

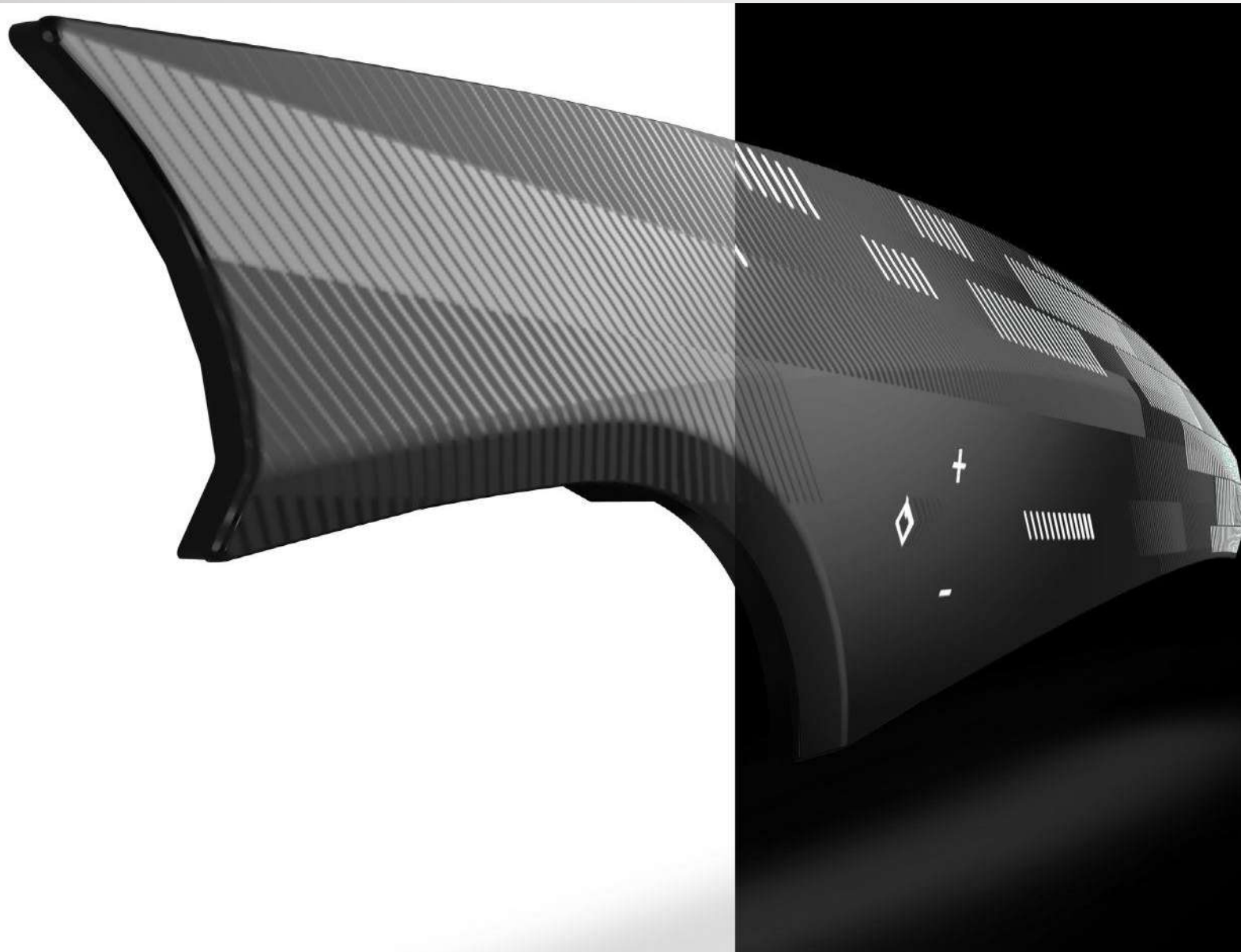
Balancing economics and the environment

Anyone who takes sustainability seriously must take the entire value added chain into account – from manufacture to processing, right through to the end product and its disposal.

For each of these four areas, KURZ provides services which are unique within the sector.

