

## → Aluminium - long-life packaging material for contents with a short life

Aluminum is used in packaging primarily because of its excellent barrier properties, which ensure that contents are afforded optimal protection with no loss of quality.

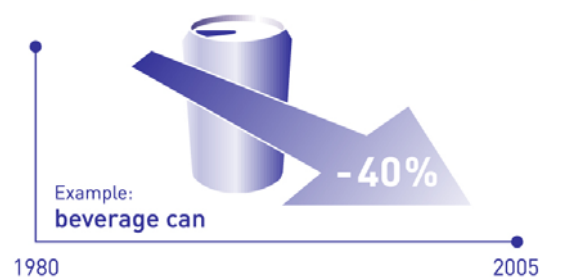
This minimises loss of contents due to deterioration. Resources are conserved in a sustainable manner: If contents deteriorate because of inadequate packaging, all the resources consumed in the production and distribution of those contents are lost. Generally speaking, these losses would far exceed those needed for optimal packaging.

For example, according to experts from Stiftung Warentest, the well-known German product-testing foundation, between 10 and 30 percent of the product quality of foodstuffs and cosmetics depends on the packaging. However, on average, the packaging

### Material savings made with aluminium packaging

Aerosol cans	28
Lids for yoghurt, etc.	15
Flexible packaging	28
Drink cartons	30
Coffee foil	42
Laminated tubes	25
Foil for sweets	30
Cigarette foil	30

Amounts in % - Period of 25 years



only accounts for 6 or 7.5 percent of the value of the product respectively [1].

In addition, increasingly less aluminium is being used to provide an ever-greater amount of packaging. In the last 20 years, downgauging of aluminium has led to a 40 percent reduction in material consumption for a given amount of packaging.

Thus, if one takes both packaging material and contents into account, aluminium fulfils one of the key criteria for sustainability, namely a reduction in the amount of resources used.

Another criterion frequently cited in connection with sustainability is "longevity."

In the packaging sector, aluminium is used primarily for foodstuffs, pharmaceutical products and cosmetics. Generally speaking, in such applications the contents have a short shelf life. This means that the life of the packaging used to protect them is of necessity equally short.

However, packaging is essential if one wants to ensure that the contents are protected and have a good shelf life - and that deterioration does not waste resources. Therefore, when looked at from the viewpoint of overall sustainability, there is no scientific justification for wanting to separate the sustainability of the contents from that of the packaging that has been tailored to the needs of the specific contents.

Longevity cannot be used as a measure of the sustainability of product systems, such as contents and packaging together, when the system itself only has a short life. It can be applied, however, to the packaging material at the end of the utilisation phase of such a short-life product system.

At the end of the life cycle of the contents and the "contents and packaging" product system, there are further, almost infinite, possible uses for the alu-

minium that are compatible with the need to conserve resources and minimise the consumption of resources as much as possible.

Recycling does not alter the structure of aluminium so the metal - even that from used packaging - can be recycled time and again to make new, high-quality products [2]. For example, depending on market demand, the aluminium from used packaging can be recycled to make a range of high-quality products, including oil sumps for cars, applications in the building industry or even new packaging.

Aluminium is therefore a resource with a long useful life that remains a part of the material loop for a long time - even when it is used temporarily for applications, such as packaging, with a short cycle life.

Aluminium is a long-life packaging material. Thanks to its recyclability and - when one considers packaging material and contents together - its conservative use of resources, it satisfies important sustainability criteria.

Notes:

[1] Cited by Professor Dr. Dr. Günter Grundke, Deutsches Verpackungsinstitut (Leipzig).

[2] The material properties of other organic packaging materials are characterised by macro-molecular structures or fibres. In such cases, quality can deteriorate, at least after being recycled several times, because of changes in the structure of the fibres or macro-molecules.

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February 2006