

Metal die casting with BALINIT.

经BALINIT涂层的金属压铸模具

More endurance, more productivity,
more reliable production.

耐用性更强，产量更多，生产稳定性更高。



Die Casting
压铸模具



Successful moulding. 成功的铸模成型。

Oerlikon Balzers is your strong partner!

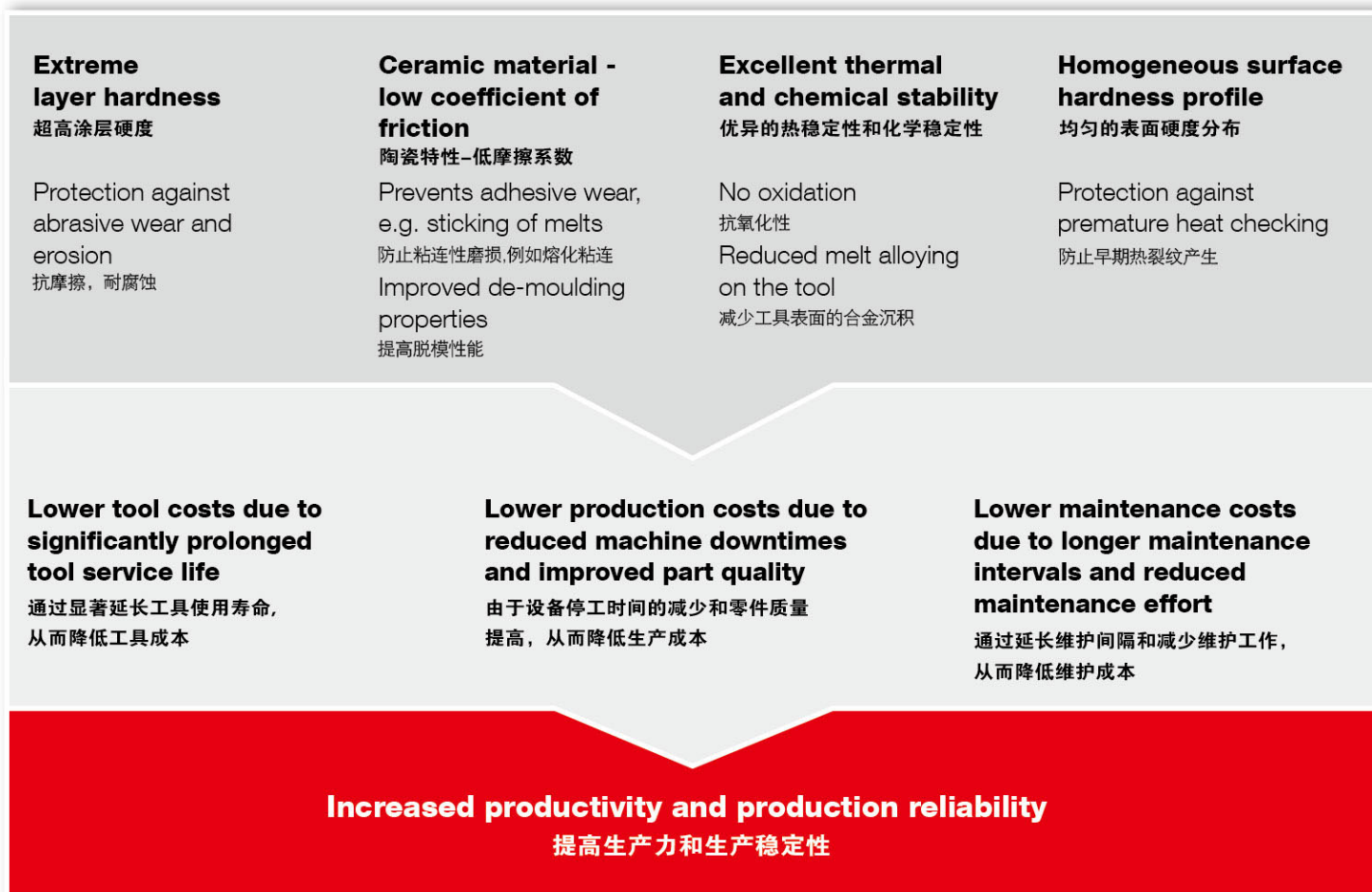
欧瑞康巴尔查斯是您强有力的合作伙伴!

When it comes to metal die casting, the quality of the coating on the mould surface is crucial for success. BALINIT® coatings from Oerlikon Balzers, the leader in advanced PVD coating solutions, are ideal.

