

Technical Information

Performance Coatings

Gold-free Purple Colors

for Porcelain, Bone China, Vitreous China and Earthenware

In this technical information, Vibrantz presents the Gold-free Purple colors for onglaze decoration. This series contains five lead- and cadmium-free colors and five that are cadmium-free but contain lead. It was developed amid rising gold prices to provide our customers with cost-effective alternatives.

Application

Gold-free colors offer excellent processing characteristics across all conventional decorating methods, including screen printing (direct and indirect), spraying, lining, banding and hand painting. We recommend cleaner 80 452 for cleaning the equipment and screens.

Color deposit

The maximum color deposit depends on the firing cycle, body, glaze, form of the decorating surface and sintering grade of the color in combination with the glaze. If the layers are too thin, it may result in an uneven, matte surface. If layers of color are too thick, it may lead to chipping or cracking.

Screen printing (direct and indirect)

For direct and indirect screen printing, we recommend polyester screens with 73-120 threads/cm.



Spraying

Color suspensions for spraying applications can be produced with oil-based and water-soluble media. Water-containing color suspensions with purple colors should be utilized immediately and not stored for long periods of time.

Machine lining and banding

Color suspensions applied with brushes, steel- or neoprene-rollers are generally based on water-soluble media.

Media

For all standard methods, Vibrantz offers suitable media and covercoats. Further detailed technical information can be found in our CerDePrint Media Guide.

Storage

The colors should be stored in a dry place. Opened containers should be closed carefully. To ensure that the colors have not absorbed any humidity, we recommend drying the color powder at approximately 130°C prior to mixing.

Miscibility and compatibility

The lead-free purple colors are intermixable. They can also be mixed with the colors in our Carnival 100 series. The lead-containing purple colors are intermixable. They can be mixed with our other lead-containing colors. We do not recommend mixing lead-free and lead-containing products.

Firing conditions

Lead-free Purple colors:

- Porcelain - 850-880°C
- Bone china - 800-880°C

Lead-containing Purple colors:

- Porcelain - 820-880°C
- Bone china - 800-880°C

It is absolutely necessary to process lead-free colors on lead-free glazes. Due to the reactions between the color and glaze, the surface of lead-containing glazes may be altered chemically during firing and considerable amounts of lead can be released. Lead-free products should not be fired together with those containing lead, as the resulting emissions could have adverse effects on the heavy metal release. Lead-free colors could then be contaminated with lead.

Acid and alkali resistance

The alkali and acid resistance of fired color layers is influenced by the thickness of the layer, the firing conditions and the glaze. The Gold-free Purple colors show no visible acid attack (tested with 3% hydrochloric acid, 20°C, 5 h) and no alkali attack (tested with 0.5% calgonite solution, 77°C, 16 h) in laboratory tests and under industrial conditions.

Heavy metal release and heavy metal content

The five lead-free and cadmium-free colors are controlled lead and cadmium free, with the following upper limits: 100 ppm lead and 600 ppm cadmium.

The five lead-containing and cadmium-free colors fulfill the limits of EU 1388 1-2.

However, it is still necessary that the end user tests the heavy metal release according to the relevant standard procedures for all products manufactured under his or her technical production conditions. Our safety data sheets, which are available for every product, provide you with useful advice for working safe with our products.

Fig. 1: The available lead-free Purple color shades

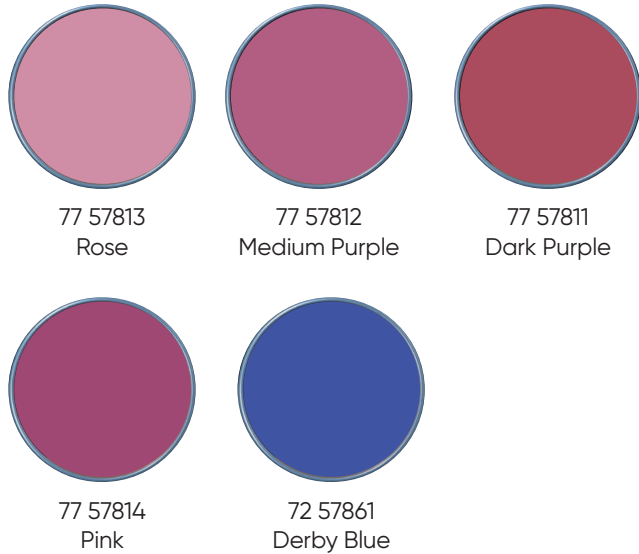
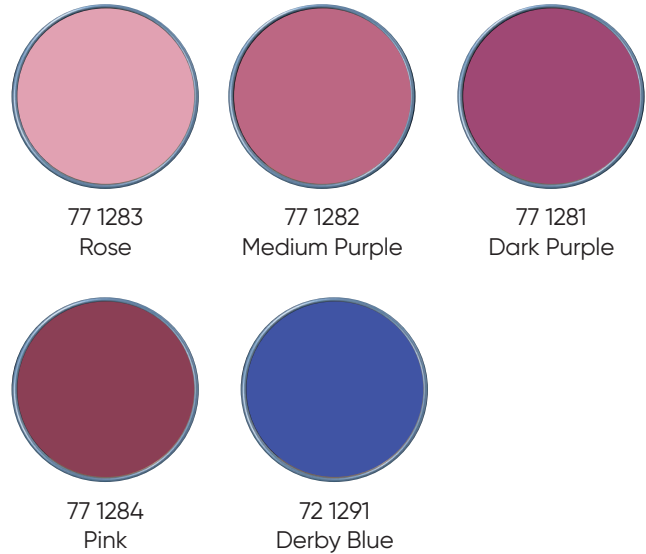


Fig. 2: The available lead-containing Purple color shades



While every attempt has been made to reproduce colors exactly, the samples printed here may differ slightly from the finished ceramic products.

Table 1: The Gold-free Purple Colors

Product no.	Color	Pantone® Code
77 57813	Rose	PMS 507
77 57812	Medium Purple	PMS 7432
77 57811	Dark Purple	PMS 7419
77 57814	Pink	PMS 2047
72 57861	Derby Blue	PMS 2117

Product no.	Color	Pantone® Code
77 1283	Rose	PMS 508
77 1282	Medium Purple	PMS 7634
77 1281	Dark Purple	PMS 2047
77 1284	Pink	PMS 7640
72 1291	Derby Blue	PMS 2117

Pantone is a registered trade mark of Pantone Inc.
The above-mentioned Pantone code is only a guideline for the color shade.

The information and recommendations contained herein are based on data we believe to be reliable and does not imply any warranty or performance guarantee, as conditions and methods of use of our products are beyond our control. The data herein is determined using Vibrantz’s standard test methods.

Hazard and safety information with respect to this product is available in the applicable SDS. Vibrantz will not be liable under any circumstance for consequential or incidental damages, including but not limited to, lost profits resulting from the use of our products.