

In harmony with the nature

Hybridbeam®



PFEIFER





Sustainable development – caring for future generations



Environmental protection is one of the greatest challenges of modern construction. The basic guidelines for sustainability in construction are first and foremost:

- Reduction of material requirements and use of materials and raw materials which have been used already in used in the construction of buildings as far as possible
- Realisation of projects with the lowest possible demand for so-called “grey” energy (from the burning of fossil fuels) during their use
- The reuse of components used in degradable objects in the construction of new buildings
- The use of materials that can be returned to the production process after recycling
- Reduction of the enery consumption of the the energy intensity of the construction process
- Noise reduction in the production and construction of buildings
- Noise and vibration-free construction of the building




Hybridbeam® – naturally functional

- Less steel in the profile – efficient use of the steel composite profile in combination with a reinforced concrete profile
- Highly recycled steel
- Energy-efficient production methods
- Green energy in the production of hybrid beams
- Noise reduction – minimisation of concrete work at the construction site
- Optimisation of the building's maintenance costs by reducing the building's volume (elimination of protruding beams or reduction of their height) while maintaining the expected functions
- Reduced material requirements due to simple underfloor installation and minimised finishing work



Environmental characteristics for five different beam groups with different share of concrete compared to the whole product:

Indication	Group No.	Concrete C60/75 mass content in a Hybridbeam® group
 Hybridbeam®	1+	>70%
 Hybridbeam®	1	65–70%
 Hybridbeam®	2	60–65%
 Hybridbeam®	3	55–60%
 Hybridbeam®	4	<55%



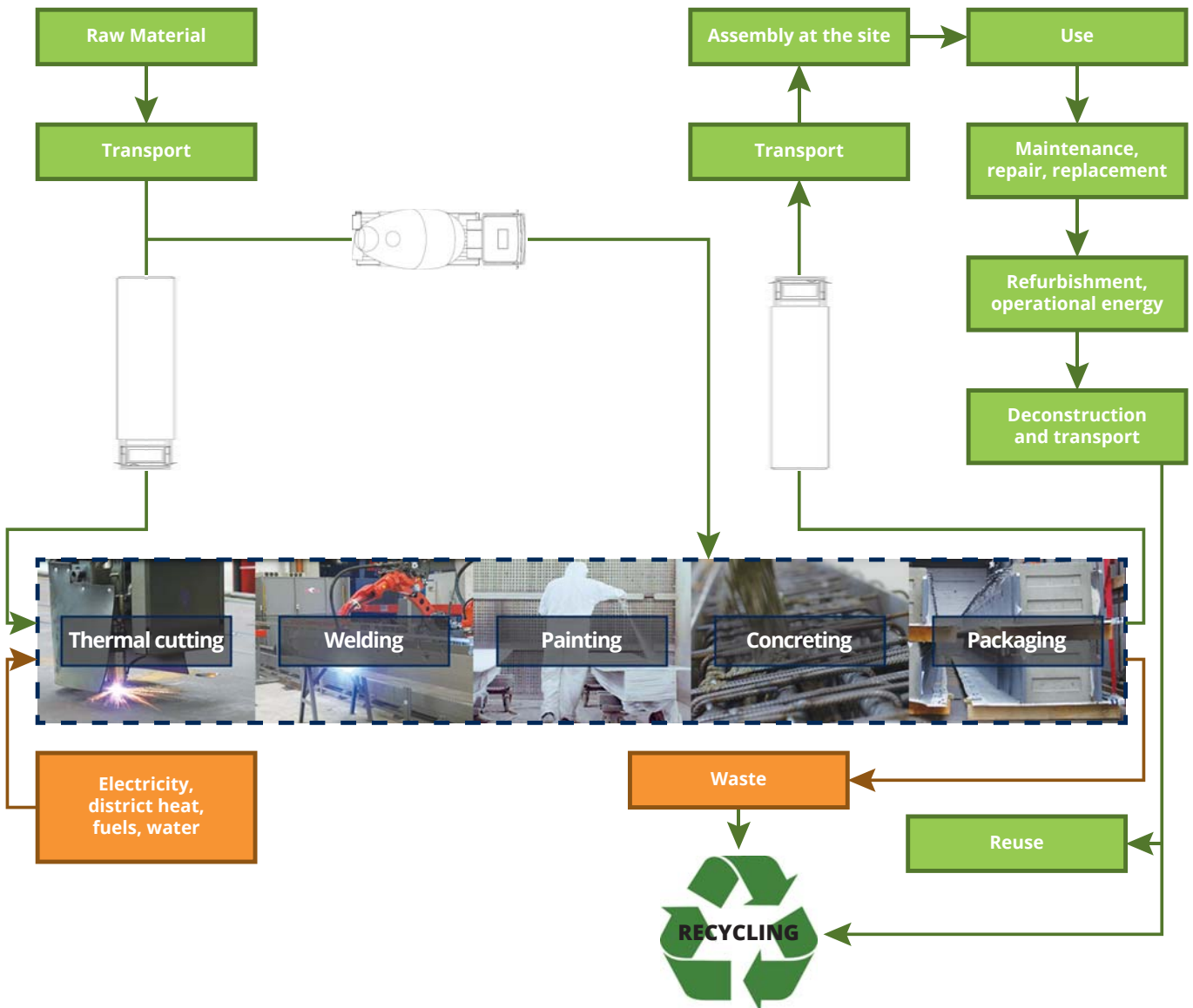
Hybridbeam® beams – 100% deconstruction and recycling

