



<p><b>Tech. Information</b>  Version: 02.Feb. 2009</p>	<p><b>Inglaze Colours Range "IS"</b> Firing Temperature: 1000 – 1250°C Fast Firing 60 – 90 Min.</p>	<p><b>Page:</b> 1/6</p>
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## General information

The colour range "IS" offers you an extensive palette of Inglaze colours with high chemical and mechanical resistance and offers excellent dishwasher resistance.

They have excellent processing properties in all decorating procedures. The main usage is for the decoration of dining services for the private and gastronomically area.

The colours of the palette „IS“ can also be used at the decoration of pottery- and sanitary ceramic.

For the decoration on tiles they can be used as onglaze colours in the firing range of 900 – 1000 ° C.

When decorating soft glazes, the firing range will be 1050 – 1180 ° C.

## Resistance

### Dishwasher-Proof

In a household dishwasher the colours of the series „IS“ were submitted to long-term tests. Using a standard household detergent the colours did not show a visible attack after more than 1000 rinsing runs in a dishwasher machine.

### Resistance to Acids

All colours got through a test with a 3 % hydrochloric acid, lasting for 5 hours, without a visible change.

### Release of Lead and Cadmium

The investigation of the colours was effected according to DIN 51031/32 (4 % acetic acid at + 22 / - 2 ° C during 24 hours).

The release values of the decorated flat dishes for lead is under 0,02 mg/ dm<sup>2</sup>, for cadmium: under 0,001 mg/ dm<sup>2</sup> of the coloured surface.

## Miscibility

The colours of the series „IS“ are largely intermiscible among each other;

The two purple colours PH 7097 and PH 263 should only be intermixed among each other. Tinting admixtures with White IS 9174 are possible.

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As a flux additive for brightening FL 9147 is suitable for all colours.

The „IS“ colours normally burn out with a high gloss.

If you want to manufacture matt decorations, the colours can be intermixed with Matt Additive ES 9172.

Depending on the desired matting effect, the addition of 30 – 50 % Matt Additive is required, for example:

Colour powder:	60 weight units
ES 9172:	40 weight units

By this measure, however, the sink-in effect will be reduced, and the colour shade will come out considerably lighter.

### Processing

Because of their even range of fine particle-sizes the colours of series „IS“ have excellent processing properties for the different methods of decorating.

They are suitable for:

- application by brush
- direct screen print processing
- indirect screen print processing
- lining and
- spraying

The Inglaze Fast-Firing Colours – in contrast to the usual Onglaze Colours – burn out with a high gloss, if applied in thin layers.

Suitable for decoration are the following auxiliary agents:

### Brush Application:

- a)  
Turpentine oil and 0000/3 Dammarcoat or 21 New Bodied oil  
 Mixed with 0405 Screen printing medium, oily  
 (is here used as painting oil)

addition according to the need

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b)  
Screen printing paste (based on 0405)

to be thinned with turpentine oil to painting consistency

addition according to the need

c)  
0509 Screen printing oil, compatible with water

addition according to the need

to be thinned with water

**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: 55 – 65 weight units  
 Spraying oil: 45 – 35 weight units

To be ground finely, for instance in a ball mill

For preparing oily preparations, the colour powder has to be completely dry. Even little moisture having been attracted during storage, will lead to „cheesy“ pastes, which can no longer be processed perfectly. Thus we recommend to dry the colour powders at 120 ° C before preparing.

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**Direct Screen Print Process:**

a)  
0405 Screen printing medium, oily

Ratio of pasting:  
 Colour powder: 60 – 70 weight units  
 Printing oil: 40 – 30 weight units

b)  
0509 Screen printing medium, compatible with water

Ratio of pasting:  
 Colour powder: 60 – 70 weight units  
 Printing oil: 40 – 30 weight units

Recommended screen:  
  
 Polyester: 77 – 140 threads/ cm  
 Steel: 200 – 350 mesh

depending on decoration and colour

**Indirect Screen Print Process (Decals)**

a)  
0465 Screen printing oil for transfers  
 for manual and semi-automatic screen printing

b)  
0729 and 0729 thix, Screen printing oil for transfers, low solid content

for automatic screen printing

Ratio of pasting:  
 Colour powder: 55 – 65 weight units  
 Oil: 45 – 35 weight units

c)  
0782 and 0782 thix, Screen printing oil for transfers, high solid content

For automatic screen printing

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Recommended screens:

Polyester: 90 – 140 threads/ cm  
 Steel VA: 230 – 370 mesh

depending on decoration and colour

**Covercoats:**

a)  
0601 and 0601 thix, fluid and thixotropic

for manual or automatic screen printing

b)  
0506 Antiblock covercoat

Recommended screen:

Polyester 30 threads/ cm

**Firing**

The colours of palette „IS“ can be fired-on at temperatures of 1000 – 1250 ° C.

Best temperature on HARD PORCELAIN is at 1180 – 1200 ° C / 60 – 90 min.

On Soft Glazes the firing temperature can be adjusted accordingly lower.

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 mediaa 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 items.

**Security Advices**

Ceramic colours are chemical products; for processing them you have to consider specific security advices according to the danger substance decree.  
 The colours contain lead.

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

- Do not eat, drink or smoke while being at work.

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- 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.

### Forms of Delivery

- Colour powder: Minimum purchase quantity per colour shade: 5 kg
- Screen printing paste: Minimum purchase quantity per colour shade: 5 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 absolutely be dried at a temperature of about 120°C, because a content of little more than 0,1 % moistness leads 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 colours pasted with screen printing oil have only a limited shelf-life. We advice you to store the pastes in a cool environment.

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