

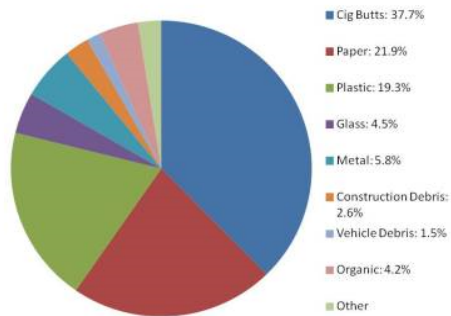
Recycling Cigarettes in Concrete

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The objective of my senior project is to find a solution for the growing amount of improperly disposed cigarette butts on our planet. To accomplish this, I created and tested concrete cylinders mixed with different amounts of used cigarettes. It is my goal that we will be able to recycle cigarette butts and incorporate them into our everyday concrete use. By adding cigarettes to our mixes, I also understand their will be concerns with its potential strength. However with this in mind, it is my intention that these current mixes will only be used for non-structural concrete. In the following, I hope to show you how I conducted this experiment and as to why I believe it can be a prime solution to this problem.

Keywords: Cigarettes, Recycle, Concrete, Cylinders, Strength

Most littered things in the world



7 Day Break 10/9/2020

Data Set	Cylinder Type	Weight (lbs)	PSI Strength
1	Standard	8.215	2302.2
1	Standard	8.76	3416.3
1	Low Volume	8.63	4019.5
1	High Volume	8.49	3266.7

7 Day Break 10/9/2020

Data Set	Cylinder Type	Weight (lbs)	PSI Strength
2	Standard	8.66	4173
2	Standard	8.68	3586.6
2	Low Volume	8.57	4297.2
2	High Volume	8.56	4094.3

28 Day Break 10/30/2020

Data Set	Cylinder Type	Weight (lbs)	PSI Strength
1	Standard	8.58	4602.8
1	Standard	8.265	3023.9
1	Low Volume	8.17	2710.4
1	High Volume	7.98	3059

28 Day Break 10/30/2020

Data Set	Cylinder Type	Weight (lbs)	PSI Strength
2	Standard	8.625	4454.8
2	Standard	8.685	5483.7
2	Low Volume	7.895	2283.9
2	High Volume	7.86	2337.2

Although the experiment did not go as fortunate as hoped, I was still able to learn a lot. The main idea I learned was that even with a cigarette additive, concrete can still be just as strong. My Day 7 results were amazing. Not only did the cigarette batches prove better than the standard, but they also hit over 3000 psi. This was both a promising and successful stat. Day 28 however, was not as great. Both cigarette batches were outperformed by the standard, but the cigarette batches did break at, at least 2500 psi. That is rather good for deformed cylinders if you ask me. With better form and a full shape, I have no doubt that these cylinders would have reached 3000 psi.

