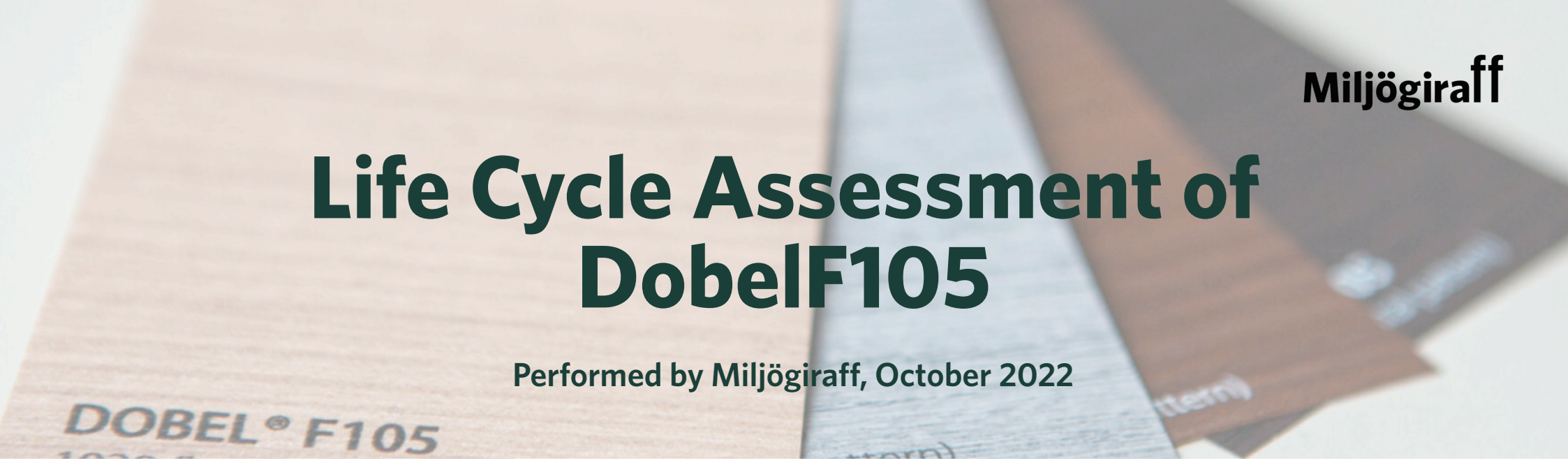


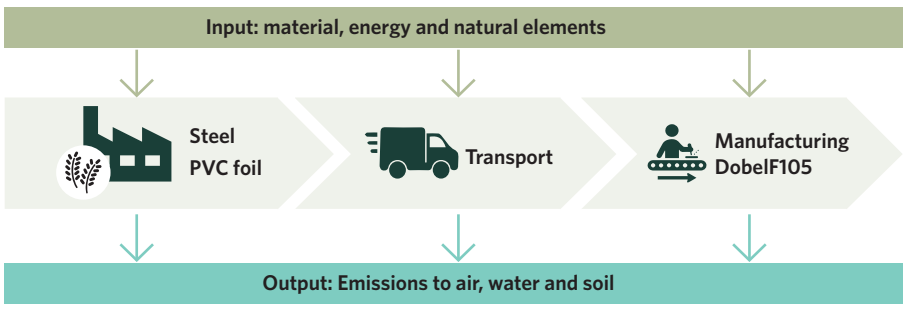
Miljögiraff

Life Cycle Assessment of DobelF105

Performed by Miljögiraff, October 2022

A cradle to gate LCA of DobelF105

The goal of the study was to evaluate the PVC-laminated steel sheet, DobelF105, from a cradle to gate perspective per m^2 of produced product (approx. 5.71 kg). This means that we looked at input and output aspects for 1 m^2 DobelF105 from extraction and production of all included raw materials (PVC foil and steel sheet), transportation to our facility and manufacturing processes (putting together PVC foil and steel sheet) . The study was performed following the principles of the international standards for Life Cycle assessment ISO 14040/44.



Parts of the system included in this cradle to gate perspective

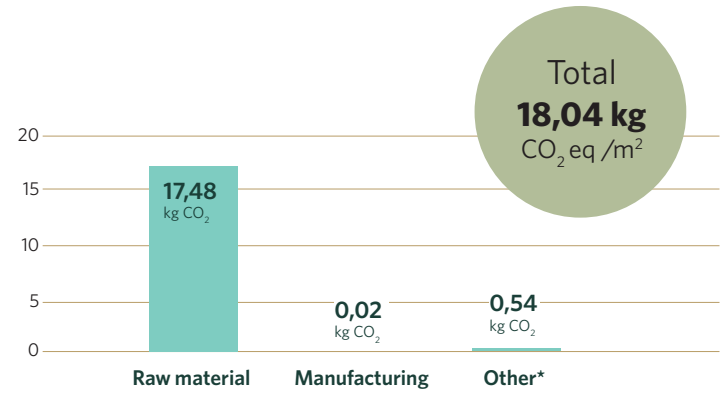
99% of the data for the raw material comes from conducted LCA studies and environmental product declarations (EPDs) that has been provided by our suppliers. Input, such as energy use, and output, such as emissions, from Metalcolour's processes comes from specific data collected at the facility.

Use of minerals and metal is where our greatest environmental impact is

When conducting an LCA the product is evaluated in several environmental impact categories e.g., eco toxicity, human toxicity and climate change. By using a method called Environmental Footprint 3.0 these impact categories can be compared to each other and we can get an indication of which environmental aspect we have the greatest impact on. The result shows that DobelF105 greatest impact comes from extractions and use of minerals and metals as used in the steel and PVC foil. The second biggest impact is on climate change and emission of CO2eq.

CO2 emissions comes mainly from production of steel sheets and PVC foil

The climate change impact of DobelF105 calculated from a cradle-to-gate perspective is total 18,04 kg CO2-eq per m^2. The use of raw materials stands for the majority of the total impact. The main contributing material is the steel followed by the impact from the PVC foil. The manufacturing processes of putting the laminate on the steel sheet has a small impact in comparison due to, i.e use of fossil free energy in our processes and inhouse logistics is made by electrical viehicles.



CO2 emission 1m2 Dobel F105 devided per life cycle step
** Other includes production waste and product packaging*

How Metalcolour is working towards lower environmental impact

Metalcolour strives to reduce the negative impact associated with the production of laminated steel. Actions we have taken so far are for example that we only purchase fossil free electricty and use river water as a coolant in our processes instead of drinking water. The water is released back to the river with no impact on water quality. We also use the metal scraps from our production as packaging material for our products, avoiding need for additional packing material.

The potential lifetime of DobelF105 is very long, over 50 years. If the product is used for this period, it has the potential to lower material use and emissions compared to other more short-lived materials looking at the same time-period. The steel used in our products are recyclable and can be melted down and used again and again in new products.

Metalcolour is following the development of fossil-free steel production and our foil supplier are looking in to scaling up the use of bio-based PVC foil. When this is fully available our product's environmental impact will decrease.

Metalcolour
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