LaserKote™ Anilox Rolls

Precision Rolls For Coating & Laminating

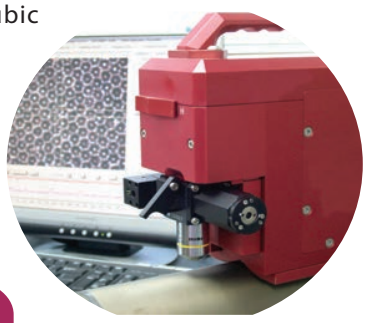
PRODUCT SHEET

ANILOX AND COATING ROLLS DIVISION

LaserKote™ is an unyielding, laser-hard finish engineered for precision application in the most rigourous coating and laminating processes. LaserKote's patent finish outperforms all chrome and conventional ceramic rolls for coating and laminating

Echotopography Digital Volumes

EDV's are the digital engraving calibration measurements used for setting up every anilox. It measures the cubic microns per inch carrying capacity of the anilox engraving, as measured in Billions - or expressed as Billions Cubic Microns (BCM). LaserKote™ surfaces are manufactured using EDV, providing the most accurate digital transfer volumes in the world.

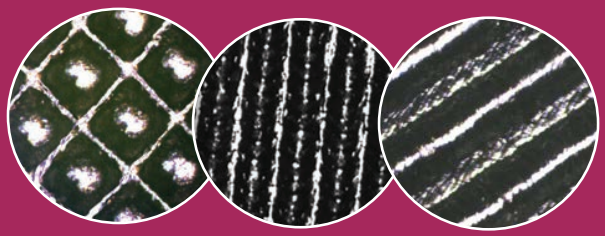


Print Quality

Harper has taken great pride in ensuring every customer experiences 'print quality' improvements as a result of delivering excellence in its products and services. Experience greater peace of mind with the fairest, most comprehensive warranty in the industry. 100% Print Performance Guarantee!

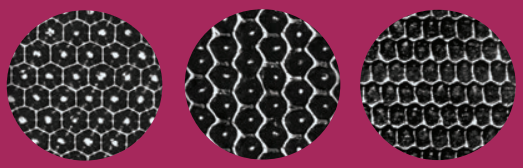
For optimal results we recommend:

To achive best results, the recommended anilox cell pattern for LaserKote™ anilox rolls is the 45° Quad, 45° and 89° TriHelical engraving.



45° Quad | 89° TriHelical | 45° TriHelical

NOTE: The following engravings are also available. Please consult your Harper GraphicSolutions™ team member for best recommendation for your application



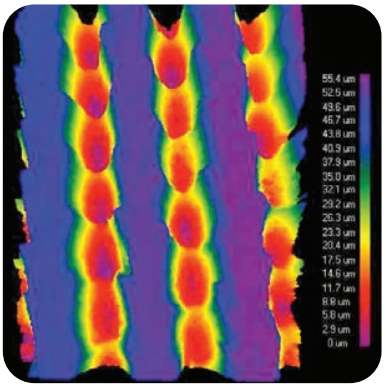
60 ° Hex | 30° Hex Channel | 70° Hex

Need help specifying a LaserKote™ anilox roll? Contact us and we will send you our LaserKote™ worksheet. We will guarantee the coating weight delivery of your roll.

LaserKote™ Technology Applications

LaserKote™ anilox rolls are the best choice for the following applications:

- White applications in UV, water and solvent based inks
- Metallic ink applications
- Fluorescent and irridescent ink applications
- Ability to control the distribution of large pigments
- Laminations, Overprint varnishes, Color coatings, Silicon release coatings, Adhesives, Blister Card Coatings and Specialty coatings.