Hybridbeam® beams used in the original building are fully recyclable in the next building. The remaining elements that are not used in this process are 100% recyclable and can be used in steel or concrete production.

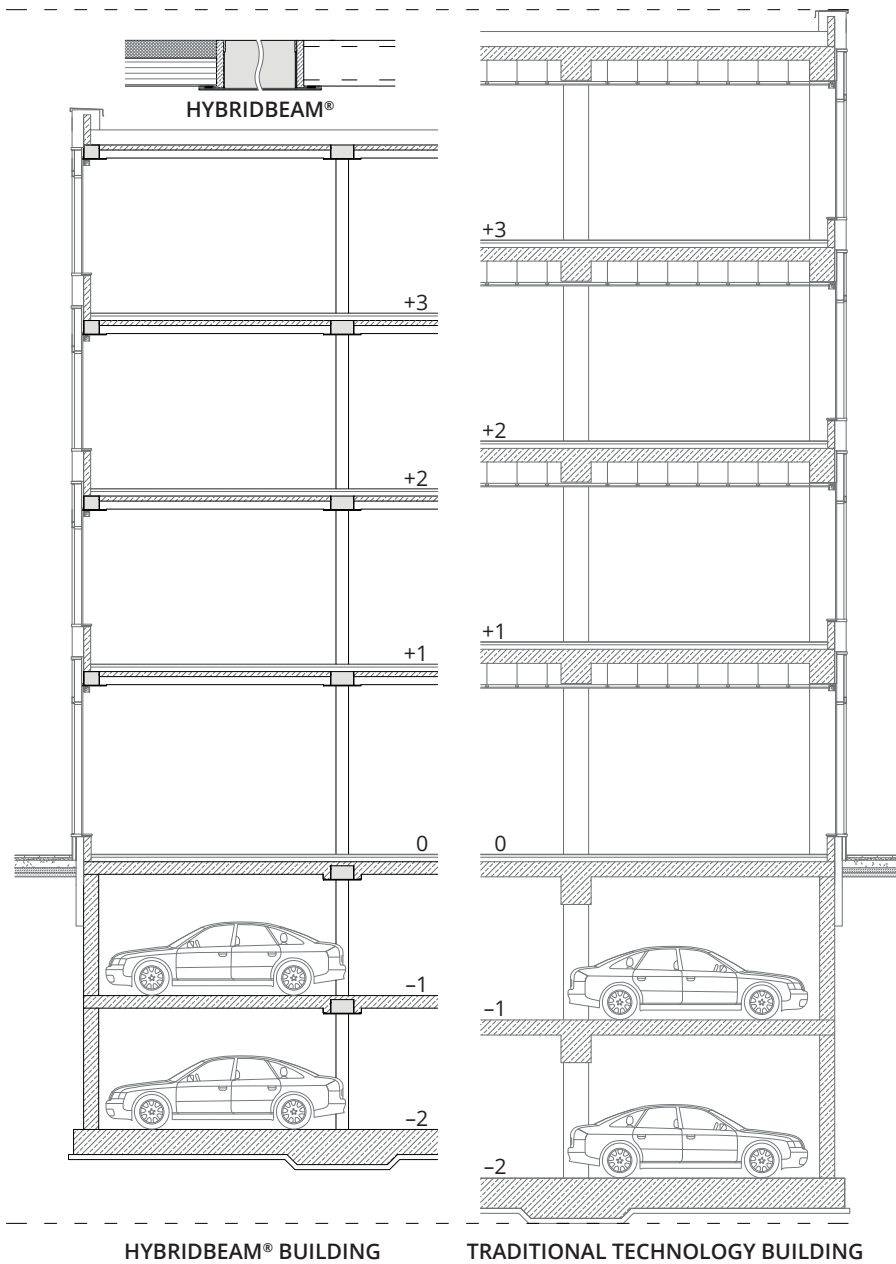
Hybrid beams can therefore be designed as demountable structures.