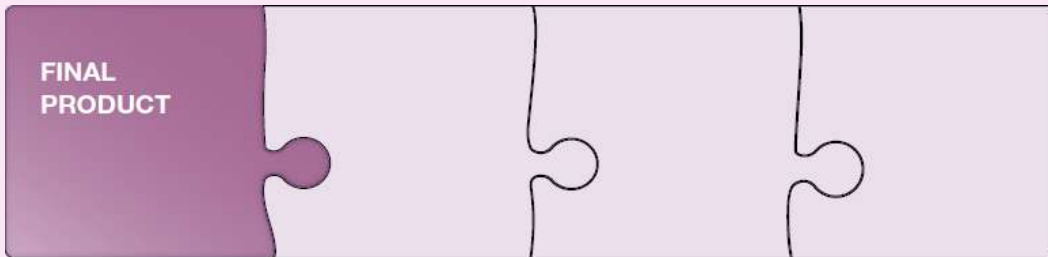


The final product

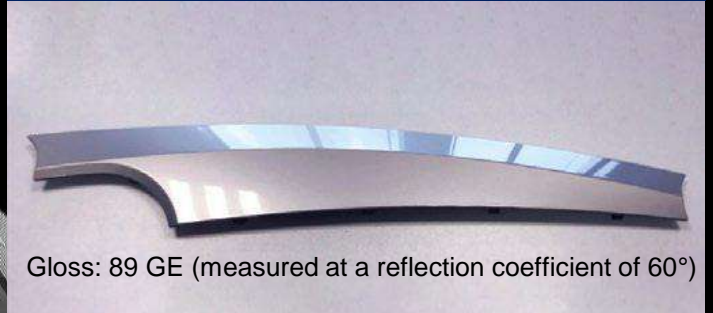


The final product

1. Decoration with a KURZ product involves transfer of only ultra-thin layers of metal or lacquer which do not affect recycling of the decorated end-product or component.
2. This maintains the recyclability of the plastic parts, regardless of decoration process. We have verified this in wide-ranging scientific tests.
3. No harmful processes or hazardous materials – worldwide

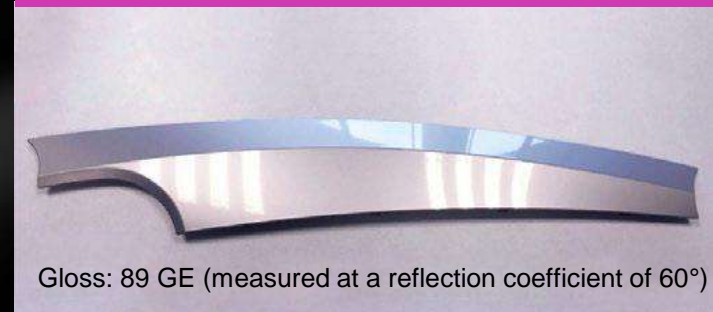


Decorating strip made of new material with KURZ IMD decoration:



Gloss: 89 GE (measured at a reflection coefficient of 60°)

Decorating strip made of 100% recycled material after cycle 4 with KURZ IMD decoration:

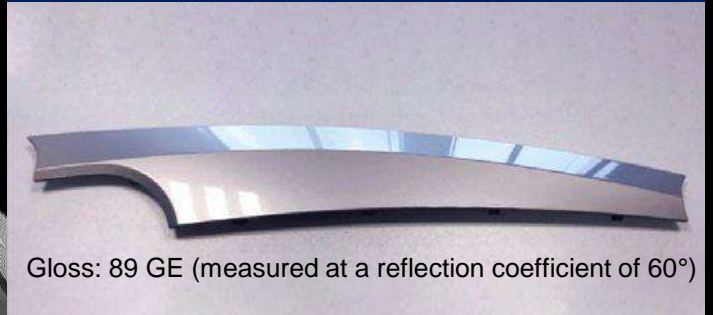


Gloss: 89 GE (measured at a reflection coefficient of 60°)

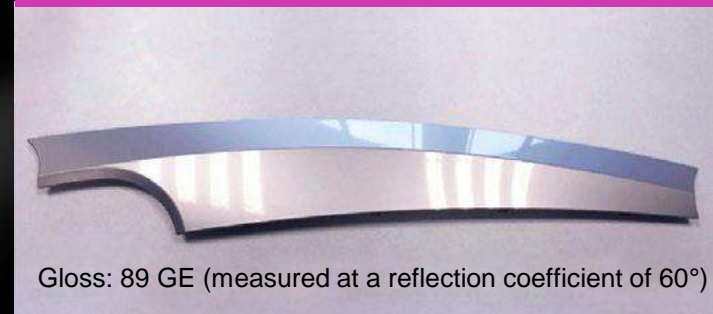
The final product



Decorating strip made of new material with KURZ IMD decoration:



