

VN System

Main Market Use

These lead-free enamels are recommended for decoration of cosmetic and perfume containers.

Chemical Composition

Colors in this System do not contain voluntary additions of heavy metals – Pb, Cd, Hg and Cr⁶⁺.

Exceptions are the cadmium-containing green, yellow, reds and oranges (marked * below) which need to use cadmium pigments, to provide the color tones required by the market.

COLOR	REFERENCE	Pantone
TURQUOISE	VN 1301	329
APPLE GREEN	VN 1306	347
GREEN	VN 1313 *	376
COBALT BLUE	VN 2301	2746
BLUE	VN 2305	286
BLUE	VN 2329	2925
YELLOW	VN 3301 *	3955
YELLOW	VN 3326	101
DARK RED	VN 7301 *	187
RED	VN 7300 *	1795
ORANGE	VN 7315 *	152
BROWN	VN 6301	4695
WHITE	VN 9320	
BLACK	VN 4300	
FLUX	VN 821	
AcE IMITATION ETCH	VN 9326	

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.)

This system is suitable for most chemical compositions used in the production of soda-lime glass bottles.

Recommended Firing Conditions

From 580°C to 600°C (1075-1110°F) in a cycle of 1 h-1.5 h with a soaking period of approx.10 min, dependant on both the type of furnace and the volume of ware fired.

Enamels from this System are sensitive to overfiring.

We recommend an oxidising atmosphere to give optimal fired appearance, gloss and brightness. It is essential to maintain good ventilation, and an efficient extraction of the combustion gases and the products resulting from decomposition of the medium.

Chemical resistance

Acid resistance : 7

Alkali resistance : 7