

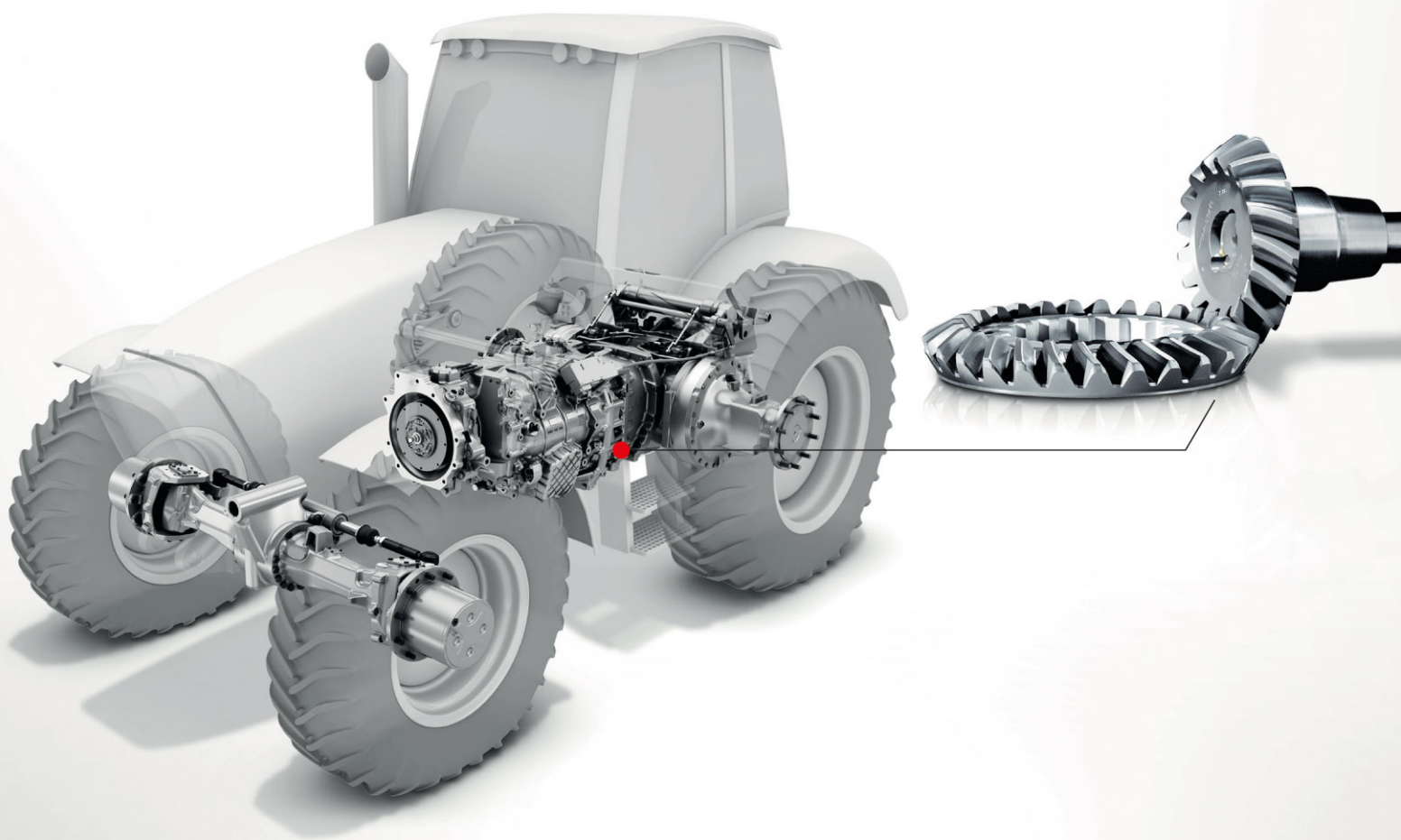
**oerlikon**  
balzers

**More power inside.**

**更强的内部动力**

BALINIT® C coating for reliable and durable heavy duty vehicle gears.

BALINIT® C 涂层使您的重型汽车齿轮可靠耐久。



**General Engineering**



# Take the easy way out: BALINIT® C for hard work.

## 摆脱困境：为繁重的工作选择BALINIT® C涂层

Gears in heavy-duty vehicles typically are subject to high loads. Specific operating conditions may cause poor lubrication which increases the danger of wear, thereby shortening component life time. With increasingly powerful engines, conventional anti-wear strategies such as case hardening and nitriding often cannot provide the tribological reserve needed.

The BALINIT® C (WC/C) coating is an unmatched combination of high hardness together with low friction. It thereby effectively reduces the danger of seizures and pitting wear. The reduced friction contributes to overall system efficiency.

