



## BONA830EM | product specification

**BONA830EM** wheels for axle loads of 23.5 t and 25 t are the latest stress optimised wheels for tread-braked freight wagons. Their modern design, combining a high safety factor, optimised weight, and low noise, makes them suitable for both universal use and extreme mechanical and thermal loading. This makes the **BONA830EM** wheels suitable for virtually all types of freight wagons, including intermodal and tank wagons, as well as for demanding applications such as operation in Nordic conditions and mountainous areas with frequent and intensive tread braking and tight-radius curves. In addition, it provides cost savings for the operator due to its significantly extended service life. The **BONA830EM** wheel was developed to meet current and future safety requirements for decades to come.

### Key features

- Combined wheel and bearing replacement at IS3, under favourable operating conditions (830 mm limit wear groove version).
- High safety factor combined with optimised weight and low noise level
- Mutual interchangeability with other stress optimised wheels
- Lower carbon footprint thanks to extended service life
- Optimal wheel for wagons with composite brake blocks (K, L, LL)



**GHH-BONATRANS**  
Pioneers of wheelset solutions

## Exceptional safety, reliability, and service life

Customer requirements for substantially longer service life and high safety compared to commonly used wheels on the market were considered in the wheel design.

“EM” and “830” in the name refer to Extended Mileage (service life), which we achieve through the possibility to operate the wheel to the diameter of **830** mm and the enhanced **BONA STAR<sup>®</sup>ER7** steel grade.

The enhanced **BONA STAR<sup>®</sup>ER7** steel grade meets the requirements of TSI and EN 13262 and has substantially higher resistance to wear and damage due to rolling contact fatigue (RCF).

**BONA830EM** wheels (830 mm limit wear groove version) can achieve a mileage of up to **1,200,000 km** under favourable operating conditions. This then makes it possible to combine wheel replacement with bearing replacement during the IS3 overhaul.

The optimised weight increases transport efficiency and reduces energy intensity.

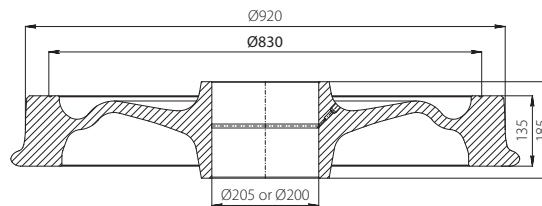
## Mutual interchangeability with other wheels

We supply **BONA830EM** wheels for axle loads of both 23.5 t and 25 t.

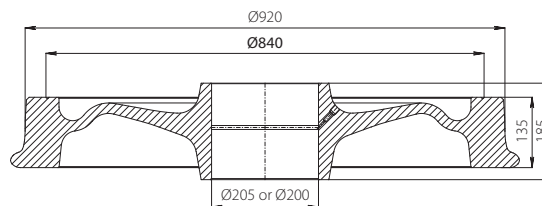
For already operated wagons, where the existing design of the bogie (or the brake) does not allow the advantages of the 830 mm limit wear groove, a wheel version with the more common 840 mm limit wear groove is approved.

Thanks to this and its mutual interchangeability with other types of stress optimised wheels, it is possible to benefit from the high factor of safety, extended service life and optimal weight of the **BONA830EM** wheel in virtually any newly manufactured or already operated wagon.

Variant with the 830 mm limit wear groove



Variant with the 840 mm limit wear groove



## Norms and certificates

- TSI WAG, subsystem ‘rolling stock – freight wagons’ certificate
- Production is carried out in accordance with EN 13262
- The wheel design corresponds to EN 13979-1

