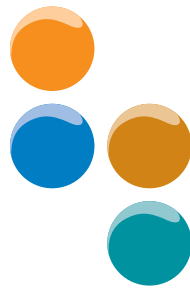


Decorative glass Enamels



Product information

23000 Series

unleaded and lithium-free glass enamels for one-way bottles

	Extended colour palette
	Intermixable colour palette
	Various application methods
	Glossy surface appearance



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Colour range

Part Number	Description
23000	White
23100	Lemon yellow
23200	Citrus yellow
23300	Iron red
23400	Green
23401	Turquoise
23402	Chrome green
23500	Blue
23600	Black
23700	Autumn brown
23730	Rust brown
23740	Chocolate brown
23900	Etch

Extended colour range*

Part Number	Description
23202	Yellow
23301	Flaming red
23305	Dutch orange
23306	Ruby red

The core range 23000 Series consists of an intermixable colour palette that can be blended to make an infinite variety of customized colour shades.

The colours of the 23000 Series can be supplied as:

- Powder
- I.R. drying, water friendly or oil based, screen print paste
- Thermoplastic screen print paste

*The extended colour palette is cadmium containing.

Application

Medium Type	Water Friendly IR Medium	Thermoplastic
Recommended medium	654 - 63	64 - 64
Recommended thinner	RM.444	64 - 64
Powder/medium ratio	3, 5 : 1	4, 2 : 1
Viscosity	15 - 20 Pa.s	1,0 - 1,8 Pa.s
Printing temperature	15 - 25°C	60 - 80°C
Humidity	30 - 60%	30 - 60%
Screen	61 - 100	61 - 100
Wet film thickness	20 - 25µm	20 - 25µm
Drying conditions	100 - 150°C	
Storage	5 - 25°C	5 - 25°C
Shelf life	1 year	1 year

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
Holloware	590 - 630	1094 - 1166

Chemical durability

Acid resistance

3.7 % HCl, 15 minutes at room temperature grade: 6 to 7.

Assessment according to ASTM C 724-91.

10 % HCl 20 minutes at room temperature grade: 6 to 7.

Assessment according to ASTM C735-93.

10 % Citric acid, 15 minutes at room temperature grade: 5 to 6.

Assessment according to ASTM C 724-91.

Alkaline resistance

10 % NaOH 2 hours at 88°C grade: 1 to 2 cycles.

Assessment according ASTM C675-91.

Dishwasher resistance

According to Johnson Matthey test KC-50.010-I

1.5 grams/litre Calgonite solution at 61°C

white > 100 cycles, colours: 50 cycles.

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 5-25°C (41-77°F). Under these conditions the paste 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.



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