CPI Ranges (Line Screen)

Cell Per Inch (CPI) ranges from :

2000 to 40 CPI

BCM Ranges (Volume)

BCM - expressed as Billions Cubic Microns ranges from :

1.31 to 85 BCM

9.17.13

LaserKote™ Anilox Rolls

Precision Rolls For Coating & Laminating

VOLUME CHART

ANILOX AND COATING ROLLS DIVISION

30°/60° Hexagon Volume Chart

(for **Thick** and Thin Film Coatings)

FINAL VOLUME RANGE (in BCMS**)				FINAL VOLUME RANGE (in BCMS**) continued			
Cell Count	Min	Max.	Min. Roll Diameter Tolerance	Cell Count	Min	Max.	Min. Roll Diameter Tolerance
60	25	42	0.005	360	8.51	8.7	0.002
70	21	36	0.004	400	7.41	7.6	0.002
80	18	32	0.004	440	6.61	7.0	0.002
90	16	30	0.004	500	6.61	6.8	0.002
100	14	27	0.004	550	6.51	6.7	0.002
120	18.1	20	0.004	600	5.51	6.3	0.002
140	18.1	19.5	0.004	700	4.91	5.7	0.002
160	18.1	19	0.004	800	4.31	5.0	0.002
180	16.1	17	0.004	900	3.81	4.5	0.002
200	15.51	16.2	0.003	1000	3.61	4.1	0.002
220	13.51	14	0.003	1200	3.12	3.6	0.002
240	12.41	13	0.003	1400	2.51	3.0	0.002
260	11.81	12.5	0.003	1600	2.00	3.0	0.002
280	11.10	12.0	0.003	1800	1.51	2.0	0.002
300	10.21	11	0.003	2000	1.31	1.5	0.002

*Microns are a metric unit of measurement. There are 25.4 microns in .001"

**BCMs are billion cubic microns per square inch of surface area

TriHelical Volume Chart

(for Thick Film Coatings)

FINAL VOLUME RANGE (in BCMS**)			
Cell Count	Min	Max.	Min. Roll Diameter Tolerance
40	58	85	0.005
50	55	80	0.005
60	45	70	0.005
70	38	60	0.005
80	33	52	0.004
90	30	48	0.004
100	26	45	0.004
120	21	42	0.004
130	20	35	0.004
140	18	33	0.004
150	17	31	0.004
160	16	29	0.003
170	15	27	0.003
180	14	25	0.003
200	13	23	0.003

NOTE: All volumes manufactured and measured using Echotopography™

45° Quad Volume Chart

(for Thick Film Coatings)

FINAL VOLUME RANGE (in BCMS**)			
Cell Count	Min	Max.	Min. Roll Diameter Tolerance
40	45	68	0.008
45	40	60	0.007
50	35	55	0.006
55	32	51	0.005
60	30	47	0.005
65	26	45	0.004
70	25	42	0.004
75	23	40	0.004
80	22	37	0.004
85	20	35	0.004
90	19	34	0.004
95	18	34	0.004
100	17	30	0.004

All screens will be polished after engraving as indicated in the chart above. Minimum OD tolerance must be observed as diameter increase does not allow for tighter tolerance.

The recommended LaserKote™ cell pattern for thin film coatings is the **60° HEXAGON**, pioneered by Harper in the early 1990's. When compared with chrome, the 60° hexagon LaserKote™ roll offers thin walls, wider cell openings and bowl shaped cells that hold 15% more cells per square inch than 45° engravings. More cells per inch delivers comparable coating weight with shallower cell depths, and results in more uniform coating films. The shallow cells mini-mize volume loss and clean-up. 60° cells offer consistent, thinner coatings, and ultimately, less waste in your process. Thin film coatings require cell volumes ranging from 1.5 to 12.5 BCM's, with cell counts from 260 to 2000 cells to the linear inch.

The **30° HEXAGON** and its unique channel allows for the transfer of high density white base coats and UV top coats with less ink. Channel walls support the doctor blade, allowing larger pigments to flow more easily.

TRIHELICAL and **QUAD** shaped engravings with 45° cell angles are the recommended LaserKote™ cell patterns for thick film coatings. We polish these coarse screen rolls after engraving, to smooth out inherently rough cell walls caused by high cell volumes.

Thick film coatings require cell volumes ranging from 13 to 85 BCM's, with engraving screen counts from 40 to 200 cells to the linear inch.

When manufacturing coarse screen engravings, primary quality parameters are precise cell volumes to deliver exact coating weight or thickness and smooth cell walls to promote extended blade life and high line speeds

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