

NORTHCOTE POTTERY SUPPLIES
TECHNICAL TIPS AND PRODUCT INFORMATION #22

ONGLAZES & ONGLAZE DECALS

- Onglazes can be applied to any degreased, dust free, glossy glazed pottery surface or glass.
- Onglazes are mixed with a printing or painting medium to be applied by screenprinting or painting.
- Onglazes are generally intermixable (except for gold-based colours).
- Onglazes are fired to 750°C-800°C in an oxidation atmosphere.
- Onglazes can be printed onto waterslide transfer paper to make decals, then overprinted with a covercoat medium. (See Tip Sheet #16 Screenprinting on Clay).
- When creating a water based painting onglaze, ensure that the final mixture is thick like thickened cream. Always clean the object you are painting by wiping the surface with metho. Apply onglaze colours to about the same thickness as nail polish or gouache paint. Too thin and you won't see any colour when fired; too thick and the colour will have an orange peel texture and be uneven.
- When mixing onglaze into screenprinting or decal medium, use approximately 3 - 4 parts onglaze powder:1 part medium. A thick paste (like toothpaste consistency) is desirable.
- A mortar and pestle is very useful for integrating onglazes and medium to a suitable consistency.
- Always test colours at the consistency you have prepared on the type of surface you intend using, with the firing cycle and temperature you will use to ascertain their suitability for your purposes.
- China painters apply onglaze colours in stages with a firing between each application. The first firing is usually to the highest temperature, then all subsequent firings are to a lower temperature so sensitive colours do not burnt out.
- Onglazes are also used for decoration in the process of glass slumping and fusing, and may or may not be suitable depending on the firing temperature of the glass used. Onglazes can also be 'sandwiched' between layers of glass.
- Onglaze decals are generally fired to 750°C – to 800°C for ceramics, and glass decals are fired at lower temperatures. Commercial onglaze decals are available in a wide variety of designs and colours. Most are printed overseas using complex commercial printing processes for multiple colour prints.
- To screenprint your own decals you will need an #80 mesh, monofilament silk screen with a suitable stencil (paper, film or emulsion) design, decal medium, covercoat/overprint lacquer, turps, onglaze powder, decal paper and a squeegee. Decal printing ink is usually a mixture of 3-4 parts onglaze to 1 part decal medium. Mix the materials together in a mortar and pestle before printing. The ink should form a thick paste like toothpaste. Print onto the gelatined side of the decal paper using normal screen printing techniques. Clean the excess decal medium off the screen with turps. Covercoat/overprint lacquer is used direct from the can as supplied to print a 'patch' over the screenprinted onglaze image at least 24 hours after the original printing. Allow another 24 hours drying before storing decals. Multiple runs of decals can be printed and stored for indefinite periods as long as they are kept away from light and moisture with a layer of tissue between each decal.
- To apply decals, simply soak the decal in warm water for 60 seconds until moveable. Remove the decal (still attached to its backing paper) to the pottery/glass object and place one edge of the decal onto the item. Slide out the backing paper while locating the decal. Swipe over the surface of the decal with a rubber kidney to remove any air pockets and excess water. Once the decal is dry (24 hours) it can be fired.
- Fired decals can behave differently on varying glaze surfaces. Colours sometimes appear as different colours at varying temperatures, and depending upon the firing program, your results may vary from firing to firing. Keep a record of exactly what happens in each firing. Always test fire a decal before embarking on a large production run.

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