

BOLON GREEN

Sustainable Products and Processes



Bolon On-Site Recycling Plant

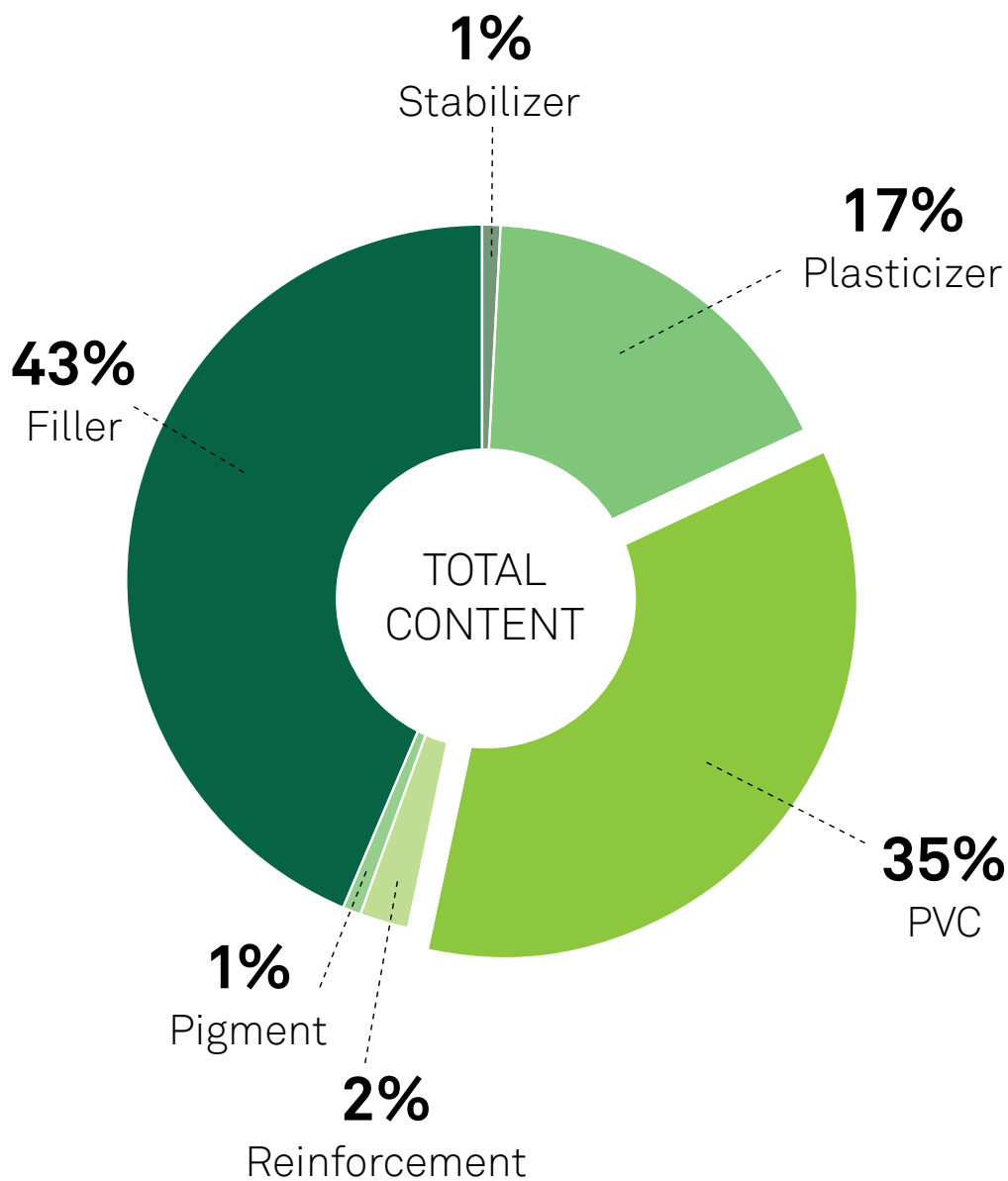
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Bolon On-Site Recycling Plant

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Flooring Content | *What are you standing on?*



Additives enhance the flooring product and save on resources.

