

HARDENED LAMINATION PLATE AND HIGH-PERFORMANCE LAMINATION PADS



Hardened Anti-Scratch Plate - Increased Yield

- Thinner plate - 10% more sheets per cycle
 - Silicon pad - faster cycle time
- Extended life - four to six times more cycles
- Hardness rating four times harder than standard plate





Next Generation Lamination

Optimised Lamination Process

Cardel's unique knowledge of the lamination plate and pad environment has been utilised in the development of a new plate and pad combination to help our customers optimise the performance of their lamination systems.

- **Hardened anti-scratch plate - Increased yield**
- **Thinner plate - 10% more sheets per cycle**
- **Silicon pad - Faster Cycle time**

Hardened Anti Scratch Plate

Cardel's Anti scratch plate UltraGloss 1 - TH (UG1-TH™) has been developed to provide a hardness rating that is on average four times the hardness rating of the standard Gloss plate used throughout the industry over the last 20 years.

The increased hardness translates into increased resistance to scratches and blemishes producing higher yield of cards while lasting four to six times longer than the standard gloss plate.

Hardened Steel allows plates to be thinner

Cardel hardened plates have greater structural rigidity than standard plates. This added strength means that the plate can be thinner while still maintaining the same performance characteristics of the standard thickness plate. Using 600 micron plates allows one more sheet set of standard thickness cards to be inserted into each lamination cassette increasing capacity by 10% on each lamination cycle.

UG1-TH™ plates are also available in the same standard thicknesses as the current UG1 range, 600 micron, 800 micron and 1000 micron. This allows plates to be swapped over directly with no changes to cycle times or pressure if this is the customers preference.

Performance Gains From Thinner Plates

	800 Microns	600 Microns
Number of Plates	11	12
Total Height of Plates	8800 Microns	7200 Microns
Number of Sheets at 810 Microns	10	11
Total Height of Sheets	8100 Microns	8910 Microns
Total Height of Pads	4400	6400
Total Height of Cassette	21300 Microns	22510 Microns
% Increase in Throughput	Standard	+ 10%

High Performance Lamination Pads C220+

The Cardel range of lamination pads has been enhanced with the launch of the high performance C220+™ silicon press pad. The C220+™ press pad is 1.2mm thicker than the existing C220™ press pad, providing increased cushioning while maintaining the rapid heat transference of the existing pad. The unique thermal and compression properties of the pad allow for the additional sheet in the cassette to be processed efficiently while also reducing process times by an estimated 1 - 2 minutes per cycle.

Performance Gains from Cycle Time Reduction

Pad Type	Average Cycle Time (Hot Side)	Cycles Per Day		
		Running Hours per Day 8	Running Hours per Day 16	Running Hours per Day 24
C220	18 mins	25	52	80
C220 +	17 mins	27	55	84
% Improvement		8%	5%	5%

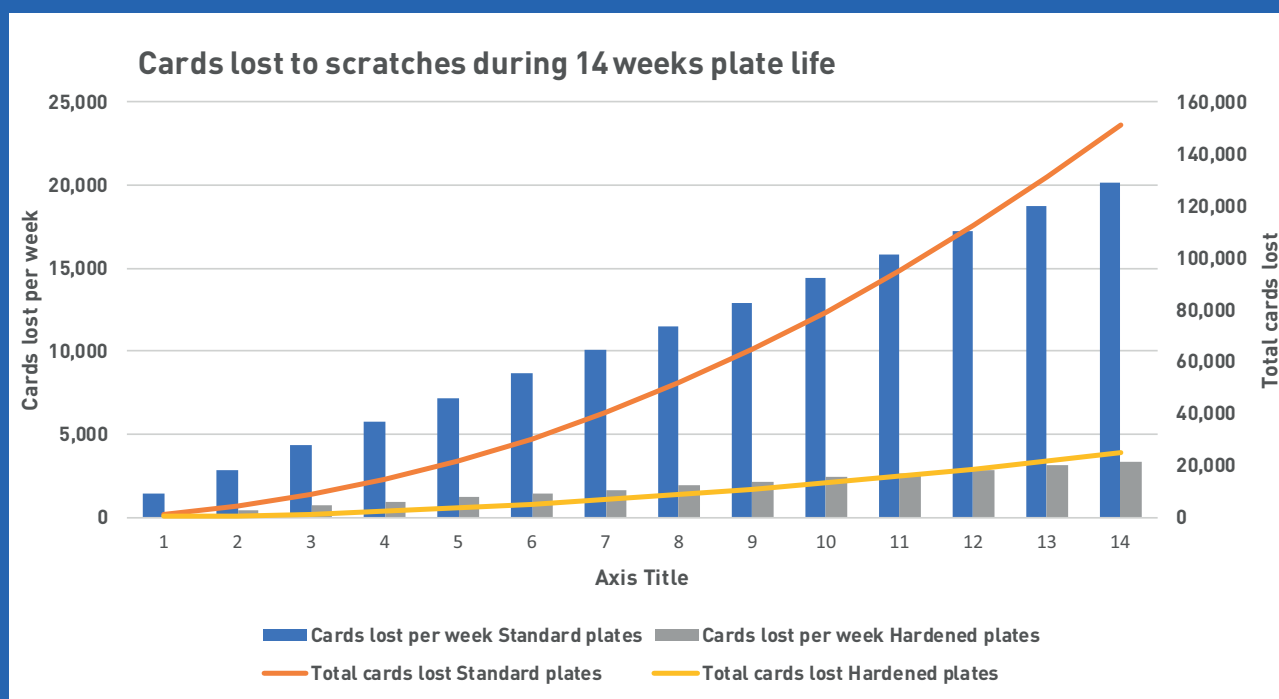
Combined Performance Improvements

Configuration	Daylights	Sheets per Cycle	Cycles per 24-hour Day	Total number of sheets loaded	Running Hours per Day 24
800-micron plate C220	8	80	80	6400	Standard
600-micron plate C220+	8	88	84	7392	15.5%

Minimise waste through reductions in plate damage and scratches

Standard plates can be damaged and scratched through careless handling during the loading and unloading of laminators. The example below illustrates how scratches on plates can quickly translate into wasted cards and how the volume of rejects grows rapidly during the life of a set of plates.

Example 6 Daylight Laminator		
	Non-hardened Plates	Hardened Plates
Plates in the laminator	66	72
New plate scratches per week	6	1
Total scratches by end of 14 week plate life	84	14
Cycles per Week, 3 per hour, 16 hours	240	240
Total cards lost over 14 weeks	150,000	25,000



Scrap costs that can be reduced through the use of hardened plates

- Reduction in wasted Antennas (RFID, Dual interface)
- Reduction in wasted plastic
- Reduction in card inspection costs
- Reduced risk of reputational loss
- Reduction in remakes and make up batches
- Reduction in the need for overs



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