

Product information

AF3000 Series

Heavy metal and lithium-free glass enamels for toughening and heat strengthening

Various application methods

Fully intermixable^[1]

Glossy surface appearance

AF3000 Series colours

Part Number	Description
AF3000	White
AF3250	Citrus yellow
AF3202	Honey yellow
AF3300	Iron red
AF3455	Green
AF3401	Turquoise
AF3402	Chrome green
AF3500	Blue
AF3600	Black
AF3707	Autumn brown
AF3730	Rust brown
AF3740	Chocolate brown
AF3905	Etch

The AF3000 Series consists of an intermixable^[1] colour palette that can be blended to make a variety of customized colour shades.

The colours of the AF3000 Series can be supplied as:

- Powder
- Oil based screen print paste
- Water friendly screen print paste
- Water friendly roller coat paste
- I.R. drying, water-miscible spray paste

[1] - Colours from other ranges should not be mixed with the AF3000 Series.

Application

Application Method	Screen Printing		Roller Coating	Spraying ^[1]
Medium type	Oil based IR-medium	WF-IR-medium	WF-IR-medium	Water based medium
Recommended medium	63 - 485	654 - 63	654 - 63	65 - 439
Recommended thinner	RM.362	RM.454	RM.444	Water
Powder/medium ratio	3,5 : 1	3,5 : 1	3,5 : 1	3 : 1
Viscosity	10 - 20 Pa.s	10 - 20 Pa.s	10 - 20 Pa.s	15 - 20 sec
Printing temperature	5 - 25°C	5 - 25°C	5 - 25°C	5 - 25°C
Humidity	30 - 60%	30 - 60%	30 - 60%	n/a
Screen	61 - 120	61 - 120	n/a	n/a
Wet film thickness	30 - 40 µm	30 - 40 µm	80 - 120 µm	100 - 150 g/m ²
Drying conditions	100 - 150°C	100 - 150°C	100 - 150°C	100 - 150°C

[1] - *Spraying - the glass enamel slurry should be sieved through a 220's mesh before application.*

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	620 - 720	1148 - 1328

Firing data based on laboratory kiln conditions

Colour Information

The AF3000 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.

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: 2 to 3

10 % Citric acid, 15 minutes at room temperature.

Grade: 1 to 2

4 % Acetic acid, 24 hours at room temperature.

Grade: 2 to 3

Alkaline resistance

Assessment according to C1203-91,

10 % NaOH, 2 hours at 88°C.

Result: <1.0mg/cm²

[2] - Results based on selected AF3000 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.

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.