Decorating strip made of 100% recycled material after cycle 4 with KURZ IMD decoration:



The final product

Comparison of alternative process options for the application of 1m² of an enhanced surface. This lead us to the following assessment:

Using a hot stamping foil instead of classic enhancement processes for surface decoration improves your CO₂ balance by approx.:

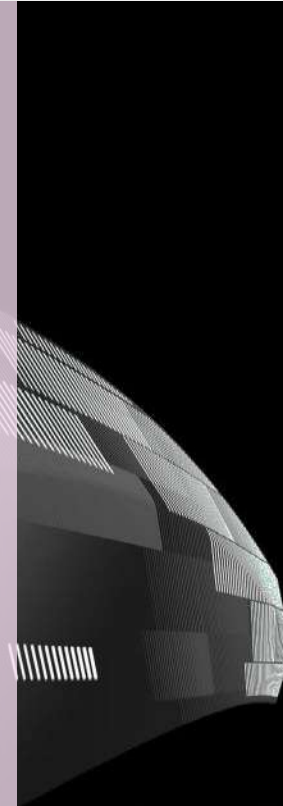
<u>Metallised surfaces designs</u>	~50%
<u>Chrome plated surfaces</u>	~95%
<u>Pigmented surface design</u>	~80%
<u>Plastic surfaces enhanced with IMD</u>	~70%

The spray painting process was examined in large-scale studies from institutions like

Landesamt für Umwelt in Bayern

Fraunhofer Insitut für Produktionstechnik und Automatisierung (IPA)

Landesamt für Umwelt Baden-Württemberg



Which materials do
KURZ transfer
finish contain?

