

Technical Information

Fiesta

Intensive Porcelain Inglaze Colours

Firing range 1140-1220 °C

	Product-no.	Colour shade	Pantone® code
	11 2200 *)	chrome green	574 c
	11 2201	palm green	555 c
	11 2202 *)	blue green	323 c
	12 1915 *)	sky blue	2935 c
NEW	12 1916 *)	cyan dark	3015 c
	12 2200	cyan light	297 c
	12 2201	cobalt royal	2748 c
	13 1454	yellow orange	150 c
	13 2200	lemon yellow	102 c
	13 2202	orange	715 c
NEW	13 2203	intensive yellow	108 c
NEW	13 2204	intensive orange	165 c
	14 2200 *)	black	Black 2 c 2x
	15 2200 *)	slate grey	420 c
	15 2201	dove grey	5435 c
	16 2200	yellow brown	159 c
	16 2201	chestnut brown	477 c
	17 1455	red	171 c
	17 2200	pink	703 c
NEW	17 2202	iron red	173 c
NEW	17 2204	intensive red light	179 c
NEW	17 2205	intensive red dark	1805 c
	18 2200 *)	red violet	529 c
	19 2200 *)	opaque white	
	19 2201 *)	mixing white	
NEW	77 1910 *)	magenta	207 c
NEW	77 1911 *)	rose	204 c
	10 1600	mixing flux	
	10 115	coating flux	

*) these colours are lead and cadmium free

The above mentioned **Pantone®** code is only a guide line for the colour shade.
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Miscibility

The colours in the **Fiesta** series are generally intermixable.

The colours 77 1910 magenta and 77 1911 rose can only be mixed with one another.

When printing colours on top of each other 77 1910 and 77 1911 should be printed as final colour(s). In any case we recommend test prints prior to bulk use.

Creating pastel tones

We recommend adding 19 2201 mixing white to obtain pastel tones.

These mixtures must, however, be tested under individual processing conditions before use.

Lightening the colour tones

To lighten colours we recommend our mixing flux 10 1600.

Application

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

Direct screen printing

Indirect screen printing (transfers)

Machine lining and banding

Spraying

Handpainting

Screen printing

For direct and indirect screen printing (transfers) we recommend

Polyester screens: 73-140 threads/cm (186-360 mesh/inch)

Stainless steel screens: VA 100-140 (260-360 mesh/inch)

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.

Special Applications

Pad-transfer printing

Due to the fine grain-size of $d_{90} < 8 \mu\text{m}$, most **Fiesta** colours are very well suited to pad-transfer printing. Exceptions to this are the inclusion pigment colours 13 2202, 13 2203, 13 2204, 13 1454, 17 2204, 17 2205 and 17 1455.

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

Firing range: 1140-1220 °C 60-90 min

Porcelain can stand rapid heating and cooling due to its excellent tolerance of temperature changes. The ware must be exposed to direct heat in the kiln to obtain even firing results. Using of kiln furniture may inhibit heat transfer, and may prevent the ware from reaching the required firing temperatures.

The atmosphere in the kiln must be oxidizing. In the case of longer firing cycles or soft glazes, the temperature must be reduced to prevent the pigment dissolving too much.

The colours 77 1910 magenta and 77 1911 rose develop their special colour tones particularly well at firing temperatures below 1200 °C.

We recommend minimum firing temperature of 1180 °C for 12 2201 cobalt royal.

Colour Deposit

The maximum allowable thickness of colour deposit depends on

- Firing cycle
- Body, glaze, shape of the decorated surface
- Composition of the colour
- Sintering grade colour/glaze

On porcelain (linear coefficient of thermal expansion ca. $40-45 \cdot 10^{-7}/K$), a total colour deposit of 24 µm - measured before firing - should not be exceeded.

Resistance

Heavy metal release

The colours in the **Fiesta** series have been tested according to EN 1388.1 and 1388.2 (4 % acetic acid at 22 °C, 24 h). Heavy metal release is below AAS limits. Results for decorated flat tableware were always less than 0,020 mg/dm² for lead and 0,002 mg/dm² for cadmium.

Acid resistance

Fiesta colours show no sign of adverse impact following test exposure to 3 % hydrochloric acid, 20°C, for five hours.

Alkali resistance

The colours of the **Fiesta** series have achieved high levels of alkali and dishwasher resistance through state-of-the-art technology.

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 advice 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 DIN 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