

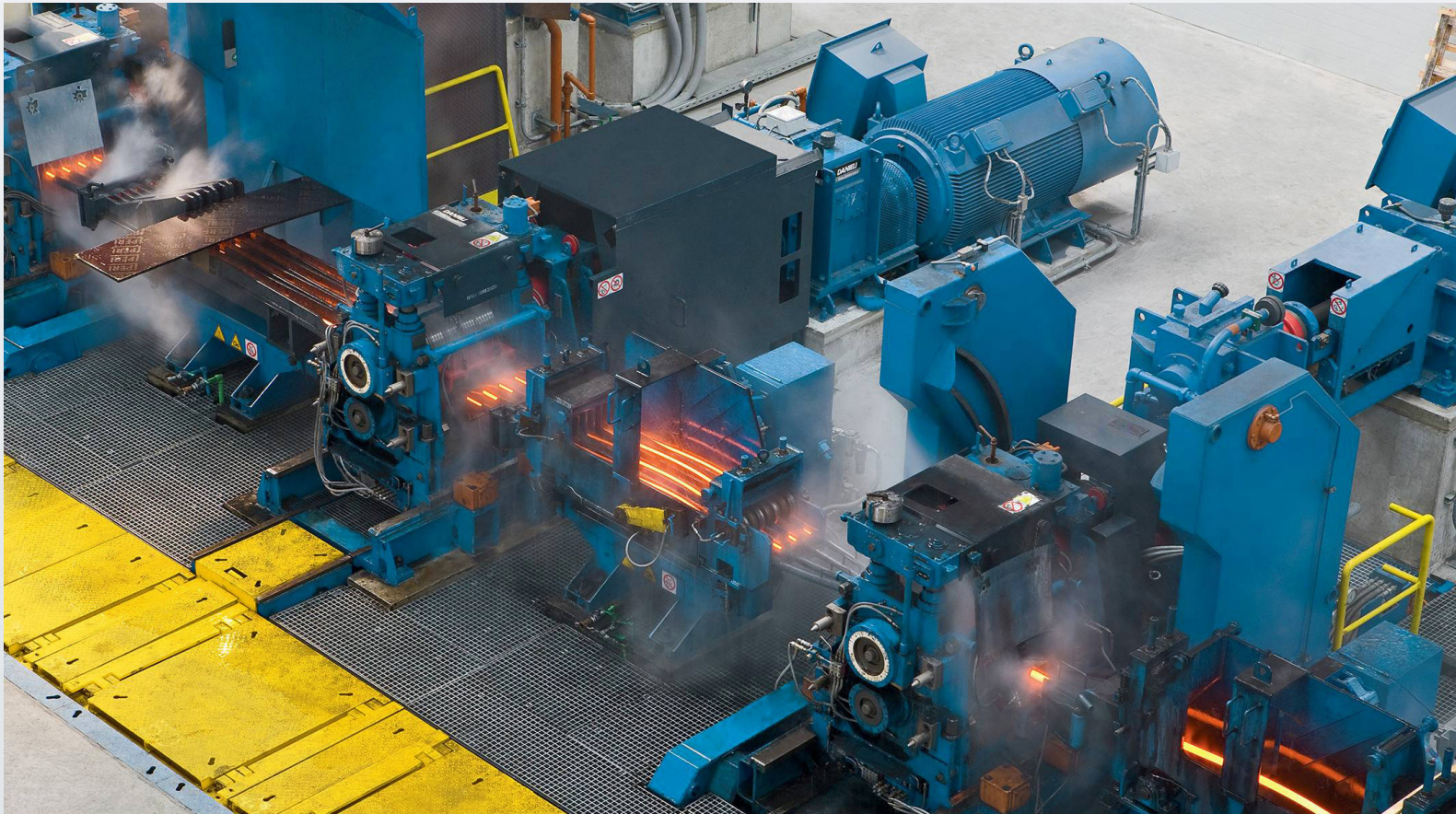
Four-row cylindrical roller bearings for long product rolling mills

ACB
ATLANTIC CUSTOM BEARINGS

*United States - Argentina - Bolivia - Brazil - Canada - Chile - China
Colombia - Costa Rica - Dominican Republic - Ecuador - El Salvador
Guatemala - Honduras - Italy - Mexico - Nicaragua - Panama - Peru - Spain*