就金属压铸模具而言，模具表面的涂层质量是成功的关键。欧瑞康巴尔查斯的BALINIT®涂层是先进PVD涂层解决方案的领导者，同时，也是您的理想选择。

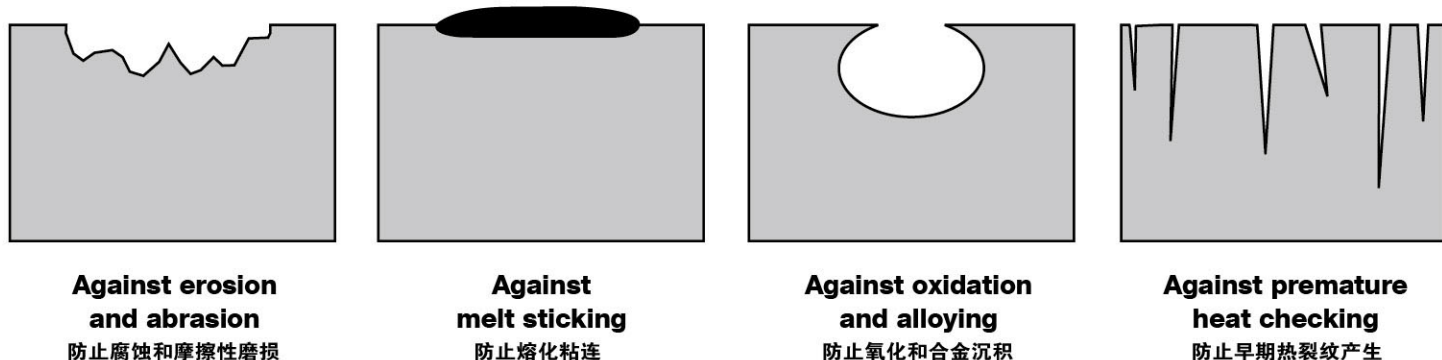
BALINIT® coatings are multi-functional, have unique properties and increase the long-term cost-effectiveness and productivity of the production process.

BALINIT® 涂层产品具有多功能性，同时，它有其独特性能，并能够提高长期成本效益和生产率。



BALINIT protects against wear in die casting:

BALINIT涂层保护压铸模具防止磨损:



BALINIT allows you to achieve maximum yield:

100% performance -

70% cost saving.

BALINIT让您获得最大化收益:

100%性能-

70%成本节约。



Maintenance intervals and resulting maintenance and production costs for 30,000 shots

打了3万件产品的模具维护间隔，维护结果和生产成本对比

Untreated 未涂层

BALINIT® LUMENA 涂层

Maintenance intervals 维护间隔

25x maintenance
模具维护25次

5x maintenance 维护

5x tool changes
模具更换5次

1x tool change 更换工具

100% Production costs 生产成本100%

30% Production costs
生产成本30%

40% maintenance
40%维护成本

6% maintenance
6% 维护成本

60% tool changes
60%模具更换成本

24% tool changes
24%模具更换成本

70%
cost saving
成本节省
70%

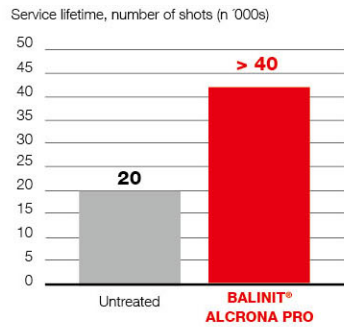
Impressive proof of performance for our BALINIT coatings.

BALINIT涂层性能案例



In best form: BALINIT® ALCRONA PRO for mould cores

最佳状态: BALINIT® ALCRONA PRO涂层过的模仁



Tools 工具

Mould cores 模仁, Steel 1.2343 (AISI H11, ~SKD 61)

Workpiece 工件

Gear box for automotive industry 汽车传动箱

Tool length 工具长度

150 mm

Diameter 直径

30 mm

Challenge 挑战

Untreated: Damage to the mould core primarily caused by adhesive wear
未涂层: 粘附性磨损导致模仁损坏

The solution: BALINIT® ALCRONA PRO

- Significantly less adhesive wear
- Over 50% longer tool service life

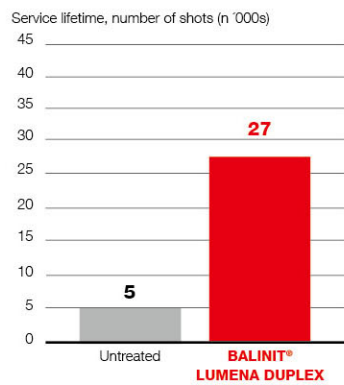
经BALINIT® ALCRONA PRO处理后:

