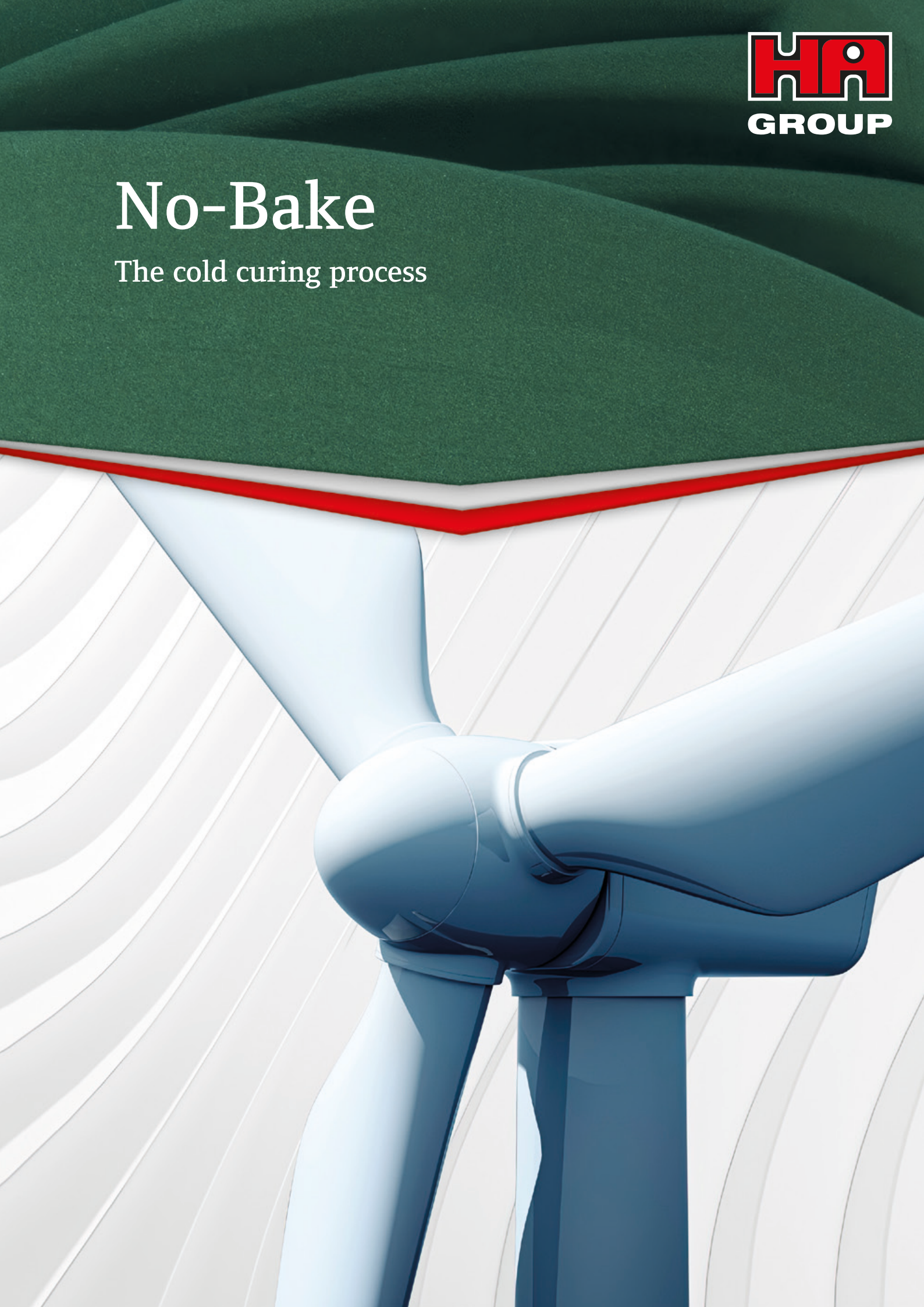


# No-Bake

The cold curing process





## Reliable and future-oriented

Synthetic resins have been used since the early 1960s to produce moulds and cores for large and one-off castings.

Hüttenes-Albertus was one of the pioneers in the field of synthetic resins. The introduction of furan cold-curing resins in foundries and the development of cold-curing phenolic resins set important milestones.

In order to meet the steadily increasing requirements of foundries and their customers over the past decades, our No-Bake binder systems are continuously optimized through intensive research and continuous further developments.

The No-Bake binder systems are used in the production of small, large and very large moulds and are characterised by the fact that they can be optimally adapted to the requirements of the castings and the production processes in the foundry.

The flexibility of the systems is also the reason why modified No-Bake binders are used on most 3D printers worldwide. This is ensured not only by the uncomplicated processing, but also by the high storage stability of moulds and cores.

## Furan resin

This classical all-purpose method for production of nearly all types of castings. What its special features are:

- low binder addition level
- low viscosity
- long storage life
- good through curing
- low odour
- low emissions
- easily recoverable used sand
- nitrogen-free grades of resins that are particularly suitable for high-quality steel castings
- reactive, rapidly curing specialty resins offering short stripping times
- low-sulphur systems for high-quality ductile iron, marked decrease in SO<sub>2</sub> emissions during and after pouroff

## Phenolic resins

The advantages of our phenolic cold resin product portfolio:

- low-nitrogen resins
- long sand bench life
- low overcure tendency
- uniform curing
- reduced pollutant liberation during curing
- low levels of free formaldehyde and phenol
- easily recoverable used sand

## Polyurethane-No-Bake

Reactive system for short and medium series.

Special features:

- even more environmentally-friendly due to improved solvents
- short curing times despite a relatively lengthy sand bench life
- low binder addition levels
- unsurpassed sand flow
- smooth, firm mouldings
- good separation from core boxes
- low odour nuisance
- free of sulphur and phosphorous
- good surfaces in steel casting
- low tendency for heat cracking

## Resole-Ester process

This method is used for high-quality castings, in particular steel castings, with the following properties:

- very good casting surfaces
- considerable reduction of finishing costs
- free of nitrogen, sulphur and phosphorous
- patterns are easily stripped
- low pollutant emissions during curing and pouroff
- low carbon uptake in steel casting
- low tendency for heat cracking and finning
- good collapse properties



# No-Bake resins - our contribution to the energy transition

Especially in the production of large castings - such as rotor hubs for wind turbines - our binders are indispensable. Without high-quality cold curing

resin systems, the required cores and moulds could not be produced.



**Significantly reduced emissions**  
e.g. through low-sulphur and BTeX-reduced systems

**Circular economy**  
Excellent regenerability and high reuse rate of basic moulding material

**High productivity**  
Controllable processes, low defect tendency, excellent casting results

**Compliance with environmental regulations**  
and avoidance of hazardous ingredients e.g. via systems with a free formaldehyde content <0.05%

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