ACB four-row cylindrical roller bearings for long product rolling mills

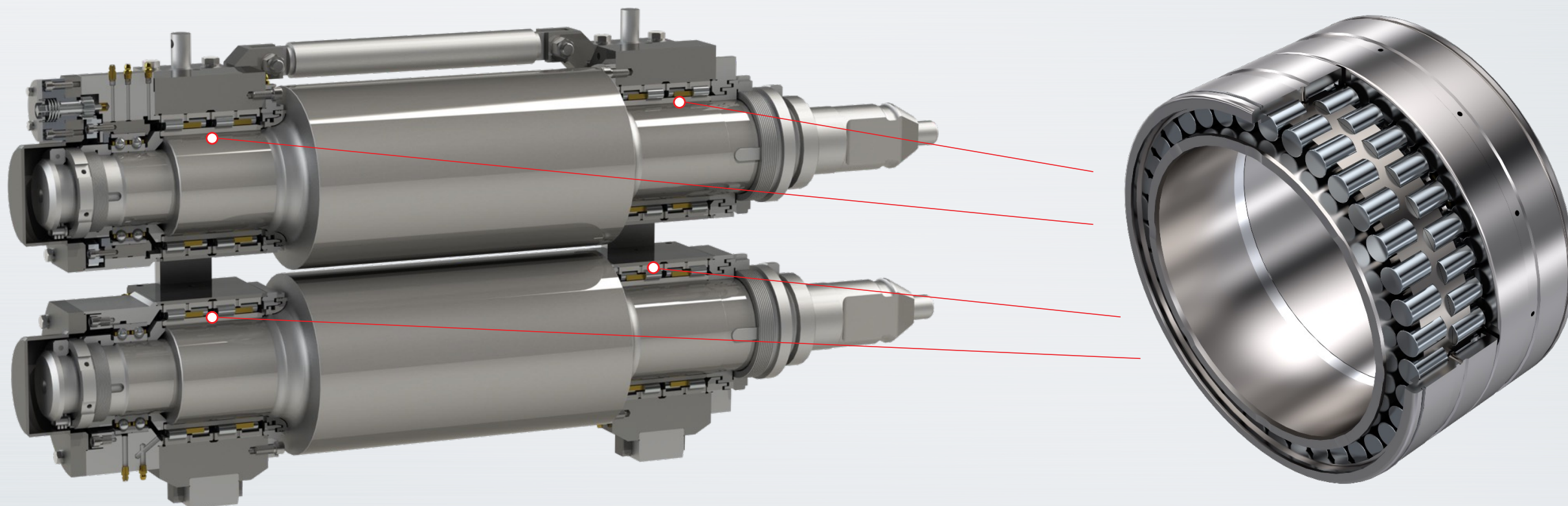


Long-product steel rolling mills are specialized facilities for producing long steel products such as bars, rods, angles, beams, and channels. These mills play a crucial role in steel manufacturing, transforming raw steel into finished products used in construction, infrastructure, and various industrial applications.

Long-product steel rolling mills face several challenges impacting their efficiency, productivity, and overall performance.

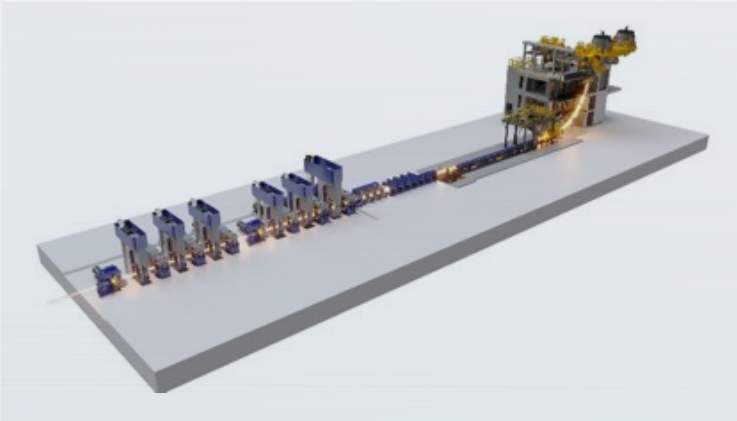
The ACB 4RCRB is designed to mitigate those challenges, improve reliability, and extend service life.

