

THE HISTORY OF ANILOX



1890

IN ENGLAND, THE FIRST TO PATENT A flexographic printing method using a flexible printing plate and a water-based ink.



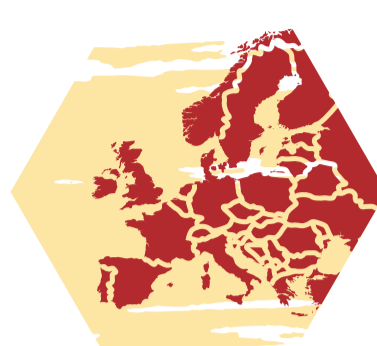
apex
International

THE GLOBAL LEADER OF ANILOX & EMBOSSING TECHNOLOGIES

Apex International is the world's largest manufacturer of precision flexographic ink-to-plate transfer technology including anilox rolls and sleeves for narrow- and wide-web, embossing, corrugated, offset and coating applications.

1900's

OTHER EUROPEAN PRESSES STARTED using rubber plates and an aniline oil-based ink, since the water-based ink would smear heavily. This process was known as **"ANILINE PRINTING"**



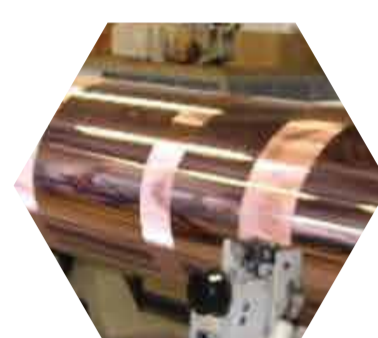
1920's

GERMANY BECAME THE HUB OF manufacturing printing presses. Here, the term "gummidruck" or rubber printing, was coined.



1938

EARLY ANILOX CYLINDERS WERE SURFACE plated with chemically etched copper. Due to the softness of the metal, copper rolls had a short lifespan.



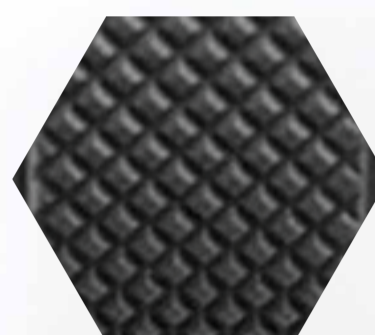
1939

THE FIRST US PATENT WAS APPLIED FOR engraved rolls used to transfer ink, but was never pursued in order to not hinder the progress of the flexo industry.



1941

THE FIRST MECHANICALLY ENGRAVED METERING roll, referred to as the anilox, was introduced to the market. Early mechanically engraved rolls used inverted pyramid or quadrangular cell shapes.



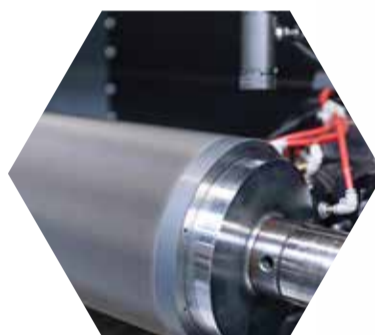
1970's

SHIFTING FROM CHROME COATED TO CERAMIC coated, anilox rolls increased in durability, hardness, and lifespan. Due to limited technology, early ceramic coated rolls had no cell patterns. The coating was sprayed on and had no geometry engraved.



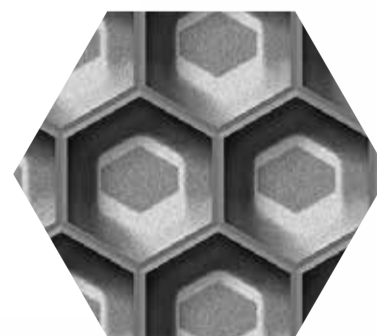
1980's

THE DEVELOPMENT OF LASER TECHNOLOGY, paired with roll grinding and polishing techniques, opened the industry to laser-engraved ceramic-coated anilox cylinders. Laser engraving allowed for new, intricate combinations of geometries and line screens to be engraved.



1989

THE STANDARD 60-DEGREE HEXAGONAL cell shape was introduced to the flexo industry.



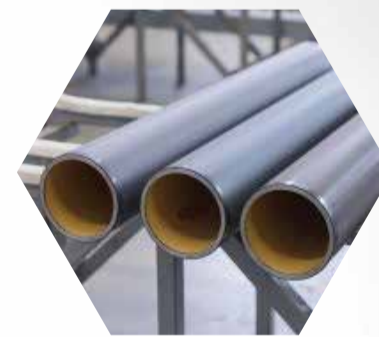
1989

APEX INTERNATIONAL WAS INTRODUCED TO the flexographic printing industry as a precision anilox manufacturer with mechanical engraved rolls and a plasma coating division.



1995

THE FIRST ANILOX SLEEVES AND BASE ROLLS were introduced to the industry to improve changeover times, decrease product cost and reduce waste.



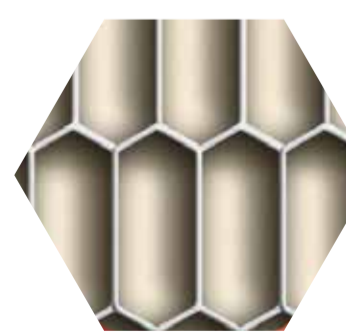
2001

MICRODYNAMICS BUILDS THE FIRST 3DQC Anilox Microscope, providing the first interferometric anilox measurements for engraved anilox roll and sleeve manufacturers.



2001

THE LONGCELL WAS DEVELOPED but did not succeed and was not promoted by anilox suppliers.



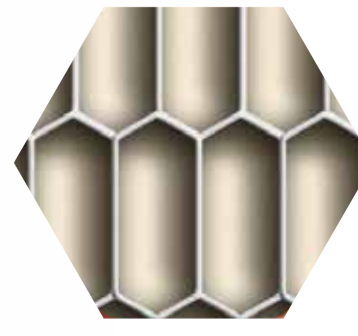
2013

APEX INTERNATIONAL INTRODUCES THE patented GTT open-slalom ink channel transfer technology to the flexo industry, producing results that rival offset and gravure quality.



2017

THE LONGCELL WAS RE-INTRODUCED and marketed as a new technology however the geometry was the same as 2001.



2022

THE PRODUCT OF NEARLY 10 YEARS of development, GTT 2.0 anilox is specifically engineered to mitigate liquid turbulence resulting in a calm liquid surface.



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