

Technical Information

SkyPlus

Lead-free and Cadmium-free Inglaze Colours for Porcelain plus lead-containing supplementary colours

Firing range 1180-1250 °C (60-90 min)

Reference-no	Color shade	Pantone®-Code
11 857	water green	337 C
11 858	yellow green	372 C
11 859	grass green	357 C
11 861	russian green	3308 C
12 856	indian blue	287 C
12 861	delft blue	542 C
12 862	pastel blue	297 C
12 1910	cobalt blue	2748 C
12 1915	sky blue	2935 C
13 855	lemon yellow	101 C
13 856	gold ochre	144 C
13 1912 *)	orange	1495 C
14 1910	black	black 2 C 2X
15 850	grey	643 C
15 856	dark grey	warm grey 10 C
16 855	black brown	4975 C
16 856	maroon	477 C
16 857	rose wood	159 C
16 858	yellow brown	153 C
17 856 *)	salmon	163 C
17 1910	pink red	694 C
17 1911	pink, dark	695 C
17 1912 *)	intensive red	171 C
18 852	lilac	529 C
19 850	white	
10 115	transparent flux	

*) Cd-containing colours

Lead-free Supplementary Colours

	Reference-no	Colour shade	Pantone®-Code
New	12 1916	cyan	3015 C
New	12 1917	pastel blue	2985 C
New	17 1915*)	intensive red	179 C
New	77 1910	magenta	207 C
New	77 1911	rose	204 C

*) Cd-containing colours

Lead-containing Supplementary Colours

Reference-no	Colour shade	Pantone®-Code
12 866	Cobalt blue	2747 C
12 868	sky blue	285 C
14 850	Black	black 2 C 2X
17 853	pink red, dark	492 C
17 857	Rose	493 C

The above mentioned **Pantone®** code is only a guide line for the colour shade.
Pantone® is a registered trade mark of Pantone Inc.

The colours of **SkyPlus** are cadmium-free with the exception of 13 1912, 17 856, 17 1912 and 17 1915.

Miscibility

The colours in the **SkyPlus** series are generally intermixable.
 The colours 77 1910 magenta and 77 1911 rose can only be mixed with each other.
 When printing the colours on top of each other 77 1910 and 77 1911 should be printed as final colour(s).
 In any case we recommend tests prints prior to bulk use.

Application

The colours in the **SkyPlus** series have excellent processing characteristics in all conventional decorating methods like

Screen printing (direct printing and decal printing)
Spraying
Machine lining and banding

Screen printing

We recommend

Polyester textile: 73-120 threads/cm (180-300 mesh/inch)
Steel screen: VA 110-150 (270-385 mesh/inch)

The colour layer should not exceed 20 µm, measured prior to firing, in order to avoid cracking. This colour layer will be reached e.g. by double printing with polyester screen 73 S and medium 80 820 mixing ratio 100:70-80 colour to medium.

Spraying

Colour suspensions for spray applications can be produced with oil-based or water-miscible media.

Machine Lining and Banding

For lining and banding machines mostly water dilutable suspensions are used. We supply colour pastes which have to be adjusted to the correct processing viscosity by adding distilled water and/or alcohol.

Manufacture of colour pastes and colour dispersions

For all traditional application processes please refer to our leaflet [Manufacture of colour pastes and colour dispersions](#). This covers decoration by screen printing, machine banding and lining and spraying.

Media

Ferro offers suitable media and covercoats for all standard applications.
For further detailed information please refer to our [CerDePrint Media Guide](#).

Firing

Inglaze for porcelain: 1180-1250 °C (60-90 min)

The colours 77 1910 magenta and 77 1911 rose develop their individual colour shade at firing temperatures below 1220 °C.

We recommend minimum firing temperature of 1220 °C for cobalt blue 12 1910.

Resistance

Heavy metal content / heavy metal release

The colours of the **SKYPlus** series (with the exception of the lead-containing supplementary colours) are technically lead-free. The colours are also cadmium-free with the exception of 4 colours (marked *) 13 1912, 17 856, 17 1912 and 17 1915).

The upper limits are below 0,50 % PbO and 0,03 % CdO.

All colours of the **SkyPlus** series meet the limits of the Californian prop. 65, FDA and EN 1388.1/2.

Acid and alkali resistance

After testing with 3 % hydrochloric acid at 20 °C for 5 hours the **SkyPlus** colours do not show any visible attack, also when testing with 0,5 % Calgonite solution at 77 °C for 24 hours.

Storage

Powder colours should be stored in a dry place. In order to make sure that the colours have not absorbed any humidity we recommend drying the colour powder at approx. 130 °C prior to pasting.

Safety data sheets

Our safety data sheets available for every product will give you health and safety advise for working with our product.

Quality

All Ferro products are manufactured according to stringent specifications, and thoroughly tested before leaving our premises. Ferro's quality control procedures are warranted by EN ISO 9001, and certification is carried out annually.

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Ferro GmbH Dinnerware Systems · Gutleutstr. 215 · 60327 Frankfurt/M.
Tel. ++49-(0)69-27116-0 • Fax ++49-(0)69-27116-333 • e-mail: decoration@eu.ferro.com