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Flooring Content | *What are you standing on?*

43% Filler - Chalk

- Classified as an infinite source
- Used as a building material and to balance pH levels in water

35% PVC - High-Quality, Modern, and Safe

- Benefits of PVC:
 - Economical use of limited resources
 - Energy efficient
 - Recyclable
 - Durable
 - Versatile
- PVC is commonly used in applications such as blood bags, water pipes, electronics, and children's toys.
- Quality PVC Content - Simple, Natural Raw Materials
 - **Salt** (table salt - sodium chloride) is available in virtually unlimited amounts in the sea and in bedrock. It is classified as an infinite source.
 - **Natural Gas/Oil** - most other plastics are produced entirely from oil or natural gas. PVC makes better use of finite resources.

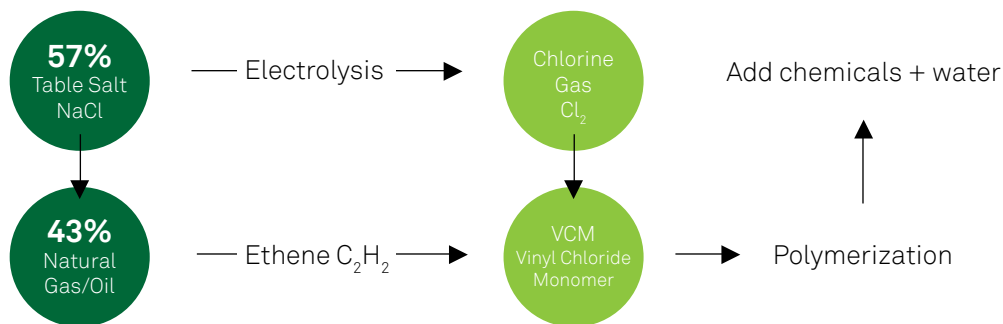
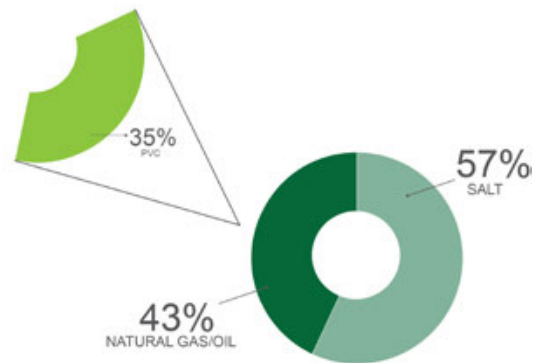
- Production process is a highly-efficient closed loop, recycling unreacted material back through production for complete conversion.

17% Plasticizer - Mesamoll

- Provides improved flexibility and durability
- Phthalate-free
- Used in children's toys
- Contributes to reduced TVOC

1% Stabilizer - Soy Bean Oil and Calcium Zinc

- Used in children's toys
- Used in pharmaceutical packaging



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Why Bolon?



We are proud to say that our production has 0 % waste, and even prouder to be using pre-consumer waste generated by our suppliers to keep our recycling plant going.



All of our flooring products contain up to 33 % recycled material.

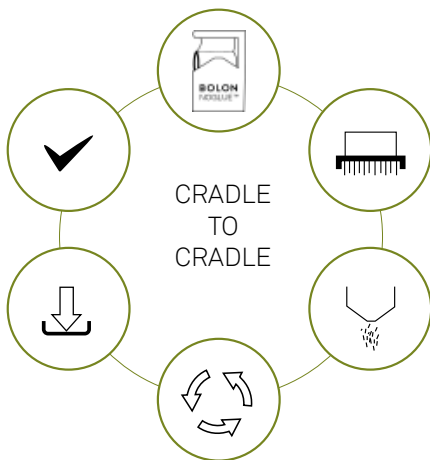


We've come a long way, but we are far from satisfied. 100 % committed to improving all parts of our business, sustainability continues to be at the core of everything we do.

8 REASONS TO CHOOSE BOLON

- ✓ Modern Best Practice PVC
- ✓ BREEAM A+ and Other Certificates
- ✓ Cradle-to-Cradle: NoGlue™ Tape
- ✓ Made and Recycled in Sweden
- ✓ 100% Phthalate Free
- ✓ 15-Year Warranty
- ✓ 33% Recycled - 50% Tomorrow
- ✓ Easy to Clean Without Chemicals

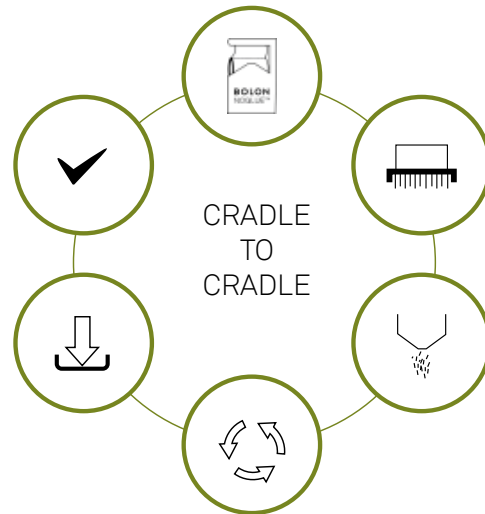
YOU CALL IT WASTE, WE CALL IT A PRECIOUS RESOURCE.



