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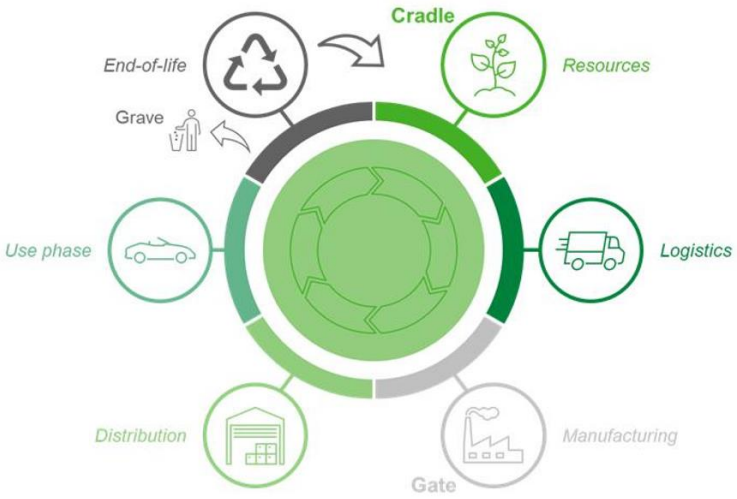
Supplementary info sheet MANN+HUMMEL



Single stages of an LCA

We have carefully evaluated the positive effect of CO_2 and crude-oil savings. The assessment of the product carbon footprint needs to be done from cradle-to-grave. This includes all steps of a product's life from the origin of the raw materials, the manufacturing, the use of the product by the customer and finally the end of life including disposal or recycling.
The change from traditional impregnation to the alternative using lignin affects the raw materials, so cradle to outbound supplier gate. All other phases of the life cycle are not affected, because the supplier base is the same, so the impact of logistics remains similar.
Our manufacturing process is not changed, keeping our scope 1 & 2 constant when comparing both materials. The distribution of the products as well as the use phase are similar because the customers as well as the product performance is not changed. Both materials end up in the same end of life treatment as today.
Therefore, the reduction of the CO_2 emissions and the use of crude oil as a resource for the phenolic impregnation is only material based, and we describe all savings related to the respective phase of our PCF (Product Carbon Footprint) assessment.