ACB four-row cylindrical roller bearings for long product rolling mills



Roll neck bearings are subjected to heavy loads and high specific pressure. The available mounting space is very limited, especially in the radial direction. Consequently, a bearing with a low sectional height but high load-carrying capacity is required.

ACB four-row cylindrical roller bearings for long product rolling mills



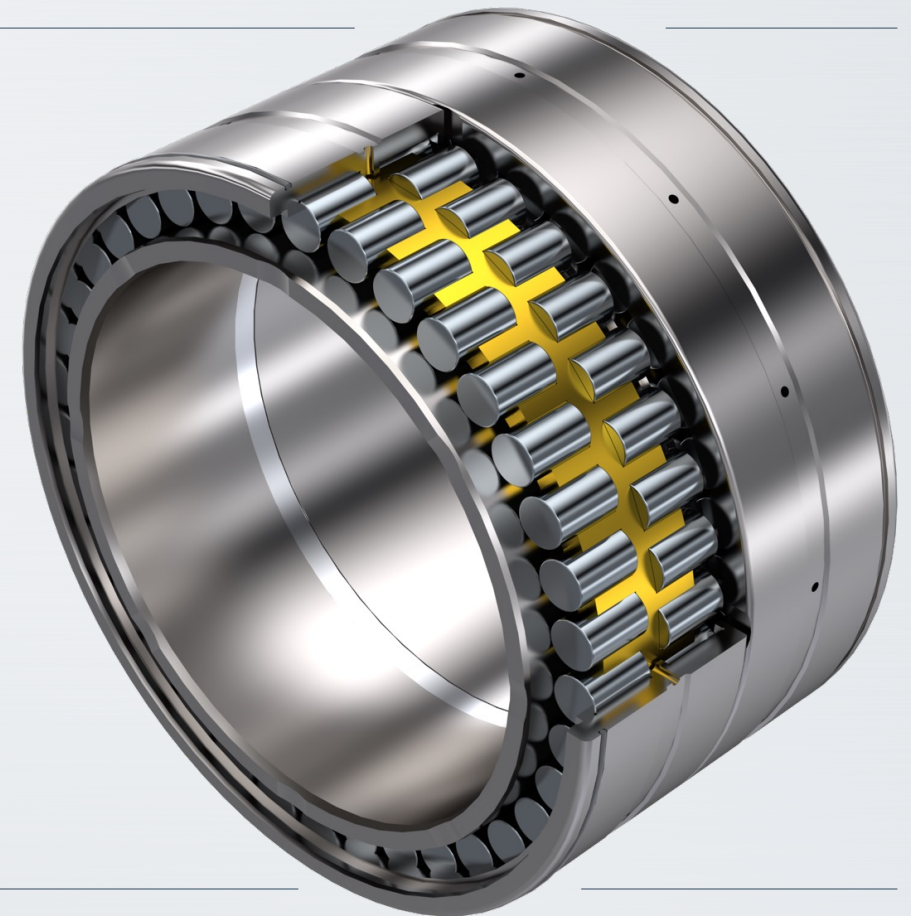
Forged steel rings and rollers
Raceways with super finish

Rollers with optimized profile and
bigger diameter and lengths for
maximum load capacity

