

INSTRUCTIONS

Economic efficiency calculation PLANKO

All data must be entered under the tab „Machine data“. The remaining spreadsheets are calculated on this basis. These are only exemplary calculations without guarantee, which are not transferable to the individual case.

Criteria	Explanation	Initial value
Cost of acquisition/production	Acquisition or production costs of the entire machine excl. PLANKO	370,000 EUR
Index (new)	Expected replacement value of the machine excl. PLANKO	120 %
Average useful life	Time span in which the machine is used in the company	10 years
Economic lifetime	Lifetime according to German AfA table for depreciation	6 years
Maintenance factor	Percentage of the expenses for maintenance of the machine in relation to the acquisition costs	3 %
Space requirements (floor area)	Space required for the machine	9 sq m
Space requirements (incl. machine operators)	Space incl. all additional peripherals	30 sq m
Expenditure on premises per month/sq m	Costs for rent, heating, etc.	60 EUR
Ø kW capacity/hour	Machine performance	42 kW
Energy cost per kWh	Electricity costs per kWh	0.14 EUR
Interest rate	Interest rate on the costs for use of the operating capital	9 %
Number of spindles	Number of spindles of the machine to be equipped with PLANKO	1 piece
Contact surface system total costs	Costs for the integration of PLANKO	25,000 EUR*
Value	Total manufacturing costs of the component produced on the machine	18,000 EUR
Malfunction diagnosis etc.	Costs to check the component for faults etc.	700 EUR
Machining time	Time required for machining the component on the machine and the spindle (to be) equipped with PLANKO	50 hours

Tool change per component	Number of change cycles on the spindle equipped with PLANKO for machining a component	120
Rejects/Malfunction rate	Proportion of rejects due to incorrect clamping when PLANKO is not used	50 %
Incorrect clamping all (scenario 1)	Number of tool changes within which an incorrect clamping occurs	5,000 tool changes
Incorrect clamping all (scenario 2)	Number of tool changes within which an incorrect clamping occurs	2,000 tool changes
Hours/shift	Net working time per shift	8 hours
Number of shifts	Number of shifts	3
Public holidays	Number of standstill days due to public holidays	10 days
Days of standstill	Numbers of standstill days due to annual/sickness leave	30 days
Overhead time	Percentage of planned hours during which the machine is at a standstill due to malfunctions, waiting times, etc.	20 %

* estimated market price for end users