

PROPERTIES OF PRODUCTS THAT NEED BE CONSIDERED FOR SUSTAINABILITY

- * Indicates that MIPS (Material Footprint)¹ encompasses this property
 - “ Indicates importance for chemicals

MANUFACTURING (Ecological Rucksack)

- * “ material intensity (process, product)
- * “ water intensity process
- * “ energy intensity (process, product)
- * “ area intensity process, product
- * “ renewable, natural resource inputs
- * “ weight per unit and total production
- * size
- * “ yields (product, side products)
- * “ waste intensity (processes)
- * “ refusal rate
- * “ transport intensity
- * “ packaging intensity
- “ hazardous properties (process. Products)

MARKETING, USE, CONSUMPTION

- * “ overall performance compared to functionally equivalent products
- * “ material intensity
- * “ water intensity
- * “ energy intensity
- * “ area intensity
- * “ packaging, re-packaging intensity
- * “ storing intensity
- * cleaning needs
- * self control, self optimization
- * “ multi-functionality
- * potential for subsequent (different) uses
- * potential for joint (e.g. several families) uses
- “ hazards (toxicity, eco-toxicity, physical dangers)
 - * “ ***longevity***
 - * “ *robustness, reliability*
 - * *availability of spare parts for extended time period*
 - * “ *surface properties*
 - * “ *anti-corrosivity, stability*
 - * *repairability, exchangeability of parts*
 - * *structure and ease to dis-assemble*
 - * “ *likelihood of material fatigue, de-composition*
 - * “ *adaptability to technical progress*

AFTER ORIGINAL USE

- * “ material- + energy needs for collecting and sorting
- * “ re-usability
- * “ usability for different purposes
- * “ re-manufacturing potential for same use
- * “ material composition and complexity (ease of re-cycling for chemical/metallurgical reasons)
- * “ re-cycling potential

DISPOSAL

- * “ material++ energy inputs, surface needs (transport, sorting, disposing)
- * combustion potential (usable energy outputs)
 - potential for composting
 - “ impact on environment after disposal

¹ “Resource productivity in 7 steps”, Wuppertal Spezial 41, ISBN 978-3-929944-80-8