

Product information

AF5000 Series

Heavy metal free glass
enamels for toughening and
heat strengthening

Suitable for screen printing

Intermixable black and white^[1]

Specially designed for appliance applications

AF5000 Series colours

Part Number	Description
AF5000	White
AF5600	Black

The core range AF5000 Series consists of an intermixable^[1] black and white based on a bismuth borosilicate frit specially designed for appliance glass applications.

The products of the AF5000 Series can be supplied as:

- Powder
- Oil based screen print paste
- Water friendly screen print paste

[1] - Colours from other ranges should not be mixed with the AF5000 Series.

Application

Application Method	Screen Printing	
Medium type	Oil based IR-medium	WF-IR-medium
Recommended medium	63 - 485	654- 63
Recommended thinner	RM.362	RM.454
Powder/medium ratio	4 : 1	4 : 1
Viscosity	10 - 20 Pa.s	10 - 20 Pa.s
Printing temperature	5 - 25°C	5 - 25°C
Humidity	30 - 60%	30 - 60%
Screen (mesh)	61 - 120	61 - 120
Wet film thickness	30 - 40 µm	30 - 40 µm
Drying conditions	100 - 150°C	100 - 150°C

It is recommended that before decoration the glass should be at ambient temperature and completely clean and dry.

Firing

Type of Substrate	Firing Range °C	Firing Range °F
Flat glass	610 - 700	1130 - 1292

Firing data based on laboratory kiln conditions

Chemical durability^[2]

When applied and fired correctly the range will meet the chemical resistance levels as described in this sheet. This level of resistance, however, does not imply nor guarantee any specific levels of resistance to atmospheric exposure nor product life span.

We do not recommend the use of glass enamels in environments where they will be directly subjected to exposure to water and weather for extended periods.

Acid resistance

Assessment according to C724-91,

3.7 % HCl, 15 minutes at room temperature.

Grade: 1 to 2

10 % Citric acid, 15 minutes at room temperature.

Grade: 1 to 2

4 % Acetic acid, 24 hours at room temperature.

Grade: 1 to 2

[2] - Results based on selected AF5000 Series enamels tested and assessed under our laboratory conditions, for performance data of products not listed in this document please consult the individual technical data sheet, available on request.

Colour Information

The AF5000 series are compatible with 'Hard (pyrolytic) Glass Coatings' and similar 'on-line' coating technologies carried out at high temperatures. 'Soft Glass Coatings' offer limited heat resistance and may not be suitable for high temperature enamel decoration.

It is recommended that end-user tests are carried out when considering decoration of any coated glass.

Storage and handling

It is recommended that the glass enamels are stored in tightly sealed containers away from direct sunlight at an even temperature in the range of 5-35°C (41-95°F).

Under these conditions the enamel can be stored for reasonable periods, although storage for longer than 12 months is not recommended.

Water-based medium should never be stored at temperatures < 0°C.

Health and safety

Good industrial hygiene and work practices should be adhered to when handling the products mentioned in this document. For detailed health and safety requirements, please consult the appropriate Material Safety Data Sheets.