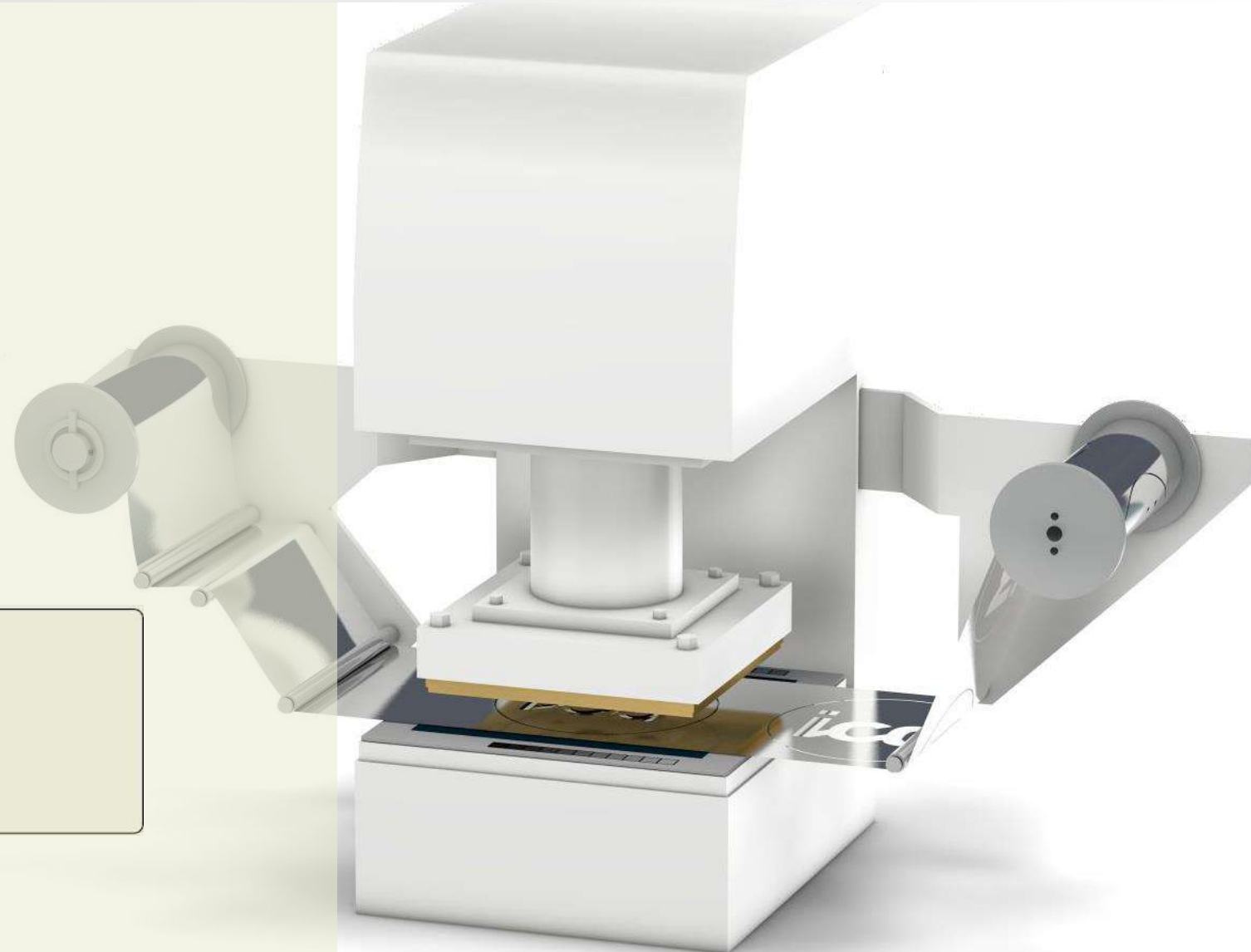


The application process



The application process

- 4. Dry process, no liquid coating involved
- 5. Emission-free process
- 6. Efficient production with optimized machines



