

## APPLICATIONS BULLETIN

# How Can I Demonstrate NanoClear's® Cost Savings?

Download the **nanoclear** Cost Savings Estimator

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### Cost Calculator Tab

- Enter times and labor rates
- Enter wiper paper and solvent information
- Costs calculated in yellow cells are fed into Cost Savings tab

#### Rework and Consumables Cost Calculator

Cost of Simple Rework	
Time required, min'	4
Labor rate, per hour	12
Benefit rate, %	25
Overhead Rate, %	25
<b>Cost of Simple Rework</b>	<b>\$ 1.20</b>

Cost of Complex Rework	
Time required, min'	60
Labor rate, per hour	16
Benefit rate, %	25
Overhead Rate, %	25
<b>Cost of Complex Rework</b>	<b>\$ 24.00</b>

Cost of Wiper Paper	
Cost per roll	20
Length of roll, m	10
Advance per wiper pass, mm	5
# of wiper passes in cycle	3
<b>Cost of Paper per Wipe Cycle</b>	<b>\$ 0.03</b>

Cost of Wiper Solvent	
Cost of solvent container	30
Capacity of solvent container, liter	4
Volume of solvent used on each wipe, ml	2
# of solvent passes in wipe cycle	1
<b>Cost of Solvent per Wipe Cycle</b>	<b>\$ 0.02</b>

### Cost Savings Tab

- Enter projected improvement in quality, productivity and operational costs
- Play "What if?" scenarios
- Cost savings calculated per print and per year
- Payback is calculated in terms of # of prints
- Additional uptime is also calculated

#### Cost Savings of NanoClear® SMT Stencil Treatment

Enter information into the white cells; calculations appear in the yellow cells

Quality	
Current First Pass Yield, %	80
Projected First Pass Yield, %	90
% Improvement	10%
% of defects requiring simple rework	90
% of defects requiring complex rework	10
<b>Savings in Yield Improvement, per print</b>	<b>\$ 0.35</b>

Productivity	
Current Wipe Frequency	5
Projected Wipe Frequency	10
% Reduction	50%
<b>Savings in under wipe consumables, per print</b>	<b>\$ 0.005</b>

Cost Reduction	
Cost of simple rework	\$ 1.20
Cost of complex rework	\$ 24.00
Cost of wiper paper, per wipe cycle	\$ 0.03
Cost of solvent, per wipe cycle	\$ 0.02

Modify cost information on the "Cost Calculator" tab

Payback Period	
Savings per print	\$ 0.35
Cost of NanoClear	\$ 25.00
Cost of Application	\$ 20.00
<b>Payback - # of Prints</b>	<b>128</b>

Annual Savings per SMT Line	
# of prints per hour	60
# of production hours per week	80
# of paper roll changes per week	10
Time to change wiper roll, minutes	5
<b>Annual Cost Reduction</b>	<b>\$ 87,984</b>

>>> PLUS <<<

Additional Production Uptime, hours per year	43
Additional PCBs assembled per year	2600