The flexibility of using screw connectors on the floor slabs and the load-bearing structure of the building makes it possible to reuse them in a new building in a simple mechanical way.

Process diagram for the production of hybrid beam carriers:



Hybridbeam® - less is more

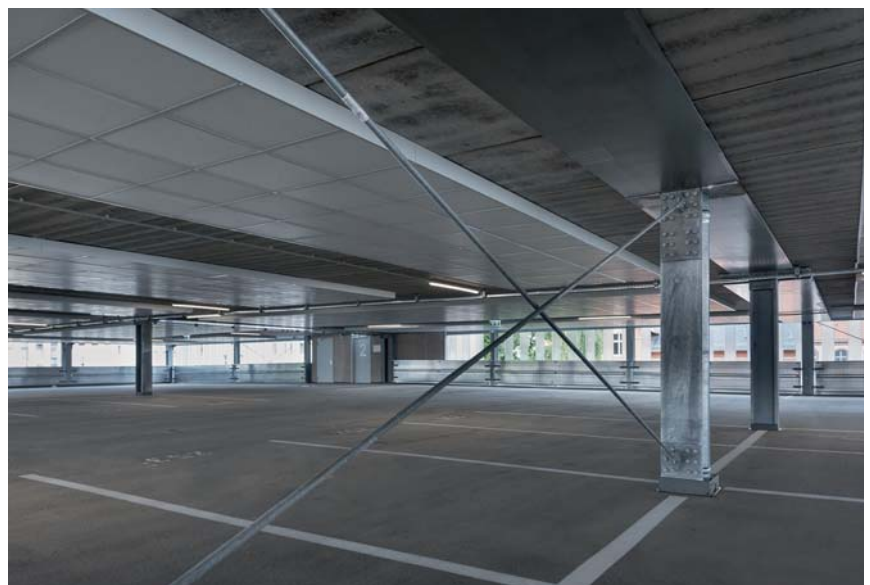


Improved environmental balance due to Hybridbeam® and slim floor construction

- Reduced material consumption – reduced CO₂ emissions
- Reduction of lead times to a minimum
- Lower demand for “grey” energy through production, transport, assembly and finishing
- Lower building with the same performance
- Lighter soil with unfinished surface
- Reduction of the operating costs of the facility
- Elimination of protruding intermediate ceilings – smooth ceiling, free space for installations
- Efficient use of the volume of the garages – reduction of the height of the basements
- Reduction of foundation thickness due to lighter construction
- Reduction of the foundation depth
- Dismountable elements – the beams can be reused in later constructions

Bernau multi-storey car park – slim floor construction with prefabricated elements

For multi-storey car parks, it is desirable to achieve the lowest possible storey heights and wide-span storeys without a dense column grid. With the Hybridbeam® it is possible to achieve optimum functionality of the building while reducing the volume.



More projects at
www.hybridbeam.eu



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