

Metal die casting with **BALINIT.**

More endurance, more productivity,
more reliable production.



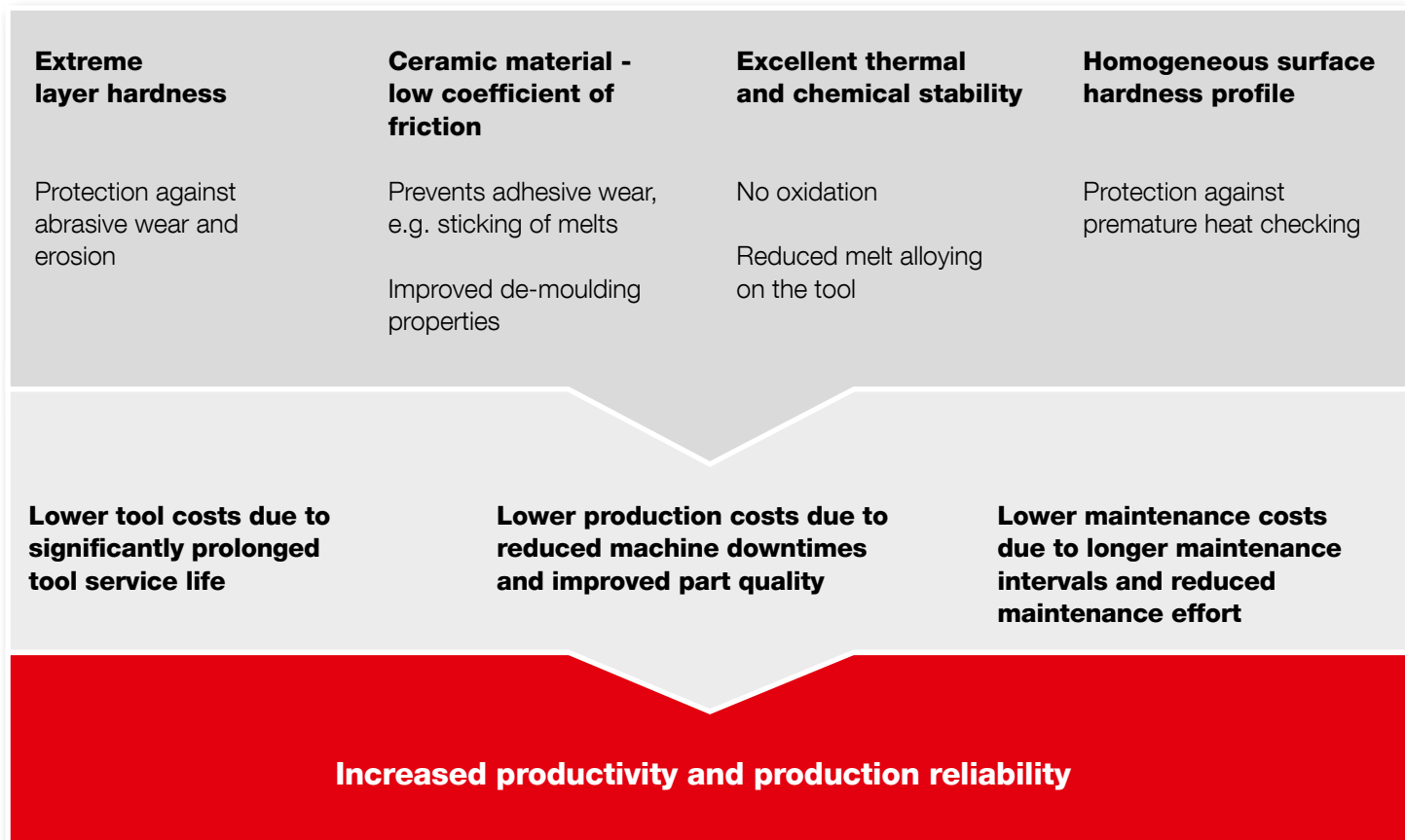
Die Casting



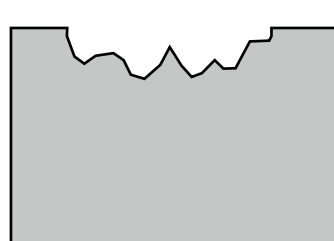
Successful moulding. Oerlikon Balzers is your strong partner!