- 明显减少粘附性磨损
- 工具使用寿命延长50%以上



In peak form: BALINIT® LUMENA DUPLEX for mould inserts

最佳状态: BALINIT® LUMENA DUPLEX 涂层过的模具插入件



Tools 工具

Water jacket 气缸水套, Steel 1.244 (AISI H13, SKD 61)

Workpiece 工件

Cylinder block made from 380 aluminium alloy
由380铝合金制成的气缸体

Machine 设备

4,000 t

Challenge 挑战

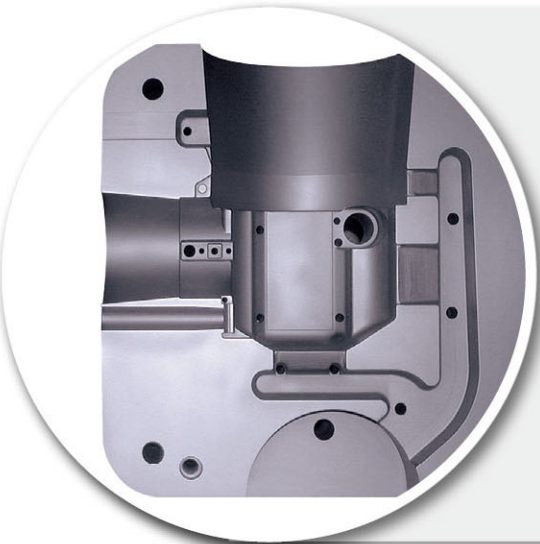
Untreated: Heat checking, alloying, sticking
未涂层: 热裂纹, 合金沉积, 粘连

The solution: BALINIT® LUMENA DUPLEX

- Reduction of alloying
- Higher component quality
- Less maintenance work
- Significantly delayed heat checking formation

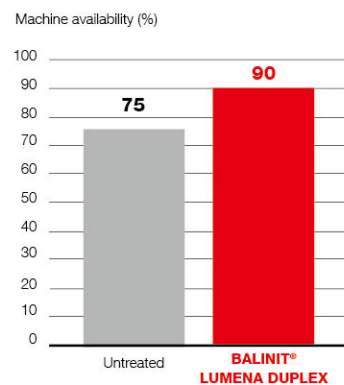
经BALINIT® LUMENA DUPLEX处理后:

- 减少合金沉积 - 提高零部件质量
- 减少维护工作 - 有效地延迟热裂纹的形成



In top form: BALINIT® LUMENA DUPLEX for moulds

最佳状态: BALINIT® LUMENA DUPLEX 涂层过的模具



Tool 工具

Die casting mould, 压铸模具

Steel 1.2343 (AISI H11, ~SKD 61)

Workpiece 工件

Aluminium alloy 铝合金 (AIDC 12)

Machine 设备

3,500 t

Challenge 挑战

Untreated: Heat checking, sticking, erosion, therefore low machine availability
未涂层: 热裂纹, 粘连, 腐蚀导致机器使用率低

The solution: BALINIT® LUMENA DUPLEX

- Increase in machine availability to 90%
- At least 20% longer tool service life
- Reduction in injection pressure

经BALINIT® LUMENA DUPLEX处理后:

- 设备使用率提高到90%
- 工具使用寿命至少延长了20%
- 压铸压力减少

Rely on first-class coating properties for your metal die casting!

为您的金属压铸模具提供一流的涂层性能

	BALINIT® LUMENA	BALINIT® ALCRONA PRO
Coating material 涂层材料	TiAlN	AlCrN
Micro-hardness (HV 0.05) 微硬度(HV0.05)	3,400	3,200
Coefficient of friction (dry steel) 摩擦系数(对钢材干式摩擦)	0.30-0.35	0.35
Coating thickness (µm) 涂层厚度(µm)	Application-dependent 根据应用	Application-dependent 根据具体应用
Coating temperature (°C) 涂层温度(°C)	450	< 500
Maximum service temperature (°C) 最高使用温度(°C)	900	1,100
Coating colour 涂层颜色	Violet-grey 紫罗兰灰	Light grey 浅灰色

BALINIT® LUMENA and BALINIT® ALCRONA PRO are also available in ADVANCED or DUPLEX technology.
BALINIT® LUMENA 和 BALINIT® ALCRONA PRO也可应用于ADVANCED 或 DUPLEX 技术中

Recommendations for use:

使用推荐:

	BALINIT® LUMENA	BALINIT® ALCRONA PRO
Core 模仁	++	+++
Water jacket 水套	+++	++
Mould 型腔模具	+++	++

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Also interested in high-performing die casting moulds? Contact us today!

对高性能的压铸模具也感兴趣吗？

请尽快联系我们！

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