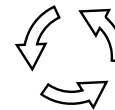
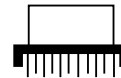
We take pride in offering long lasting products with a closed life cycle. Except using our most precious resource; the 'waste' coming from our production, we take care of pre-consumer waste from our suppliers and other best practice PVC producers. In 2014, we invested in a new recycling plant, 'the Agglomerator'. The plant allows us to recycle our own waste, as well as flooring installed with Bolon NoGlue™. It also allows us to recycle waste from our suppliers and other best-practice PVC producers. All recycled material goes into the backing of our flooring.

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The Bolon Process | Cradle to Cradle



- 1 BOLON NOGLUE™**
If the floor is installed using our NoGlue™ tape, you can easily remove the flooring and send it back to us for recycling.
- 2 TIME TO SHRED**
When we receive your old flooring, it is cleaned and sent to a machine that shreds the flooring into smaller pieces.
- 3 THE GRANULATOR**
The shredded parts are then granulated (chopped) into smaller pieces.
- 4 THE AGGLOMERATOR**
Then the small parts go into our recycling machine called, the Agglomerator, in which we mix different waste material with chalk.
- 5 INTO THE BACKING**
The last step in the recycling process is putting the processed material into the backing .
- 6 VIOLA! A NEW PRODUCT**
And there you have it! A new floor that has up to 33% recycled material - and in the short future, at least 50%.



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Initiatives

INVESTING IN THE FUTURE

Bolon adopts a holistic approach to sustainability. From the materials we use to the processes we apply, we are committed to reaching a point where we can create flooring without leaving an environmental footprint.

We are proud to operate our own, on site recycling plant, enabling us to create recycled material from waste and use the recycled content in our products.

Our products are 100% made in Sweden.

Along with the obvious environmental benefits in terms of transport and logistics, this allows us to have full control over production processes. In terms of raw material, we only source and use modern, safe, high-quality PVC – without exception. On our own initiative, and after a long consultation process with industry experts, we have phased out the use of phthalates from all of our collections.

We only use locally drawn groundwater for cooling purposes and have an advanced filter system that removes 98% of fumes produced by our factory.

We consistently monitor our waste and spill performance and are mindful of water and energy consumption.

In addition, Bolon products can be cared for with eco-friendly, neutral cleaning agents.

Bolon product and process certifications include:

Floorscore, BREEAM, Environmental Product Declaration (EPD), Green Tag, M1, Basta, Portico and more.

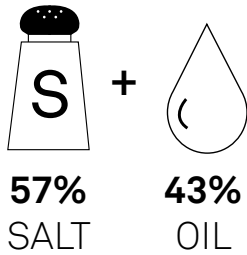
Material Composition

- 43% filler → chalk (infinite resource)
- 35% modern PVC → 57% salt + 43% natural gas/oil
- 17% plasticizer → Mesamoll (no phthalates)
- 2% reinforcement
- >1% pigment
- >1% stabilizer → soy bean oil + calcium zinc

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All About Polyvinyl Chloride

PVC



Together with one of Europe's largest manufacturers, we are currently driving the development of **BIO PVC**, which is made of **natural salt** and **forest waste**. Our estimation is to be using BIO PVC in our products by 2020.

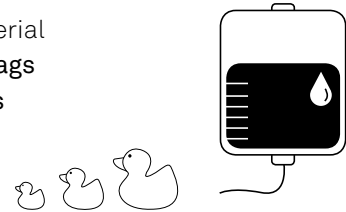


BIO PVC

Polyvinyl Chloride, commonly known as **PVC**, is a non-toxic inert polymer derived from natural resources (salt and oil).

100%
SAFE & HEALTHY

Bolon's PVC is the same material that can be found in **blood bags** in hospitals and in **children's toys**, among other products.



