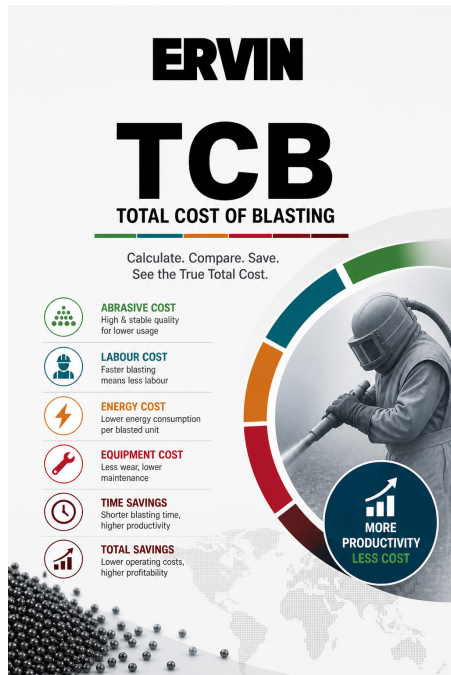


TECHNICAL BULLETIN 06/2026

Understanding the True Cost of Shot Blasting Operations

Shot blasting is a core process for cleaning, descaling, or strengthening metal surfaces. While abrasive purchase price is often the focus in procurement decisions, it represents only a small fraction of total operating costs. Evaluating the total cost of blasting (TCB) requires considering all factors affecting the blasting process.



Cost Distribution

Example operating costs for a four-wheel surface preparation machine* are approximately:

- Labour: 44%
- Waste: 2%
- Energy: 21%
- Maintenance: 11% (including spare parts)
- Abrasive: 22%

Abrasive cost is minor compared with labour, energy, and equipment depreciation. However, abrasive performance directly affects these larger cost areas.



Impact of Abrasive Performance

High-quality abrasives can improve efficiency and reduce total cost by:

- Increasing output per hour or shift
- Reducing energy consumption per tonne processed
- Reducing abrasive consumption
- Minimising dust and waste disposal
- Improving surface quality, reducing rework

Even small performance improvements can have a significant effect on total operating costs.

Limitations of Price-Based Selection

Purchasing based solely on price per tonne assumes all abrasives perform equally, which is not the case. Using lower-quality abrasives usually increases:

- Dust generation and extraction load
- Wear on machine components
- Maintenance requirements
- Operator workload
- Blasting time per workpiece
- Coating adhesion issues

These hidden costs often outweigh savings from a lower purchase price.

Ervin Abrasive Performance

Decades of testing show that Ervin abrasives deliver consistent, reliable performance in both wheel and air blasting systems. Benefits include higher productivity, reduced abrasive consumption, and lower maintenance downtime. This allows operations to either maintain output while reducing cost or increase output without raising overall expenditure.

Understanding the True Cost of Shot Blasting Operations

The app interface consists of three main screens:

- Total Cost of Blasting:** Features a 'New Calculation' button, a 'Search Calculations' button, a language dropdown set to 'English', and an 'Exit' button.
- Abrasive Data:** Includes a dropdown for 'A/MIX DLH', input fields for '* Consumption(t)/Year (Current)' (75), 'Delivered Price (Current)' (950 €/t), 'Delivered Price (New)' (1100 €/t), 'Durability Difference' (100 %), 'Abrasive Wear Difference' (106 %), and 'Waste Disposal Costs' (150 €/t). It has 'Back' and 'Next' buttons.
- Process Data:** Includes input fields for '* Blast Hours/Year' (3600), '* Unit of Measurement' (Batches), '* Blast Time' (25 min), '* Current Time' (20 min), '* New Time' (20 min), '* Yearly Output in Batches (Current)' (8640), '* On Load Amps (Current)' (42 A), and 'Amp Reduction' (0 %). It has 'Back' and 'Save' buttons.

The Ervin Total Cost of Blasting (TCB) App

The TCB App enables data-driven assessment of blasting operations by combining:

- Ervin performance testing data
- Operational knowledge of machines
- Cost data for energy, labour, and maintenance

By inputting site-specific parameters, the app predicts potential savings from optimised abrasive selection, supporting informed decision-making. Our sales and technical teams are fully trained to use the app at customer premises delivering a real-time projection of the savings that could be achieved.

Summary

Abrasive performance, not price alone, determines the total cost of shot blasting. By considering labour, energy, maintenance, and equipment wear alongside abrasive characteristics, manufacturers can identify significant cost-saving opportunities. Tools like the TCB App provide a clear, quantitative method to optimise blasting efficiency and total cost.

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The results screen displays a comparison between a competitor and Ervin's solution for a customer named 'The Metal Guru'.

	Competitor	Ervin
Customer Name		
Reduced Costs		
Created By: The Metal Guru		
	S390	A/MIX DLH
Batches	8640	8640
Blasted Hours	3600	2880
Abrasive		
Consumption (t/y)	75	60
€/t delivered	950	1100
Sub-Total	71250	66000
Savings		5250
Labour		
Operators	173160	138528
Maintenance	5470	4638
Sub-Total	178630	143166
Savings		35463
Energy		
On Load Amps	42	42
% Full Load Amps	71	71
Sub-Total	29632	23706
Savings		5926
Spares		
Wheels	7688	6520
Others	5074	4303
Sub-Total	12762	10822
Savings		1940
Waste		
Tonnes/Year	75	60
Sub-Total	11250	9000
Savings		2250