



Tech. Information Version: 28.Feb. 2008	Transparent Glass Colours Firing Range: 500 – 600°C	Page: 1/5
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General Information

There is a wide range of applications for Transparent glass colours. Where high chemical resistance is not requested, the colours can be applied. They are used for the decorating of ornamental glasses, of lighting fixtures and souvenir articles.

A main application field for these colours is glass painting, for example for heraldic figures, curtain panes, glass pictures or for artistically arranged hollow glass.

Resistance

In Transparent colours the pigments have to be dissolved very well, in order to let the applied decorated surface appear neither hazy nor with stripes.

Suitable for that purpose are low melting lead borate glasses, with a lead content of about 55 %.

Transparent glass colours are not resistant to acid or alkali influences. By the influence of environmental and weather the colours easily become matt and loose the transparency.

In the cases in which the decorated surfaces come into direct contact with food, the glass should not be decorated with these colours.

Miscibility

The colours are widely intermixable among each other; thus the palette can be considerably enlarged.

However, we cannot recommend mixing the precious metal containing colours (with the indications „P“ and „PR“ and purple C 60/I) with the remaining colours.

Also the half-transparent colour shades
 F 7137 Opal-Orange
 F 7138 Opal-Rot
 F 7140 Opal-Orange

are not suitable for intermixing with the other colours of the palette.

To brighten the colours, you may mix with flux 83.

By adding 20 – 30 % of flux you can decrease the firing temperature for about 20 ° C.

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Tech. Information Version: 28.Feb. 2008	Transparent Glass Colours Firing Range: 500 – 600°C	Page: 2/5
---	---	---------------------

Processing

The Transparent colours can be processed by brush, by spraying or by of screen printing. The application of the colour should be sufficient, but not too thick. Applying the colour excessively thick can lead to colour crazing.

In the field of glass painting our Transparent glass colours have found special importance.

On glass pictures or heraldic panes our colours mostly are used in connection with opaque contour colours as for example DN Schwarz matt (DN Black matt) or F 4044 Schwarz glänzend (F 4044 Glossy Black).

For forming (modelling) and shading you have to use covering colours burning out with a matt finish. Such ones are available from our „Meissner Palette“. Being fired on glass they need the same temperature as the Transparent colours.

When decorating float glass do not apply the decorations on the tin bath side of the glass, because this will lead to uncontrollable reactions like discolouration and changing of the colour shades, especially when precious metal containing colours are used.

Firing

The colours can be fired within the temperature range of 500 - 600 ° C. Preferably you should fire at temperatures between 580 – 600 ° C, depending on the layer thickness and the object to be decorated. In each case you have to adjust the firing temperature, object temperature and firing cycle to the items to be decorated and to the type of kiln. In the temperature up to about 450 ° C – in which organic media and covercoats decompose – the kiln should exhaust very effective. A fast increase of temperature, short peak time and a slow cooling down is advantageous to the glasses.

Brush Application

a)

Turpentine oil and 0000/3 Dammarlaquer or 21 new Bodied oil 0405 Screen printing medium (here used as painting oil)

addition according to the need

b)

Paste for screen printing (based on oil 0405)

to be thinned with turpentine oil until you reach a paintable consistency
addition according to the need

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Tech. Information Version: 28.Feb. 2008	Transparent Glass Colours Firing Range: 500 – 600°C	Page: 3/5
---	---	---------------------

c)
0509 Screen printing medium, compatible with water:

Pasting ratio:

Colour powder: 65 – 70 weight units
 Oil: 35 – 30 weight units

to be thinned with water to application viscosity

Lining:

0513 Lining medium, compatible with water

Orientation recipe:

Colour: 100 g
 Oil 0513: 32 g
 Water: 60 g

Spraying:

0000/2 Spraying oil

Preparation:

Colour powder: 60 – 70 weight units
 Spraying oil: 40 – 30 weight units

Grinding, for instance in a ball mill

For preparing as oily preparations the colour powder has to be completely dry. Even little moistness which has for example been absorbed during storage, leads to „cheesy“ pastes which can no longer be perfectly printed. Therefore, before preparing them, we recommend to you to dry the colour powders at a temperature of 120 ° C.

Direct Screen Print Process:

a)
0405 Screen printing medium

Ratio of pasting:
 Colour powder: 65 – 70 weight units
 Oil: 35 – 30 weight units

b)
0509 Screen printing medium, compatible with water

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Tech. Information Version: 28.Feb. 2008	Transparent Glass Colours Firing Range: 500 – 600°C	Page: 4/5
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Ratio of pasting:

Colour powder: 70 – 75 weight units

Oil: 30 – 25 weight units

c)

0492 Thermoplastic medium

Pasted ready for screen printing

Recommend screen:

Polyester or nylon: 77 – 120 threads/ cm

Steel: 165 – 250 mesh

according to the decoration and colour

Indirect Screen Print Process (Decals)

0782 and 0782 thix Screen printing oil for transfers

for manual and semi-automatically processing

Ratio of pasting:

Colour powder: 65 – 70 weight units

Oil: 35 – 30 weight units

Recommended screen:

Polyester or nylon: 77 – 120 threads/ cm

Steel: 220 – 300 mesh

according to the decoration and colour

Covercoats:

a)

0433 Covercoat

for manual and semi-automatically process printing

b)

0601 and 0601 thix Covercoat

for fully automatically process printing

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Tech. Information Version: 28.Feb. 2008	Transparent Glass Colours Firing Range: 500 – 600°C	Page: 5/5
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c)
0506 Antiblock covercoat:

Recommended screen: Polyester or nylon 30 threads/ cm (HD)

Security Advices

Because ceramic colours are chemical products, for processing them you have to consider specific security advices.

While processing it is most important to obey the hygienic precautions such as:

- Do not eat, drink or smoke while being at work.
- Do not inhale dust.
- Keep it away from food-stuff, beverage and fodder.
- In case of contact with skin: Wash off and rinse with water and soap.
- If having inhaled: Rinse mouth with cold water.

For more information please contact us or ask for a Material Safety Data Sheet. (MSDS).

Forms of Delivery

Powder:	Minimum purchase quantity per colour shade: 5kg
Pastes for screen printing:	Minimum purchase quantity per colour shade: 5 kg
Thermoplastic pasted:	Minimum purchase quantity per colour shade: 25 kg

Storage

Colour powder grants the advantage of unlimited durability, if stored in dry condition.

The powders are a little bit hygroscopic.

Before being processed with oily media, they should by all means be dried at a temperature of about 120 ° C, because a content of little more than 0,1 % moistness will lead to „cheesy“ pastes. In this case they can no longer be perfectly printed, because they become thick.

Please take care to disperse the colour powder with the medium homogenously. In mixing the powder with the medium, small colour lumps will still remain. Therefore please use a three roll mill or dissolver.

Even in closed receptacles the pastes for screen process printing have only a limited shelf-life. We advice you to store the pastes under cool conditions.

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