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.

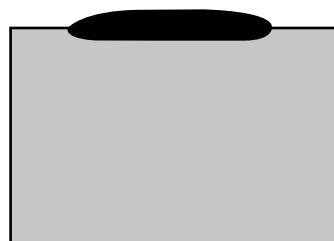
BALINIT® coatings are multi-functional, have unique properties and increase the long-term cost-effectiveness and productivity of the production process.



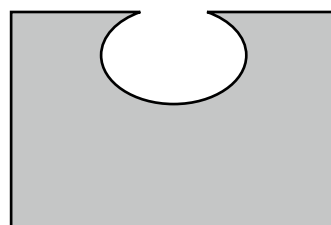
BALINIT protects against wear in die casting:



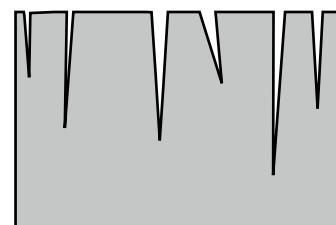
Against erosion and abrasion



Against melt sticking



Against oxidation and alloying

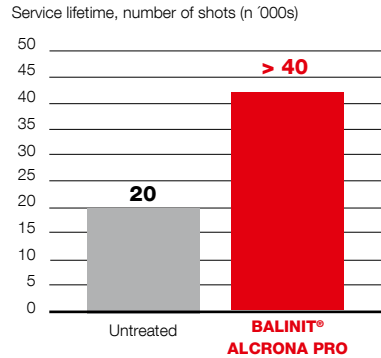


Against premature heat checking

Impressive proof of performance for our BALINIT coatings.



In best form: BALINIT® ALCRONA PRO for mould cores



Tools

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

Workpiece

Gear box for automotive industry

Tool length

150 mm

Diameter

30 mm

Challenge

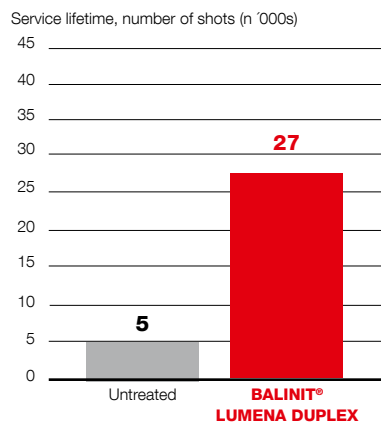
Untreated: Damage to the mould core primarily caused by adhesive wear

The solution: BALINIT® ALCRONA PRO

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



In peak form: BALINIT® LUMENA DUPLEX for mould inserts



Tools

Water jacket, Steel 1.2344 (AISI H13, SKD 61)

Workpiece

Cylinder block made from 380 aluminium alloy

Machine

4,000 t

Challenge

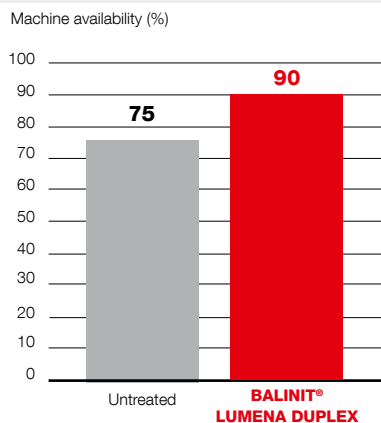
Untreated: Heat checking, alloying, sticking

The solution: BALINIT® LUMENA DUPLEX

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



In top form: BALINIT® LUMENA DUPLEX for moulds



Tool

Die casting mould, Steel 1.2343 (AISI H11, ~SKD 61)

Workpiece

Aluminium alloy (AIDC 12)

Machine

3,500 t

Challenge

Untreated: Heat checking, sticking, erosion, therefore low machine availability

The solution: BALINIT® LUMENA DUPLEX

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

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

	BALINIT® LUMENA	BALINIT® ALCRONA PRO
Coating material	TiAlN	AlCrN
Micro-hardness (HV 0.05)	3,400	3,200
Coefficient of friction (dry steel)	0.30-0.35	0.35
Coating thickness (µm)	Application-dependent	Application-dependent
Coating temperature (°C)	450	< 500
Maximum service temperature (°C)	900	1.100
Coating colour	Violet-grey	Light grey

BALINIT® LUMENA and BALINIT® ALCRONA PRO are also available in ADVANCED or DUPLEX technology.

