A PLASTIC PLANET

6. SOURCE MATERIAL: TIN

TIN CANS

STARTING LIFE

While some people refer to tin cans and aluminum cans interchangeably, the two types of cans are not the same thing. Tin is a low-melting crystalline metallic element that is malleable at room temperature and typically extracted from a mineral called cassiterite. Tin is rare making up only 0.001% of the Earth's crust; aluminium on the other hand is abundant, making up 8.2%. A modern tin can is actually made from steel coated with a very thin layer of tin to prevent the steel from corroding.

WORKING LIFE

-Foods have been preserved through canning for hundreds of years. Protected against moisture, insects and bacteria, cans are airtight, light-impervious and heatresistant.

-Tin cans are heavier than aluminum cans, but also more durable and given their resistance the corrosive properties of acidic foods, they are perfect for foods like tomatoes.

EPOXY RESINS

Since the 1950s, epoxy-based resins became the most commonly used class of coatings for both aluminum and steel cans to protect them from corrosion. In 2013,their market share was estimated to be 95%.

- The most common epoxy coatings are synthesized from bisphenol A (BPA) and epichlorohydrin, forming bisphenol A-diglycidyl ether epoxy resins.

- In 2015, the use of bisphenol A (BPA)-based coatings in food and beverage cans was banned in France (LOI n° 2010-729).

- In 2016, the U.S. food companies Del Monte and Campbell announced the phaseout of BPA-based coatings by 2016 and 2017 at the latest, respectively.

ENDING LIFE

While tin cans are less efficiently recycled than aluminium cans16, as a metal, they can still be recycled an infinite number of times, saving energy and resources.

A PLASTIC PLANET

WEBSITES

https://alupro.org.uk/
https://www.recyclemetals.org/
http://www.metalpackagingeurope.org/
http://www.mpma.org.uk/