

COLOUR DECORATION – DECAL TRANSFER INFORMATION SHEET

This information is a guide for all customers interested in using our Decal Transfer decoration service.

We can decorate glass and crystal with colour in three ways:

1. Using a 4 colour Pad Printing Machine. (Please see our information sheet 'Colour Decoration – Pad Printing')
2. Using a colour infill in an engraving. (Please see our information sheet 'Colour Decoration – Engraving Infill')
3. **Using a Decal Transfer system, as described below.**

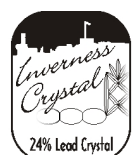
DECAL TRANSFER PRINTING is our most permanent method of decorating glass with colour. The decals are made by screen-printing liquefied coloured ceramics onto a special coated release paper. We can print as many colours as the design requires (using a different screen for each colour). Each colour has to dry completely before the next can be printed. During the printing and curing period, the decal paper has to be kept at a constant temperature and humidity to prevent any expansion/contraction that will cause the colour registration to miss-align. A 'covercoat' is then printed over all of the colours to act as a carrier film during the application of the decal to the glass. The covercoat can be seen in the image below; it is orange/yellow in colour.

The covercoat needs to be left to dry overnight, then the printed sheets are ready to be cut into individual decals, which are then applied by hand to the glass. Each decal is soaked in water for a few minutes, after which time it will separate from the release paper and can be slid onto the glass. The decal can be moved into the desired position, measured to be straight/parallel with the rim of the glass and any excess water removed with a small squeegee.

The glasses are then fired in a kiln at approximately 580°C, the temperature at which soda lime glass starts to 'move'. The covercoat burns away without trace at approximately 300°C, leaving the ceramic colours to fire into the glass. Because of the relativity between ceramics and glass, both start to soften at 580°C, and at this point they fuse together, making the design part of the glass. Our ceramic decals are not suitable for use on lead crystal items, due to the melting temperature of crystal being much lower than soda lime glass. The firing process takes 12 hours per cycle, so each kiln can only fire 2 loads in a 24-hour period.

Once the glass has cooled, the image cannot be removed from the glass with any chemical or by scratching/scraping. The image is dishwasher safe, but it may start to fade if continuously washed in this way.

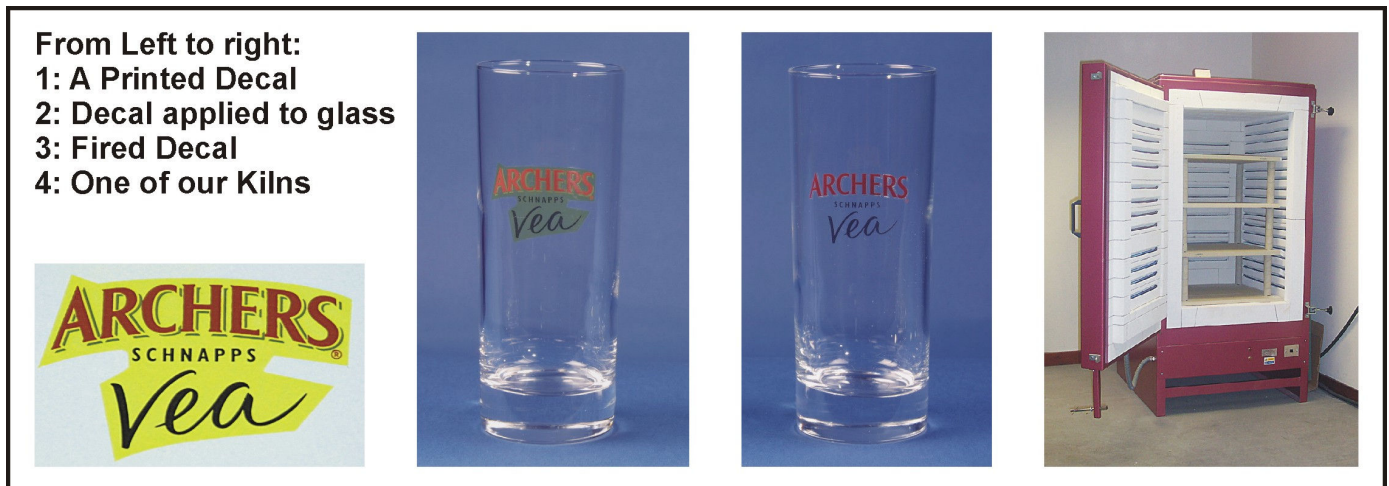
Naturally, Decal Transfer Printing is more expensive than Pad Printing because each transfer is applied by hand. Also, due to the differing costs between the ceramic colours available and the varying quantities of different sized items that can be fired in a single cycle, decal transfer costs do not appear in our price guide. We will be happy to provide quotations on a job-by-job basis - please advise the article stock code and name, the quantity needed and the colours required.



A wide variety of colours are available, including a 'frost effect' engraving look-a-like. The transparency of glass and the natural components of the ceramic colours mean that we do not offer the service of matching pantone colours, but we will endeavour to use the closest match available.

Artwork for multiple colour decals will need to be provided as separations (1 piece of artwork for each colour). We can provide an artwork service for you if required. Please see our 'Artwork Information' sheet for details on artwork provision requirements.

We do not guarantee the suitability for decal transfer decoration for any items of glass that are *not* in our range (i.e. articles supplied by the customer).



If you have any queries regarding decal transfer decoration or artwork provision, please contact our offices.

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