Recommendations for use:

	BALINIT® LUMENA	BALINIT® ALCRONA PRO
Core	++	+++
Water jacket	+++	++
Mould	+++	++

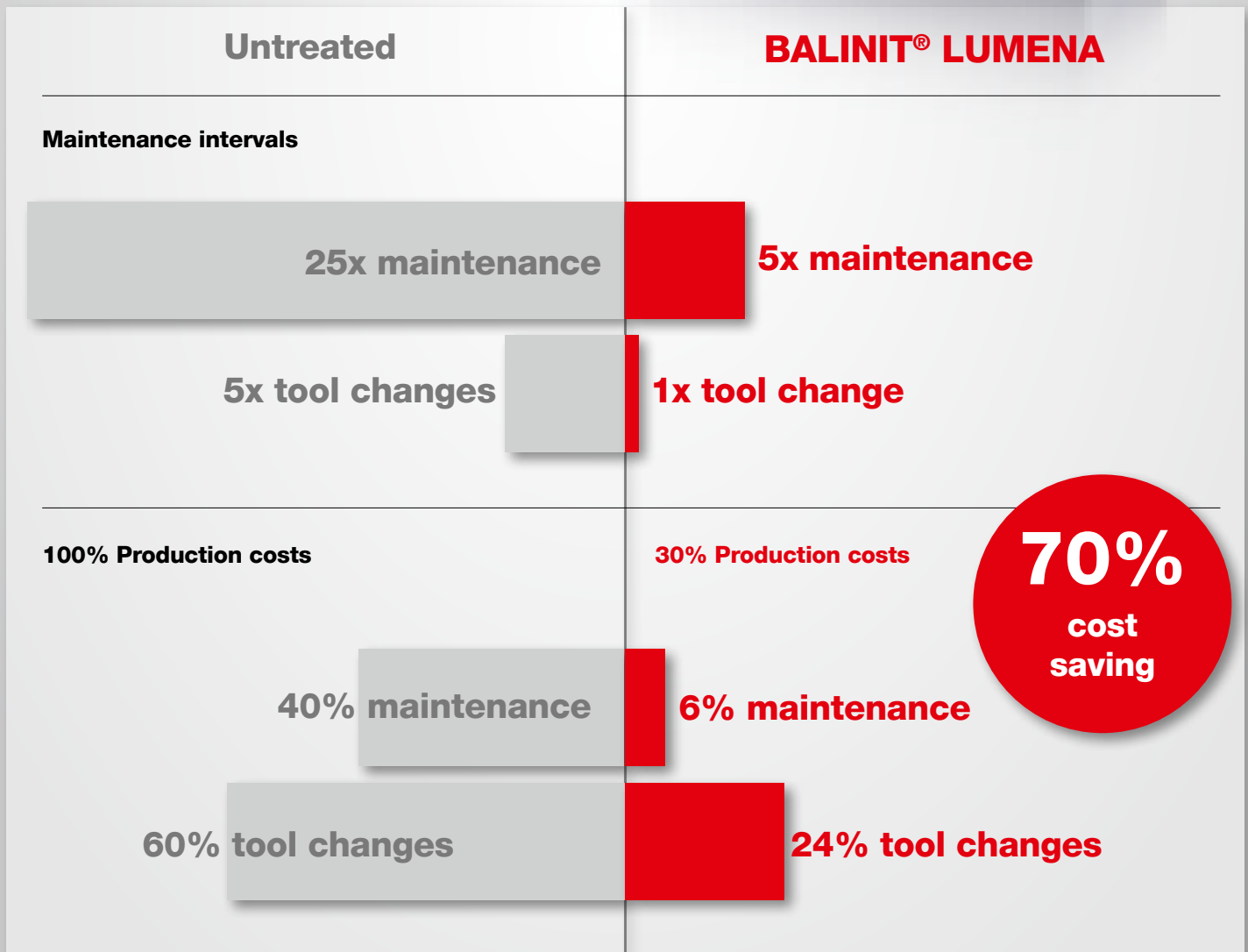
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BALINIT allows you to achieve maximum yield: 100% performance - 70% cost saving.



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



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

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