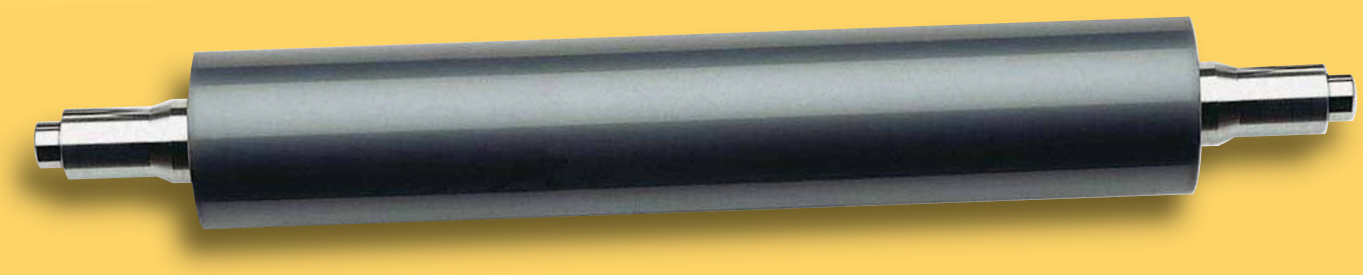
ANILOX SOLUTIONS SERIES

FOR FLEXOGRAPHIC PRINTING AND CONVERTING

Narrow web printers, rejoice.



Precision, durability and fast delivery, together at last.

Now there really is a difference. Introducing the UNIFLI 2G, the next generation of laser engraved anilox rolls. From the world's largest anilox manufacturer, Apex brings to anilox technology a bold revolution in cell geometry, laser engraving, ceramic strength and a unique lightweight body design featuring stainless steel journals for extra corrosion resistance.

CO_2 Plus | UltraCell | UltraCell Plus

Need fast delivery? How about 5 days or less? Apex has the best stocking program in the industry with over 40 different anilox models in inventory. Apex's inventory of anilox rolls are pre-coated and ready for engraving which means fast delivery with no extra costs.

UNIFLI 2G ANILOX ROLLS

apex Group of companies

These are demanding times for narrow web flexo printers.

Shorter runs, higher quality expectations, and faster turnarounds challenge even the most efficient enterprise. That's why smart printers rely on proven technology to drive productivity — and profitability. Apex UNIFLI 2G series anilox rolls bring to

GEOMETRY

1 ADVANCED ULTRACELL™ CELL GEOMETRY
SUPERIOR PERFORMANCE ON PRESS

Apex **Ultracell** and **Ultracell Plus** cell geometries are wider and shallower than traditional CO_2 laser-engraved rolls. Just as important is the unrivaled precision of the cells which ensures a cleaner ink transfer and longer blade life. For the flexographer, these innovations mean:

- **Finer line screens without ink upgrades.**
- **More thorough ink release.**
- **More consistent land area resulting in more precise ink-to-plate transfer and less blade wear.**
- **Faster, easier, and more efficient clean-up.**

Conventional CO_2

Side view of a typical CO_2 laser engraving.

UltraCell

15% to 20% less depth than CO_2 at equal volume.

UltraCell Plus

25% to 30% less depth than CO_2 at equal volume.

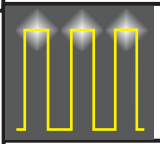
PROCESS

2 ULTRAMELT™ LASER ENGRAVING PROCESS
EXTREMELY LOW ANILOX CELL POROSITY

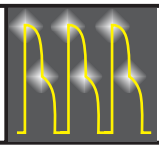
In the laser engraving process, Apex employs its own high output, two-phase laser which actually melts closed the anilox ceramic to a glistening surface, making it extremely dense, smooth, and non-porous (**less than 0.5% porosity** after laser engraving). Anilox porosity is the pressman's enemy. UltraMelt technology minimizes porosity and maximizes the following:

- **Greater resistance to scoring and damage.**
- **Ability to resolve finer line screens.**
- **Better ink release.**

LASER ENGRAVING PULSE METHOD COMPARISON

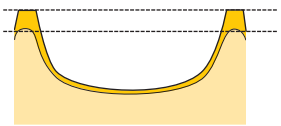


Competitor YAG or "on-off" single-pulse laser.



UltraMelt two-phase tapered laser pulse.

RESULTING ULTRA-HARDENED "LAND" LAYER



Thickened and super-hardened "land" is smooth where it meets doctor blade and transfer roll.

your enterprise next generation laser technology already tested and approved by the exacting standards of the Global marketplace. The Apex UNIFLI 2G Series provides four unique technology differences found nowhere else. These innovations bring precision and durability together at last.

Every Apex anilox roll we sell comes enhanced with these four critical technology advances. Other anilox manufacturers may claim to have similar processes at extra cost, but only Apex brings these latest advances together in each roll as standard features.