Special design of ribs to reduce
friction and improve the lubricant film

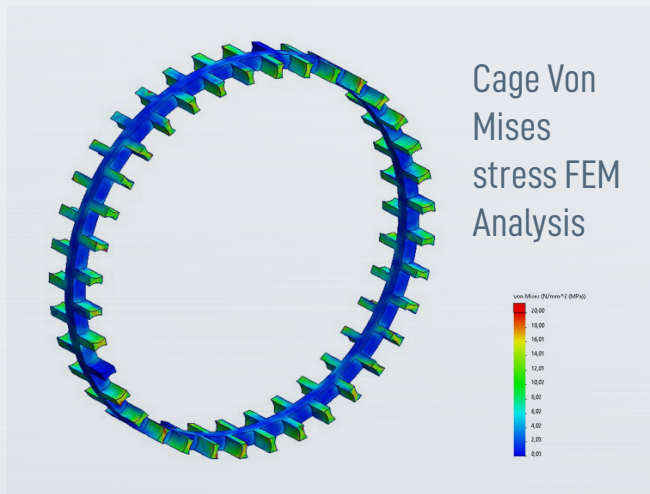
Precision class P5

A high-strength brass or steel
machined cages

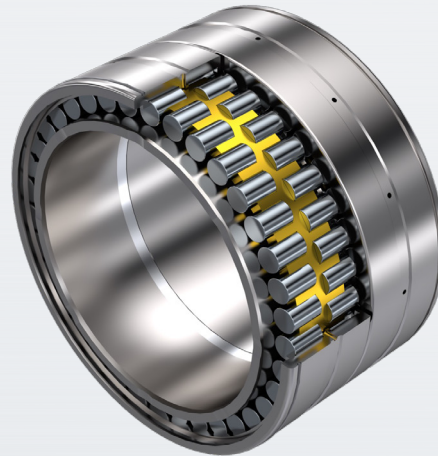
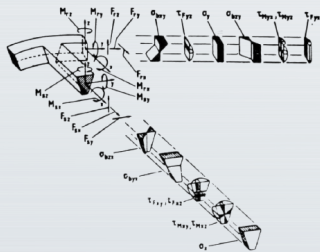


ACB four-row cylindrical roller bearings - Cage designs

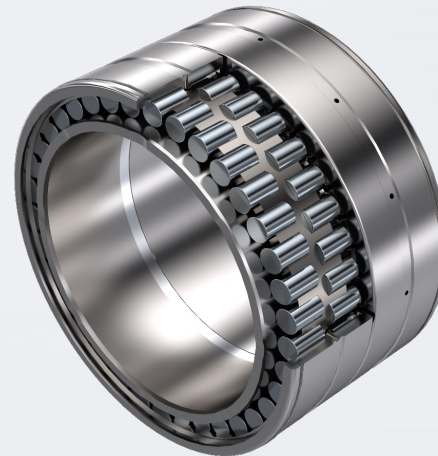
High-strength brass (finger and window types) or steel machined cage in single pieces and designed through Finite Elements for maximum quantity and diameter of rollers.



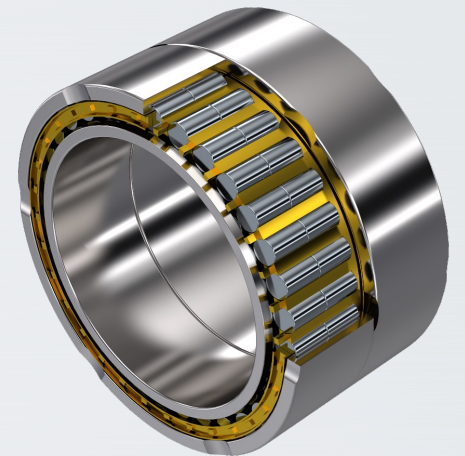
Stress
pattern in
cage cross-
section



High-strength brass single-piece machined cage



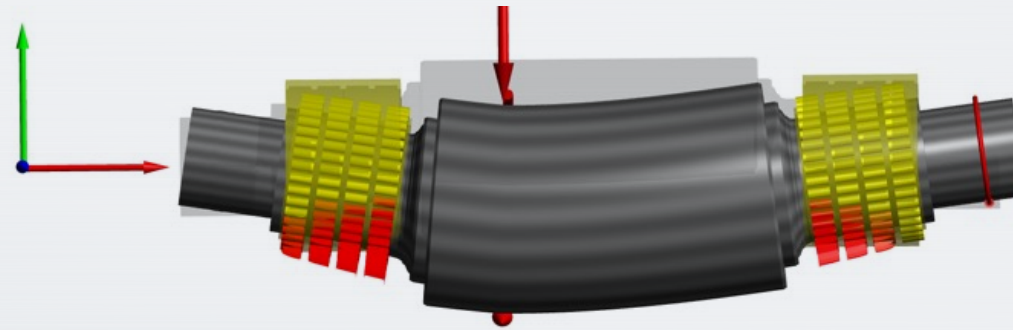
Steel machined single-piece cage with phosphate manganese coating