12 REASONS TO SPECIFY PVC

PVC has undergone massive changes for the better and modern PVC is **100% safe and sustainable**.



1 PVC is safe.	7 PVC saves more energy.
2 PVC is versatile and durable.	8 PVC performs well in life-cycle assessment studies.
3 PVC preserves fossil fuels.	9 PVC is fully recyclable.
4 PVC uses less primary energy.	10 PVC keeps its promises.
5 PVC has a relatively small carbon footprint.	11 PVC industry is forward thinking.
6 PVC delivers better value.	12 PVC jumped the 2012 hurdle.

Source: British Plastics Federation

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12 Reasons to Specify PVC



PVC used to contain several harmful ingredients, such as; lead, chromium, cadmium and phthalates – which are dangerous for both people and the environment. But PVC has undergone massive changes for the better and modern PVC is 100% safe and sustainable.

1 PVC is safe.

PVC is one of only a few materials trusted and approved for use for the storage of live human blood cells. PVC has extensive European food contact and medical approvals.

2 PVC is versatile and durable.

PVC is easy to process into a wide range of articles. It is ideal for construction applications. It also features high clarity and excellent organoleptic properties (no transfer of taint to food).

3 PVC preserves fossil fuels.

Made of 57% common salt and only 43% oil, it takes less non-renewable fossil fuel to make than any other commodity plastic.

4 PVC uses less primary energy.

PVC consumes less primary energy in its production than any of the other commodity plastics.

5 PVC has a relatively small carbon footprint.

Look at the CO2 impact equivalents for producing 1kg of PVC compared to producing 1kg of other products.

6 PVC delivers better value.

The superior cost-to-performance ratio offered by PVC was demonstrated when Brighton & Hove Council (Housing Management Sub-Committee) estimated what using alternatives to PVC windows would cost over £30 million added to their housing business plan over 30 years.

7 PVC saves more energy.

PVC-based windows account for most BFRC 'A' rated Energy Efficient Windows.

8 PVC performs well in life-cycle assessment studies.

A major revision of the BRE (Building Research Establishment) Green Guide was undertaken in 2008 which led to:

- 'A' rating for Domestic Windows
- 'A+' rating for Commercial Windows
- 'A+' and 'A' ratings for a range of vinyl (PVC) floorings
- 'A+' and 'A' ratings for a number of vinyl (PVC) roofing membranes

9 PVC is fully recyclable.

PVC reprocesses well and offers an even smaller carbon footprint once recycled into second (or third) life applications.

10 PVC keeps its promises.

Between 2000 - 2010, a sustainable European PVC recycling system was established, heavy metal additives were phased out, and Vinyl2010 was recognized by the United Nations Commission for Sustainable Development.

11 PVC industry is forward thinking.

A progressive new industry sustainability program called VinylPlus has been established.

12 PVC jumped the 2012 hurdle.

There are cases, where for health and safety reasons, the only solution is a PVC based material.

Source: British Plastics Federation

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Certifications

INDOOR AIR



Floorscore contributes to a higher LEED rating. Bolon is certified for indoor air quality (emissions).



M1 indicates low emissions. The classification sets emission requirements for building materials used in ordinary work spaces and residences and indicates good indoor air quality.

OTHER



Our product content declarations are registered with the flooring industry central database in Sweden.



All of our collections are listed in the healthy materials database, a requirement for being specified in Google's buildings.



Our product meets CE labeling requirements as specified in CPD directives for safety, health and environment.



A voluntary system for conveying environmental information about building products. The assessment gave us the highest rating - recommended.

HEALTH



BASTA indicates that our flooring accelerates the phasing out of dangerous substances from construction products.

PROCESS



ISO 9001 and 14001 indicate that our quality and environmental control system for processes fulfills international standards.

COLLABORATIONS



We are a member of the Swedish Flooring Industry recycling and waste management program.

LIFE CYCLE ANALYSIS FOR RAW MATERIAL



Ernst and Young has certified Bolon as conforming with Best Practice PVC environmental guidelines. Bolon's PVC suppliers have been assessed for production to the highest environmental standards.

LIFE CYCLE ANALYSIS FOR FLOORING



We have an A+ to A BREEAM rating, the worlds' foremost environmental assessment method.



Our Greentag rating covers social responsibility, product eco-friendly composition, VOC emissions and durability.

EPD[®]

An Environmental Product Declaration (EPD) evaluates the way a product affects the environment throughout its entire life cycle.