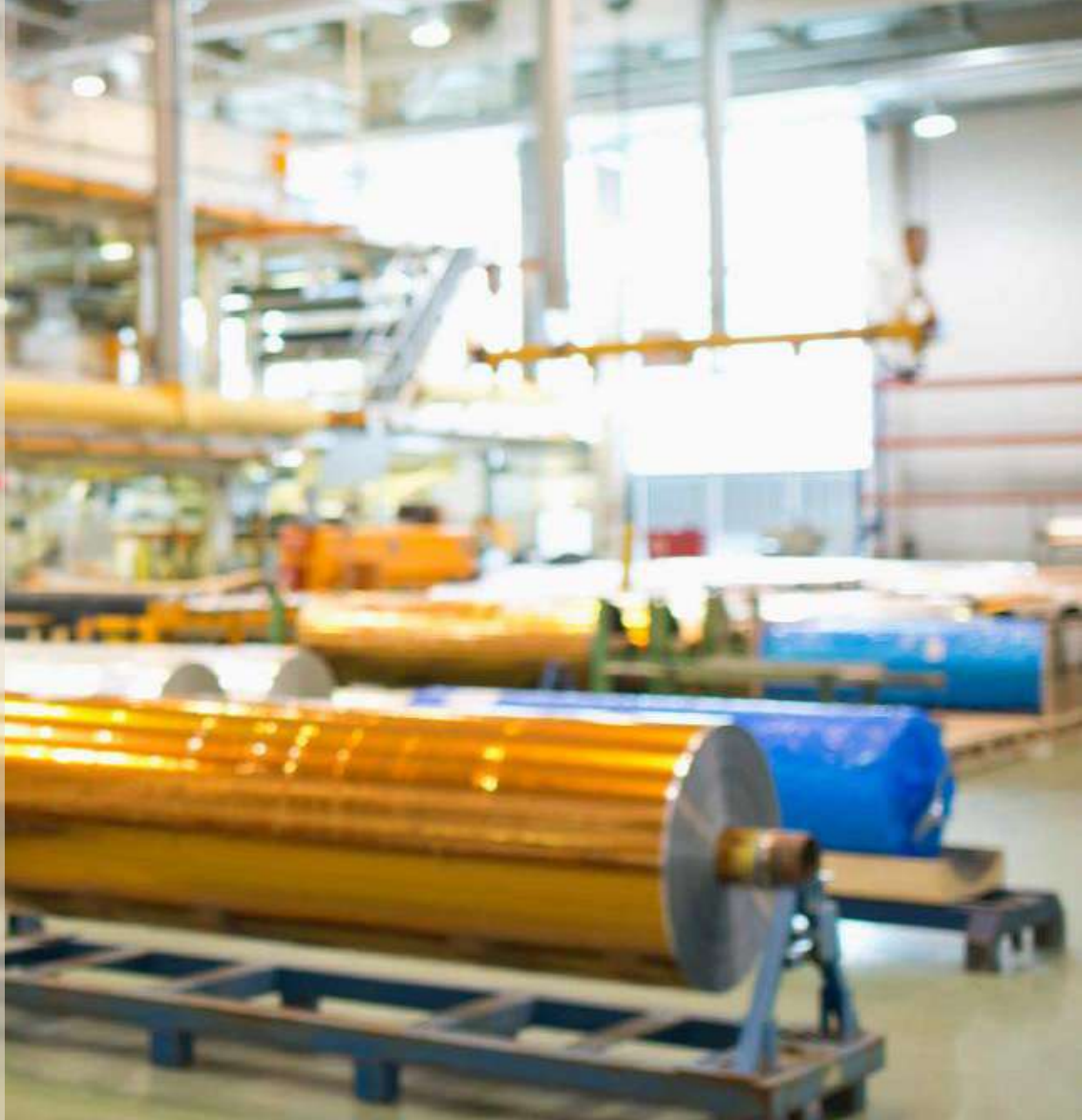
The manufacturing process



The manufacturing process



- 7. No waste water generated in coating process
- 8. 100% exhaust air evacuation with energy return – worldwide
- 9. Best Practice in stamping-foil manufacture generates the lowest possible CO2 footprint



Waste disposal



Waste disposal

Environmentally sound waste disposal included

- 10. Spent PET Foil: no harmful waste
- 11. The only PET return back initiative in the industry
- 12. First material recycling concepts



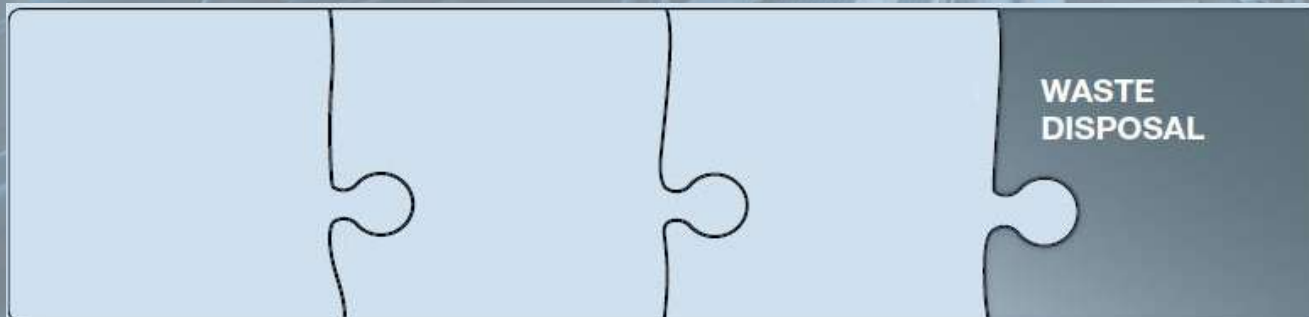
**WASTE
DISPOSAL**

Waste disposal



Environmentally sound waste disposal included

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BPIF
LABELS

PRISMM
environmental

Zero Foil 2 Landfill Declaration

BPIF Labels hereby confirms to have obtained written declaration from Prissm Environmental on the compliance with the Zero Foil 2 Landfill scheme from the following 'printing facility'.
Leonhard Kurz Ltd

This gives the company the right to use the Zero Foil 2 Landfill logo on documents and communication related to their Foil Waste Management at the aforementioned site, and to be listed on the following website: www.bpiflabels.org.uk



In reception of the declaration and the validity of the third party certifies this declaration is valid until:
1st September 2020

Graham Backhouse
General Manager
BPIF Labels



As the Zero Foil 2 Landfill Certificate is self-declared and voluntary, it may not be construed by any means as an approval or endorsement by BPIF Labels of compliance with the Zero 2 Landfill Project or with any applicable requirements, including the safety requirement, of labels manufactured by companies using the seal.
The publication by BPIF Labels of the list of self-declared compliant companies using the seal is not either to be construed as an approval or endorsement by BPIF Labels. The decision to use the seal is made by each individual company under its sole responsibility, having due regard to the Zero Foil 2 Landfill project and the applicable legislation.
*BPIF Labels is a special interest group of the British Printing Industries Federation.
*Prissm Environmental exclusively operates the Zero Foil 2 Landfill scheme.