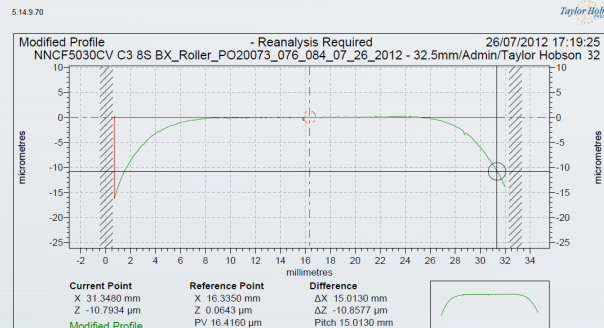
High-strength brass window type cage for extreme conditions

ACB four-row cylindrical roller bearings – Roller designs

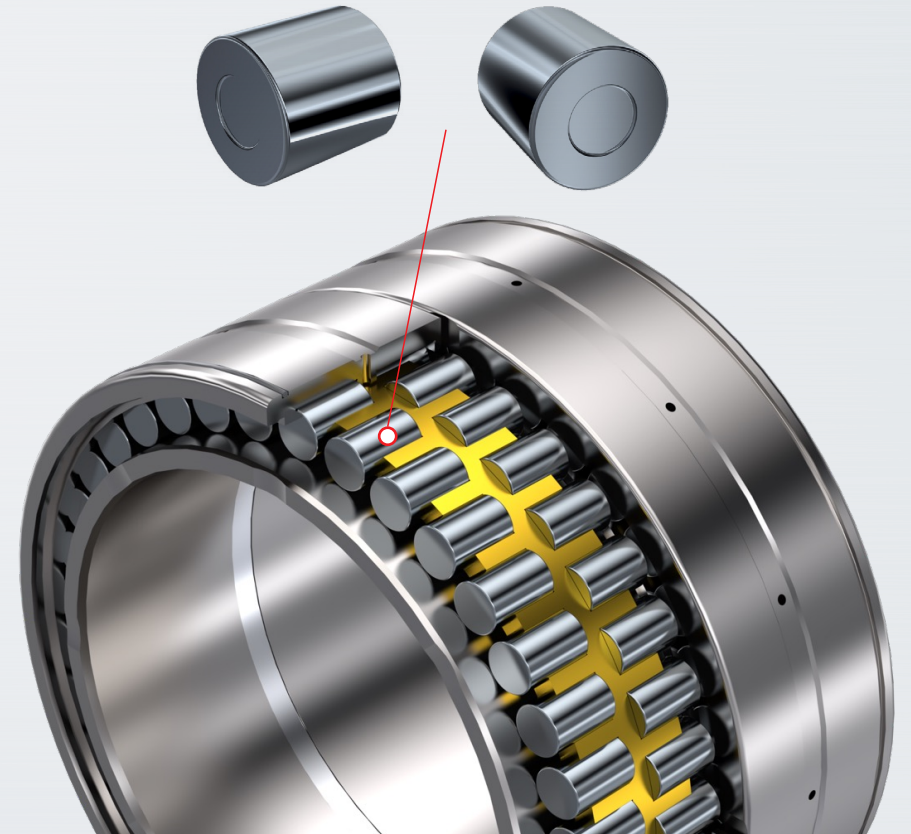
Rollers with optimized profiles, larger diameters, and lengths for maximum load capacity



Mill Roll deflection under normal operation conditions generates uneven load concentration between the four roller rows and in each roller itself.



Customized
roller profile design



ACB four-row cylindrical roller bearings - Ring designs

Forge Bainite Hardened inner and outer rings

Increased resistance to impact loads.

Increased resistance in contaminated environments.

