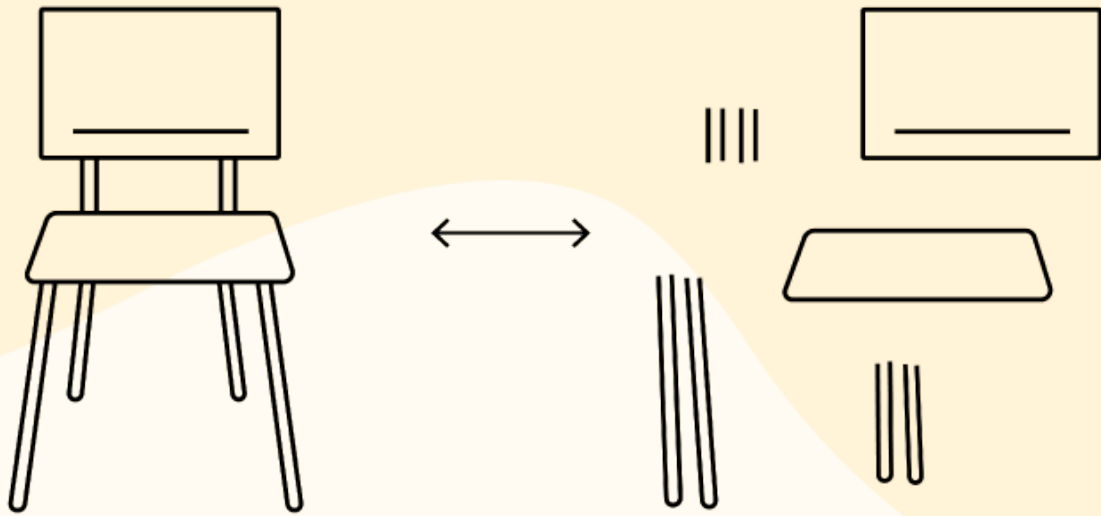


Design for disassembly



What

In the attempt to move towards a circular economy, designing for disassembly is an essential factor. For a product to be fully circular, one criterion is that it is designed for disassembly. In other words, it has to be easy for anyone to take apart each material from the rest of the product so that it can be sorted and recycled in material fractions. This means that product designers must integrate a disassembly function in all assembly points.

Why?

The world is in resource scarcity. We use more than we have. If we want to continue to have resources and materials, we must learn to reuse and recycle.

This implies that products must be made from recyclable materials, but also that these materials must be detachable from each other. Not only by professionals but by ordinary product users like you and me.

How?

There are some overall criteria:

- Screw don't glue: avoid the use of glue between components such as upholstery and seat or textile.
- Use ordinary screws and bolts, that can be removed with ordinary tools [tools, which you can buy in a hardware shop – hammer, knife, pliers, saw etc.]
- Use pure materials since most mixed materials are hard or even impossible to recycle.

When a product can be easily disassembled, it is more likely to end up in the different fractions of waste allowing for the materials to be recycled.

Did you know?

In the EU, approximately 10.78 million tons of furniture is discarded every year. Only around 10% is recycled*.

Examples



Screw don't glue

Textile glued onto upholstery foam is not considered to be designed for disassembly



One must be able

to loosen screws and bolts using ordinary screwdrivers and spanners

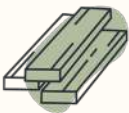


Surface coating

like paint, lacquer, oil, powder coating, wax etc. cannot be considered as design for disassembly. However, if the component that receives the coating can be recycled with the surface treatment, this material may be considered as designed for disassembly.



For metals, recycling takes place at high temperatures, meaning that surface treatment will disappear during recycling but form impurities on the surface. These impurities are easy to scrape off.



For plastics, surface treatment will pollute the material since impurities blend into the plastic. Therefore, surface treatment of plastics makes it difficult to recycle it.

Wood is often recycled into wood chips or wood fibers. Any paint or lacquer should not limit this.



Invisible

and hidden parts are not regarded as designed for disassembly. If they're not discovered, they're not recovered



If two parts are

nailed together it is not regarded as designed for disassembly