Facts + outlook

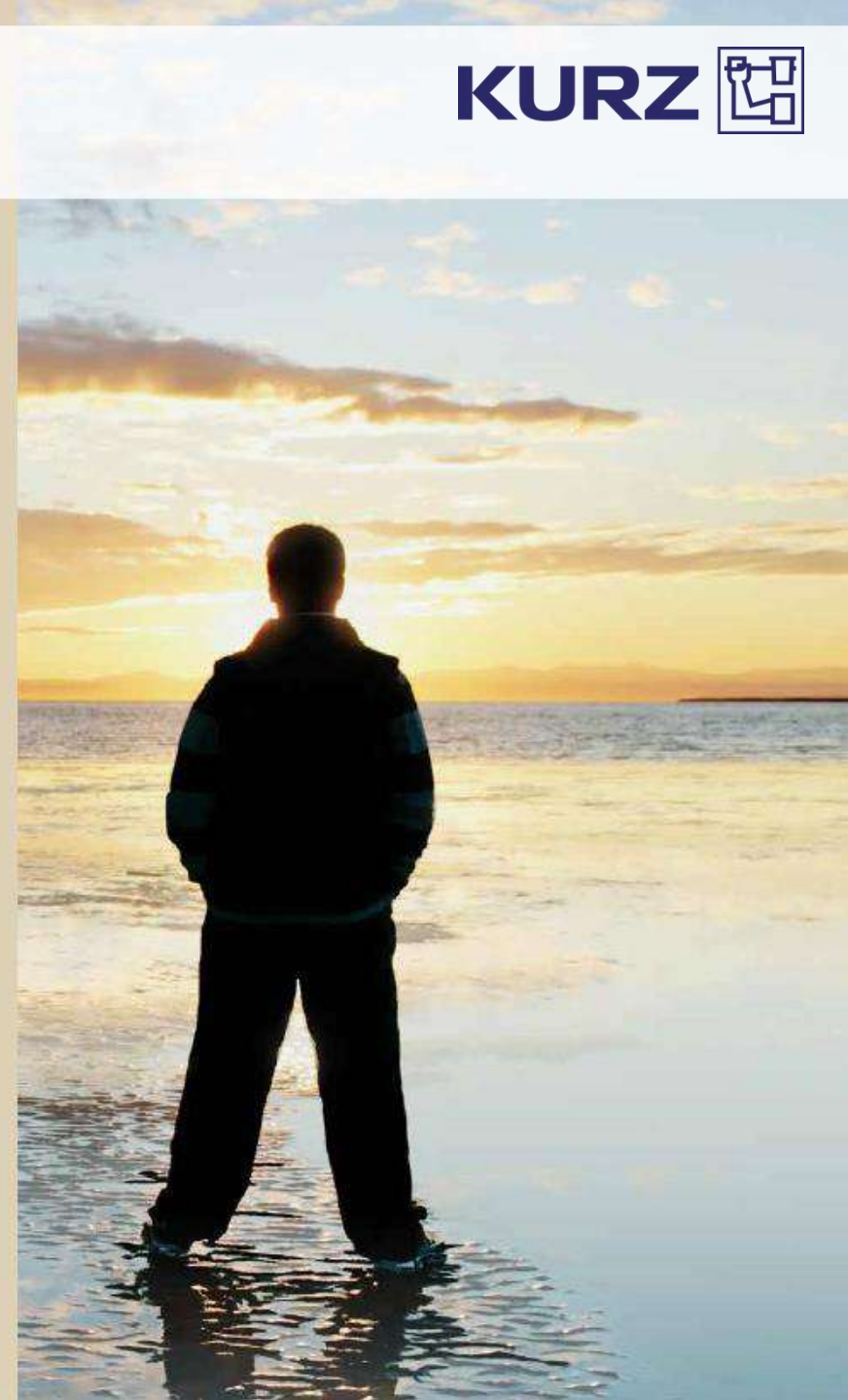


Facts + outlook

Transparent environmental commitment

KURZ takes its environmental responsibility very seriously, which is why we voluntarily contribute more to environmental protection than is required by law.

- Our environmental management system has been certified under ISO 14001, our energy management system under ISO 50001, and our occupational safety management system under OHSAS 18001.
- Best practise for CO2 emissions
- Model energy efficiency
- Clean production
- Short transportation routes



Sustainable finishing



Thank you for your attention