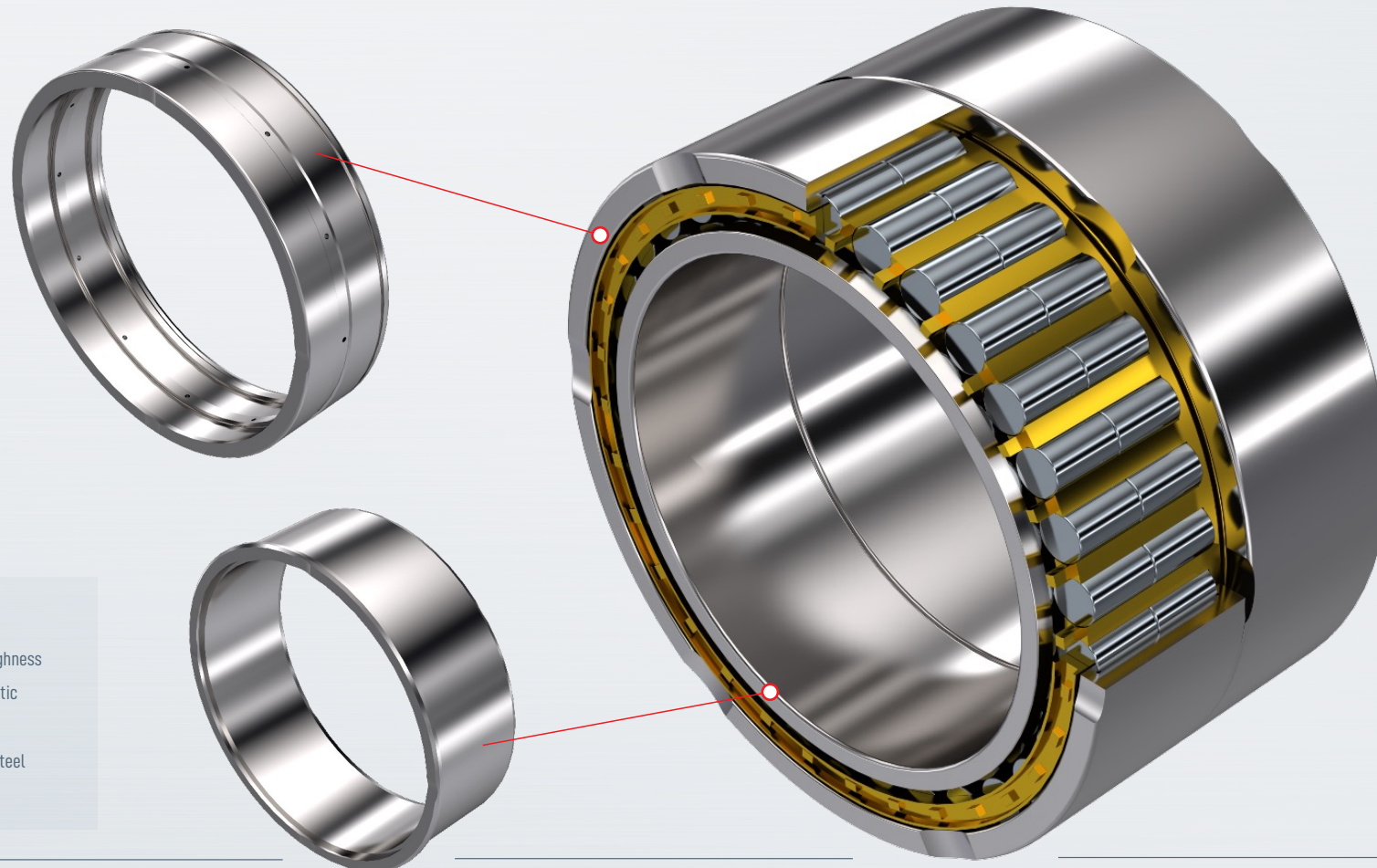
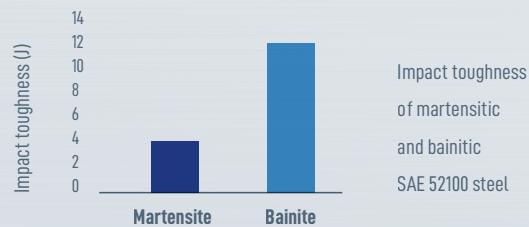
Lower crack propagation speed.

Higher fatigue resistance.

Higher fracture toughness.

Slight compression residual stress in the surface zone.

No temper embrittlement.



