

Sustainability



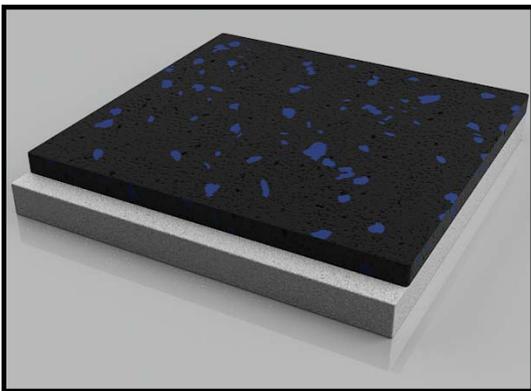
RISD Facilities and Environmental Health and Safety - Spring 2013

Renewable Recycling Containers

In keeping with RISD's commitment to a sustainable future, Facilities recently upgraded campus recycling containers by purchasing twenty, 32-gallon double side-loaded recycling centers made primarily from post-consumer milk jugs. Each pound of material used in the construction of the containers is made up of 8-10 milk jugs.

Max-R makes the renewable lumber, which is described as the purest grade (97% pure) of type-2 high-density polyethylene recycled plastic in the industry. And it can be recycled again, extending the product life-cycle. The lumber lasts for decades and contains premium-grade resins and ultra-violet inhibitors, which are added to prevent fading from sun exposure and weathering.

The new recycling containers are maintenance free; never needs painting; are impervious to insects and all while being environmentally-friendly.



Renewable Flooring - New resilient flooring, made entirely from used tires and other recycled rubber, was recently installed in the Mailroom. As the existing vinyl composite tile (VCT) floor was aging and cracking, Facilities searched for a product that was attractive, easy to clean, and most of all, able to stand up to the day-to-day operations of a mailroom. The product, called Amorim Sports Floor, can most typically be found in fitness centers. Due to its elasticity, durability and wide variety of colors, it also turns out to be a suitable and attractive product for the RISD Mailroom. Not only does this floor help save the planet, it also helps to ensure that daily activities continue to function safely and smoothly in the Mailroom.

Energy Savings Around Campus

David Crocker, HVAC Mechanical Supervisor, reports on energy-saving projects completed during the past year. These projects led to significant reductions in power plant emissions and are supported by rebates from National Grid, our electricity and gas provider:

A boiler in 15 Westminster was replaced with a newer energy-efficient condensing boiler, installed by Arden Engineering. Condensing boilers are able to trap and reuse heat energy otherwise lost by conventional boilers, increasing the efficiency of the boiler. As a result, the new boiler is expected to save 7,760 therms of natural gas annually, that's 776 million BTUs. This translates to an annual monetary savings of **\$6,600** and a calculated reduction in greenhouse gas emissions of **38.8 metric tons of carbon dioxide (CO₂)**. For this project, National Grid presented RISD with a rebate of more than \$23,000, to help offset the installation cost of \$61,000.

Also in 15 Westminster, the cooling system for the Library is getting a makeover. Carrier Corporation installed a plate and frame heat exchanger as well as new variable-frequency drives (VFD) and a modified control system. This new system will allow for better, more consistent control of the cooling process. With the installation of the VFD and heat exchanger, the 100-ton chillers will shut down in cold weather and will use free cooling. This will greatly extend the life of the chillers. RISD received a rebate from National Grid for

Energy Savings Around Campus (continued)

\$46,464 for this project, which was paid directly to Carrier and will go toward the total project cost of \$111,340. The new heat exchanger and controls will contribute to a calculated reduction in greenhouse gas emissions of **217 metric tons of CO₂** and save RISD **\$36,843** in electricity costs annually.

Facilities conducted a survey on all campus steam traps. Steam traps control the flow of steam through radiators and baseboard heaters. An outside company conducted the survey and identified 121 defective steam traps. As an energy savings incentive, National Grid will pay for the cost of the survey (\$10,000), as well as half the cost of the repairs. Upon completion of the project, it is estimated that RISD will save 63,377 therms (more than 6 billion BTUs) and **\$54,098** in energy costs annually. This would lead to a reduction in greenhouse gasses of **317 metric tons of CO₂**.

Three new condensing boilers were installed in Benson Hall in January, 2012. This project allowed for the disabling of a leaking steam line under Frazier Terrace, which would have cost \$165,000 to repair. The boilers cost \$95,000 to install, and National Grid provided RISD with a \$12,000 rebate. It is estimated that annually RISD will save about **\$8,000** in energy costs, and about 1,000 therms of gas (100 million BTUs). That's an annual reduction of **5 metric tons of CO₂**.

As a result of these energy-saving projects, RISD will greatly reduce its environmental footprint by realizing an annual reduction of **577.8 metric tons of CO₂**. To put that into perspective, the CO₂ reductions are the equivalent of *not* using about 64,713 gallons of gasoline in your vehicle.



For the past six years, RISD has participated in Recyclemania, a friendly recycling competition between colleges and universities around the US and Canada. According to Recyclemania's website, the program began in 2001 as a challenge between Ohio University and Miami University. From there the competition took off and in 2012, 605 colleges participated, leading to a total of 94.4 million pounds of recycled or composted materials.

The competition is judged in several categories, the most prestigious being Grand Champion (most materials recycled vs. trashed) and Per Capita Classic (most materials recycled per person). Other

categories include Waste Minimization, the Gorilla Prize (most materials recycled regardless of population) and targeted materials of Paper, Cardboard, Cans & Bottles and Food Service Organics.

During the first few years of the competition, RISD implemented changes that streamlined recycling on campus and made it more convenient to recycle. Our hard work paid off: in 2006 and 2008, RISD showed off its recycling prowess by winning the Bottles & Cans category. Since then, RISD's showing in the competition has changed in a significant way. For example, many Dining and Retail areas on campus now promote the use of refillable beverage containers, instead of selling drinks in single-serve bottles and cans. This means there are fewer bottles and cans to recycle. The EH&S Department is hoping for better participation this year, since single-stream recycling has increased the number of items we can recycle.

Here are some things you can do to promote recycling and increase the amount of waste RISD recycles:

Put all recyclables in the appropriate collection bins. Comingled recyclables (i.e., cans and bottles mixed with paper), or anything accidentally thrown in the trash, will NOT be counted.

Make every effort to recycle as many items as possible. Don't throw away that catalog you never read—put it in the recycle bin.

Publicize, publicize, publicize! Make sure everyone on campus knows about Recyclemania and what can be recycled on campus.

Contact EH&S if you would like a copy of RISD's Recycling Program. The competition runs through April. For more information, contact Alan Cantara or visit Recyclemania's website at recyclemaniacs.org.