

PR System

Main Market Use

These low expansion enamels are specially designed for decoration of low expansion borosilicate glasses, such as alkali boro-silicate glass.

Chemical Composition

Colors in this System contain lead, cadmium and lithium

COLOR	REFERENCE	Pantone
GREEN	PR 106	349
BLUE GREEN	PR 109	323
ULTRAMARINE BLUE	PR 113	2945
ROYAL BLUE	PR 108	Reflex Blue
BLUE	PR 102	2727
YELLOW	PR 107	012c
ORANGE	PR 101	021c
MEDIUM RED	PR 100	186
DARK RED	PR 118	200
BROWN	PR 105	470
BLACK	PR 112	
WHITE	PR 104	

The Pantone references are provided as an indication of the shade only.

These colors are intermixable. We recommend performing preliminary tests before launching production with color mixtures from this System, especially for combinations of red or yellow cadmium-containing colors (**marked ***) with any other colors.

Additional colours are available on demand.

Our technical service teams also offer a full custom-color matching service.

Expansion Coefficient (C.o.E.)

Avg C.o.E. measured on the basic frit System is $57 (\pm 4) \cdot 10^{-7} K^{-1}$.

The enamels are specially formulated for application onto borosilicate glass and they should be tested for suitability to the expansion of the glass to be decorated. The 'fit' of these enamels is also dependent on application weight and to avoid microcracking or fracture problems, they should not be applied too thickly.

Recommended Firing Conditions

From 620°C to 640°C (1150-1185°F) in a long cycle; from 630°C to 700°C (1165-1290°F) in a short cycle. Tests are recommended.

Chemical Resistance

Norm EN 1388-2 (tests on the basic flux system in laboratory conditions)

- lead release is $< 10 \text{ mg/dm}^2$ of the decorated surface.
- Cadmium release is $< 1 \text{ mg/dm}^2$ of the decorated surface.

Acid resistance : 4

Alkali resistance : 4