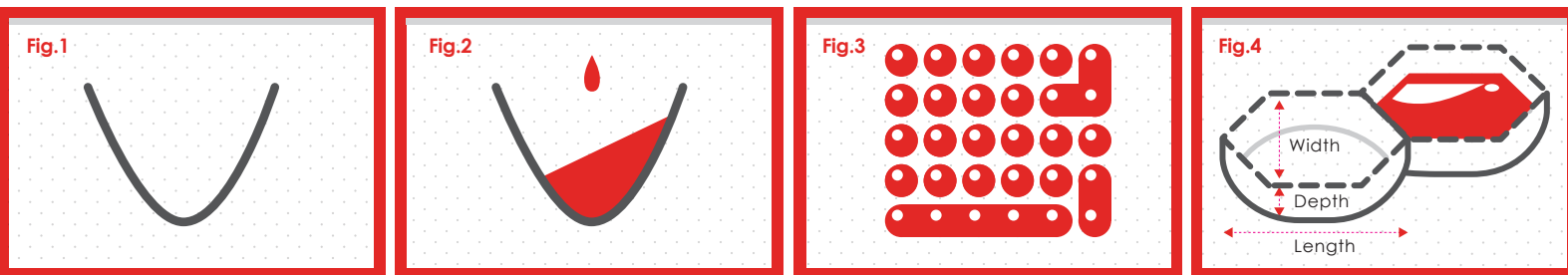


## HD Process Engraving

- ✓ High line counts allowing for HD print capability and lowering dot gain
- ✓ Vibrant HD colours
- ✓ Consistent ink transfer at up to 600 m/pm (reduced ink starvation)
- ✓ Consistent Tri-Axial ratios aiding consistent print
- ✓ Improved ink release reducing anilox volumes
- ✓ Increased lifespan on wear against conventional 60° engraving
- ✓ Increased cleaning characteristics





## iPro – HD Process Engraving

The iPro engraving is specifically designed to answer the question of 'high definition' printing in flexography. The criteria behind this cell structure was to design a format of engraving that would allow printers to harness the vivid colours and increased optical densities of HD printing whilst also enhancing our customers ability to reduce dot gains and print fine highlight dots on long runs and at high speed.

During our extensive trialling programme it became clear that conventional 60° engravings did not have the capability to meet the necessary targets of both optical density and fine highlights. Many of our competitors in the market place have turned to conventional 60° engravings with increased depth i.e. volume and higher line counts in order to meet the requirements of HD print. (e.g. Fig.1).

**Fig.1 A parabolic engraving is the answer for many to the questions posed by HD print.**

This type of engraving in Fig.1 traps proportionally more ink in its cells creating inconsistent ink release and therefore inconsistent dot gain and makes anilox prone to creating dot bridging in highlight areas.

We have further found during our extensive print trials that conventional 60° engravings lose optical density in flexible packaging when running in excess of 500 m/pm. Although these parabolic cells may physically carry more volume than standard engravings it only leads to more ink becoming trapped in the cells and increasing the issue of ink starvation and resulting in poor and inconsistent optical density.

**Fig.2 More ink is trapped in the parabolic cell than with standard engravings.**

As we extended our trialling process to include free flowing open cells it was clear that although these types of engraving would give excellent optical densities at

high speed, they did not have the necessary control element to maintain the fine dots necessary for HD printing.

**Fig.3 Dots bridging due to poor cell control element of anilox cell structure.**

It became clear to us during our development programme at Sandon Global that a different type of engraving was needed to meet the requirements of HD printing. At this point we designed iPro which would combine the necessary control elements of conventional 60° engraving (standard cell not parabolic) for highlight printing. As well as offering some of the release capabilities offered by more open cell engraving styles. This created an anilox cell that can both incorporate high line counts necessary for HD process printing, whilst being open enough to not trap ink and create ink starvation on faster modern presses.

Sandon Global have set critical standards to ensure that our iPro engravings meet the quality level required for HD printing time after time. No standard is more critical than the tri-axial measurements that are adhered to.

**Fig. 4 Critical tri-axial measurements that allow for high line counts whilst maintaining good optical densities at high speed.**

With these constant measurements and tight volume controls we can confidently offer our customers the highest quality print results with an assurance of repeatability time after time.

The iPro engraving is also proving to out last conventional engravings on wear tests in comparison to conventional 60° engravings due to the enhanced release characteristics of the tri-axial ratios. Furthermore the improved release characteristics mean that the anilox stay cleaner for longer and require less abrasive cleaning methods in comparison to the equivalent conventional 60° anilox.