Geometry and micro geometry improvements

Special design of ribs to reduce friction and favor the formation of the lubricant film

Special raceway profile to reduce rollers' edge stress

Super finished Raceways

P5 running precision

ACB four-row cylindrical roller bearings - Special designs

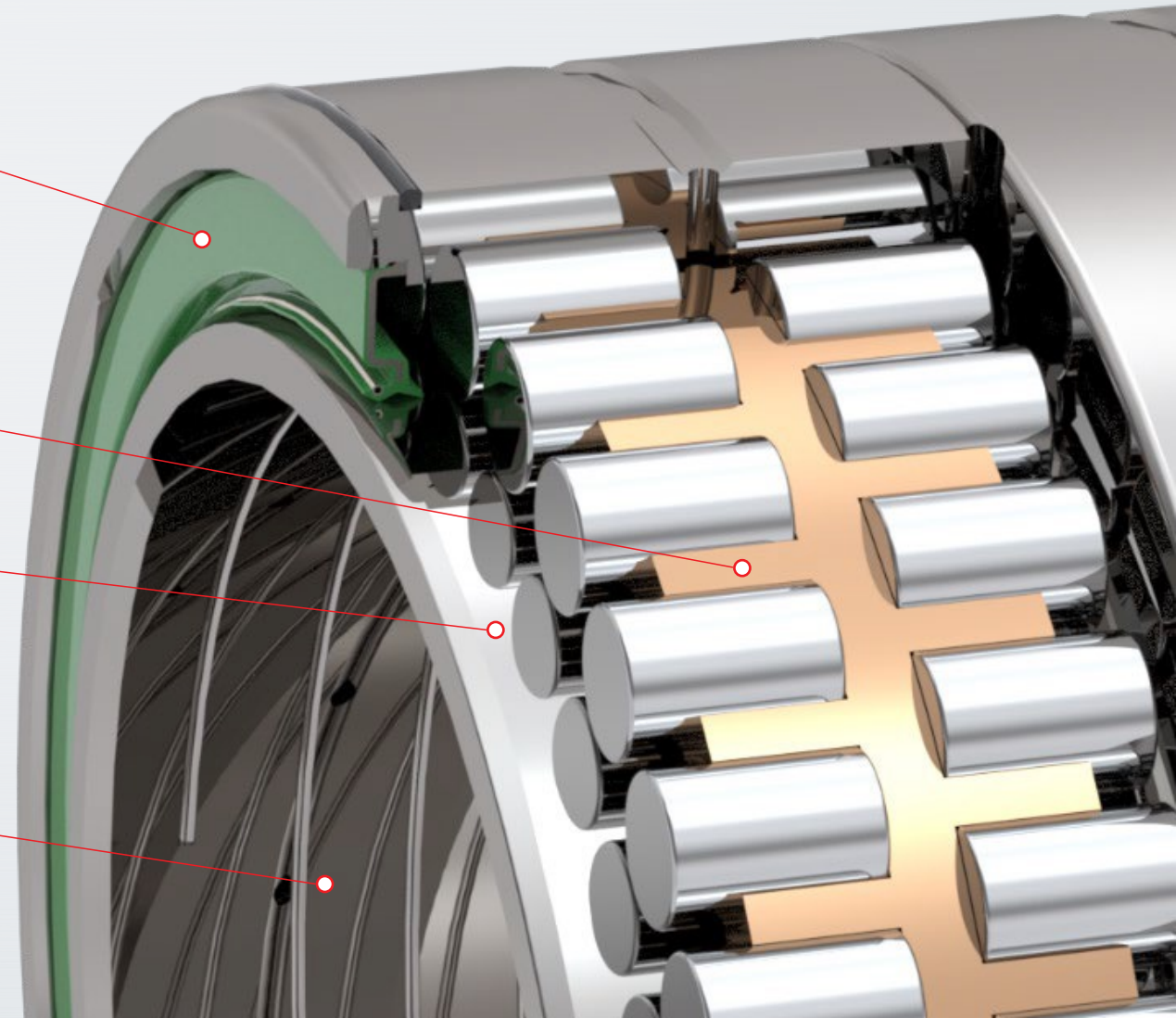
Viton seals with steel reinforcement

High strength brass cage machined in single piece and designed through Finite Elements for maximum quantity and diameter of rollers

Raceways with super finish

Helical grooves in the hole of the inner rings to contain lubricant, facilitate assembly and accommodate metal particles from seat wear on the roller

Case carburized rings and rollers





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