重型汽车的齿轮通常都高负荷工作。特殊的运作环境或许会导致润滑不良，有磨损的危险，从而缩短零部件的使用寿命。随着发动机动力的不断提升，例如淬火、氮化之类的传统抗磨方法已经不能完全抗击摩擦。

BALINIT® C (WC/C)涂层是高硬度和低摩擦力的完美结合。从而有效降低齿轮咬粘和点蚀磨损的危险。摩擦力的降低将全面提高系统效率。

## Your advantages with BALINIT® C coated gears.

### 经 BALINIT® C涂层的齿轮优势

- High hardness decreases wear
- Low friction at high loads prevents seizures and minimizes frictional losses
- 15% increase in surface fatigue limit as compared with uncoated gears extends component life time
- Lightweight design by a possible reduction in gear size

- 高硬度，低磨损
- 高负荷下低摩擦，摩擦损失最小化，预防齿轮咬粘
- 相对于未涂层的齿轮，提升了15%的表面疲劳极限，从而延长了零部件的使用寿命
- 轻量化设计，可以使用更小尺寸的齿轮

## BALINIT® C means significantly improved wear resistance and durable efficiency.

### BALINIT® C显著提高耐磨性和持久效率

Total wear of sun and planetary gears [mg] 太阳齿轮和行星齿轮的磨损

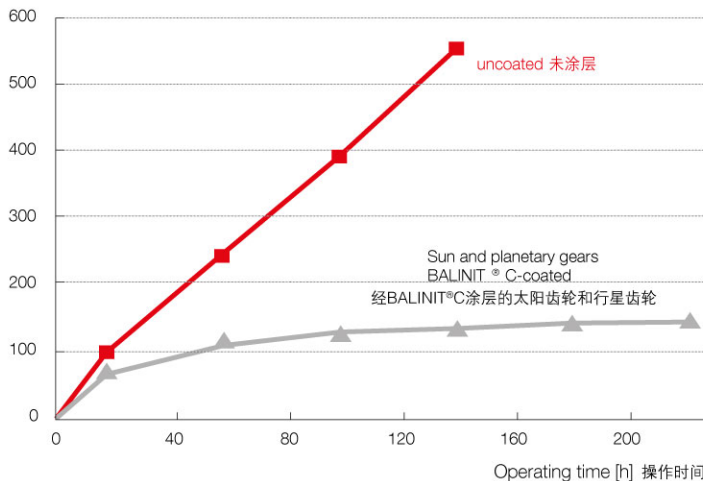


Fig.1: Slow turning gears with high surface pressures typically suffer from considerable wear. BALINIT® C effectively stops further wear after a running-in phase (FZG C test, 2.180 MPa, 0.04m sliding speed)

数据1：表面压力高的低速旋转齿轮通常都受到很大的磨损。BALINIT® C有效阻止了磨合期后更进一步的磨损（FZG C测试，2.180 MPa，0.04m滑动速度）

Tooth face pressure [N/mm<sup>2</sup>] 齿尖面压力

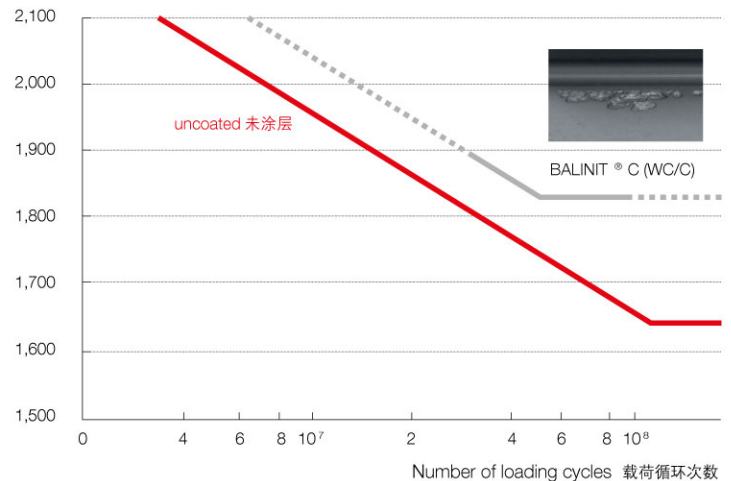


Fig.2: The standard FZG C test indicates 10-15% increase in fatigue strength as compared to uncoated gears (material: case hardened steel 62 HRC, Rz=3µm), stopping criterion 4% wear induced material loss per tooth (weight)  
数据2：标准的FZG C测试表明，相对于未涂层的齿轮，疲劳强度增加了10-15%（材料：淬火的钢62 HRC，Rz=3µm），停止准则为每齿有4%的材料磨损（重量）

## We recommend: BALINIT® C coatings for more reliability and durability.

### 我们推荐：BALINIT® C涂层，使您的齿轮更可靠更持久。

BALINIT® C				
Coating material 涂层材料	Micro hardness 维氏硬度 (HK 0.01)	Typical thickness 标准厚度	Coefficient of friction $\mu$ 摩擦系数 against steel (dry) 对钢 (干式)	Colour 颜色
a-c:H:W (WC/C)	1000	1-4 µm	0.1 - 0.2	black-grey 黑灰色

There's much more to talk about – please get in touch to discuss what we can do to improve your business.

更多需要了解，请与我们联系

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