size) = 24 players using tape

every player on my team uses electrical tape x 1 team (6% of sample size) = 12 players using tape

I don't know and I don't care x 0 teams (0% of sample size) = 0 players using tape

Out of the 16 team sample size, 72 players wore electrical tape.

Taking this sample size we then multiplied the above percentages across the 26 senior teams at Ellerslie AFC to estimate the total amount of tape being used each weekend and across a whole season.

- No players in my team use electrical tape - 19% = 4.9 teams and 0 players using tape (0 players x 4.9 teams)
- 4 or less players in my team use electrical tape - 56% = 14.6 teams and 58.5 players using tape (4 players x 14.6 teams)
- 8 or less players in my team use electrical tape - 19% = 4.9 teams and 39 players using tape (8 players x 4.9 teams)
- every player on my team use electrical tape - 6% = 1.6 teams and 19.5 players using tape (12 players x 1.6 teams)
- I don't know and I don't care 0%

Total number of senior Ellerslie AFC players using electrical tape each weekend:

$$58.5 + 39 + 19.5 = 117$$

Total length of electrical tape being used by the senior Ellerslie AFC teams each weekend:

$$117 \text{ players} \times 1.95\text{m} = 228.15\text{m}$$

Total length of electrical tape being used by the senior Ellerslie AFC teams each season:

$$18 \text{ weekends} \times 228.15 = 4106.7 \text{ m}$$

The Ellerslie AFC number one pitch measures 110m x 70m giving it a perimeter of 360m. The electrical tape used by the senior players at Ellerslie AFC in one season could go around the number one pitch 11 times.



Discussion

It is advised that Ellerslie AFC develop and implement a strategy and goal to eliminate electrical tape from the club. Success would require a behaviour change from the estimated 117 senior players who wear tape each weekend (note junior teams were beyond the scope of this report) and a commitment by the club to help with that change.

This strategy should involve communicating the problem and the solutions to the players via the various social media and newsletter channels, but it is advised that it would be most impactful if influential members of each team were engaged to drive the behaviour change within their teams and across the club. For best results, it is also important that there is complete buy-in and commitment from the Ellerslie AFC Board Members.

Some ideas to help with the behaviour change include:

- fining players who wear tape a small but thought-provoking amount of money. \$2 for example (this is already happening in some teams at the club).
- providing discounted guards stays, shin pad socks, and sock ties (some teams have already been provided with guard stays)
- providing Ellerslie AFC branded guard stays, shin pad socks, and sock ties
- providing spot prizes or sub discounts for teams or players not wearing tape
- erect signage encouraging the alternatives to electrical tape
- erect signage highlighting the impacts of plastic pollution
- erect signage encouraging club members to care for the club environment/grounds

Noting the small sample size of 3 teams supplying their electrical tape for measuring, it is advised that further research is undertaken by Ellerslie AFC to get a higher sample size should they want more exact estimates of totals.

Ending the use of electrical tape by Ellerslie AFC club members is the first step in line with the Green Ponies goal to eliminate single-use plastics at the club. Further research and discussion is needed on the other single-use plastic items.



References

- 1 - <https://www.theguardian.com/environment/2017/sep/06/plastic-fibres-found-tap-water-around-world-study-reveals>
- 2- <https://news.nationalgeographic.com/news/2015/02/150212-ocean-debris-plastic-garbage-patches-science/>
- 3 - <https://www.theguardian.com/business/2016/jan/19/more-plastic-than-fish-in-the-sea-by-2050-warns-ellen-macarthur>

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"The greatest threat to our planet is the belief that someone else will save it."

ROBERT SWAN