METALLURGY

3 ULTRASHIELD ™ NICKEL CORROSION BARRIER

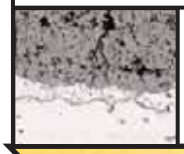
IMPERMEABLE PROTECTION FROM CORROSION

Located between the ceramic engraving layer and the metal base is our UltraShield corrosion barrier. Only Apex employs a HVOF (high velocity oxygen fuel) process on every roll to transform this nickel buildup layer into an impermeable, non-porous corrosion barrier. Narrow web flexographers know that harsh cleaners and water percolation can destroy anilox integrity through corrosion. Our UltraShield technology benefits:

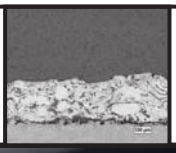
- Impermeable barrier to corrosion;
- Impervious to harsh cleaners and water damage;
- Highest quality nickel-chrome alloy.

Like a primer coat is essential for a smooth topcoat, so does our UltraShield HVOF layer provide a non-porous foundation for the ceramic layer – and a protective layer for the anilox roll base.

BUILD-UP LAYER THICKNESS/HARDNESS COMPARISON



Competitor's metal coating is thin and porous.



Apex UltraShield alloy is twice as thick and less than 1% porous.

COMPOSITION

4 RELEASALL ™ HIGH-DENSITY NON-WETTING CERAMIC

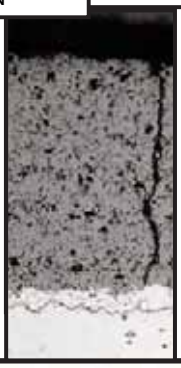
HIGHEST INK RELEASE and SURFACE TENSION

Apex perfected a "non-wetting" process that repels moisture on the surface of the anilox roll. This "hydrophobic" quality is not a spray coating nor sealant that is eroded by doctor blades or aggressive cleaners; it is integral to the structure of the ceramic resulting in:

- Lower porosity.
- Practically complete ink release with less plugging/clogging.
- Protection against contaminants and aggressive cleaners.

ReleasAll ceramic is the most durable in the industry with hardness rating of 1500 Vickers (competitors range from 600 - 1450).

CERAMIC POROSITY COMPARISON



Competitor pre-engraving porosity of conventional ceramic typically ranges from 2% to 15% porosity.

Apex ultra-dense ReleasAll ceramic porosity is less than 1% before engraving.

Contact Apex Southeast Narrow Web today to learn more: 866-416-1484

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Apex Southeast Narrow Web High Point, NC

ANILOX ANSW

The 6 simple solutions every flexographer should know about Apex UNIFLI 2G rolls.

1 How does Apex technology make a better anilox roll?

The four critical components of each and every Apex anilox roll that positively differentiate it from all others in today's tough, real-world conditions are:

- Advanced UltraCell ™ cell geometry results in better, more consistent performance on press;
- Exclusive ReleasAll ™ high-density non-wetting ceramic results in superior ink release;
- Proprietary UltraMelt ™ laser engraving process results in extremely low porosity (less than 1% after engraving) ;
- Guaranteed UltraShield ™ HVOF nickel corrosion barrier that protects against harsh cleaners;

2 Why is UltraCell the best cell geometry for ink transfer?

Simply put, Apex UltraCell and UltraCell Plus cell geometries are wider and shallower than CO_2 and conventional YAG laser-engraved rolls. Combined with UltraCell's unrivaled cell precision, our innovations mean:

- Finer line screens without ink upgrades;
- More thorough ink release;
- Precise ink-to-plate transfer; less blade wear.

3 Why is ReleasAll "high-density non-wetting" ceramic better?

Apex perfected a "non-wetting" ceramic composite that repels moisture on the surface of the anilox roll. This "hydrophobic" quality is not a coating that is worn offby doctor blades or aggressive cleaners; it is integral to the ceramic structure resulting in:

- More complete ink release;
- Lower porosity;
- Less ink plugging/clogging;
- Protection against contaminants and cleaners.

4 What is UltraMelt laser technology and why is low porosity better?

In the laser engraving process, Apex employs its own high-output laser which actually melts the ceramic to a glistening surface, making it extremely dense, smooth, and practically non-porous . Anilox porosity is the pressman's enemy. UltraMelt technology minimizes porosity and maximizes the following:

- Greater resistance to scoring and damage;
- Ability to resolve finer line screens;
- Best ink release.

5 Why is the UltraShield HVOF nickel the best corrosion barrier?

Our nickel buildup base layer is created by a metallurgical process superior to others. Apex's HVOF (high velocity oxygen fuel) buildup process transforms our build-up layer into an impermeable nickel-walled corrosion barrier that's twice as thick as the competition's. Our UltraShield benefits:

- Impermeable barrier to corrosion;
- Resistant to harsh cleaners and water damage;
- Lowest porosity available today (close to 0%).

6 What will an Apex roll mean to me on a day-to-day basis?

Apex is dedicated to making a pressman's work experience trouble-free. Our four advanced technologies maximize the following:

- Ability to employ finer line screens without ink upgrades;
- Better ink release and less plugging for longer press runs; longer doctor blade life;
- More durable and less prone to damage;
- Faster, easier, and more efficient clean-up.

Learn more today: call 866-416-1484

Apex Southeast Narrow Web High Point, North Carolina

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