

10010 Smalt

Chemical composition: Potassium silica glass, containing cobalt

Synonyms: Strew-blue, eschel, zaffer blue, Bohemian or Saxonian blue

Smalt is the oldest known cobalt pigment, not quite as brilliant as cobalt blue. It appeared for the first time in the 16th Century and played a significant role in the painting of the baroque, especially for the depiction of air. The old Egyptians used cobalt-containing glass powder as pigment. In the Middle Ages they produced blue glass in Venice. In Saxonia in the 16th Century the Saxonian elector almost had a Central European monopoly of smalt. This led to a particularly frequent use of smalt within the area of the early Protestant reformation. In former times smalt was used for the production of paper, as whitener; nowadays this is done with ultramarine pigments. Old names for smalt are also eschel or zaffer. Zaffer however is actually the name for an intermediate product in the production of smalt from speiss and gloss cobalt.

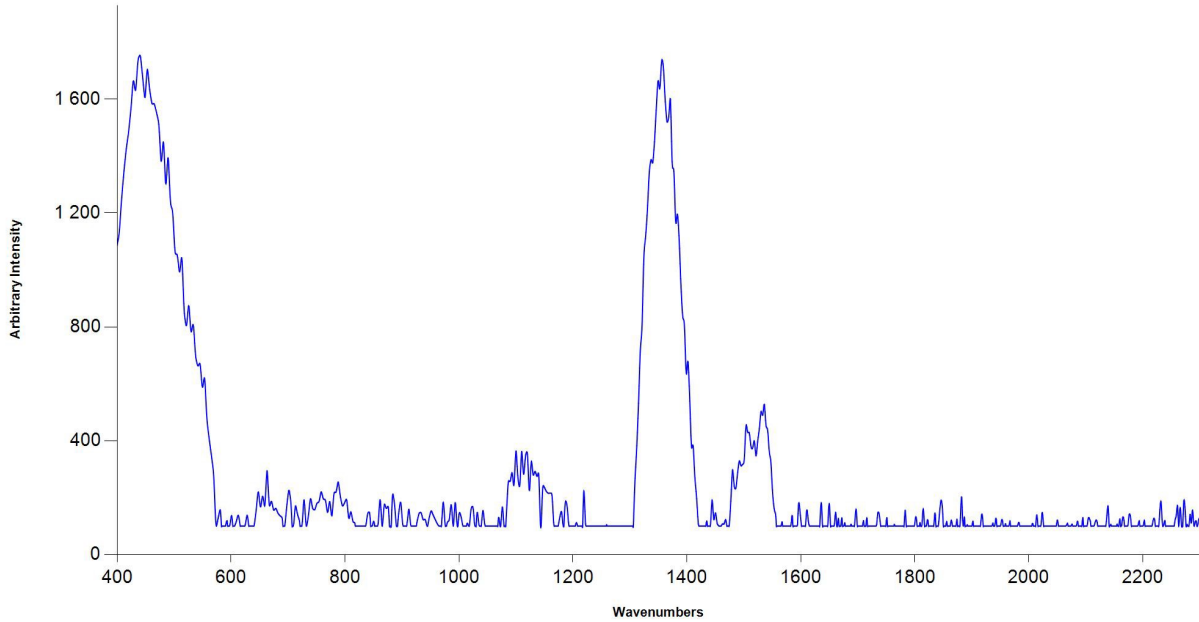
We produce smalt according to a recipe from the 19th century, by roasting a powder mixture of cobalt salts. At about 1150° C the powder melts forms a glass mass of a deep bluish black color. The glass melt is deterrred and is ground into powder.

Basically this pigment is an intensively dark blue cobalt glass. The finer it is ground, the paler the colour. This can be compensated by the addition of oil and/or resin solution. In principle smalt is suitable for every technology, though the preparation of the color causes some work. One more advantage is the stability of most cobalt pigments!

Beside the use for restoration purposes smalt still is used as glaze pigment in ceramic techniques, when enamelling, and in glass painting.

Whoever cares for certain material effects can use it in different techniques of painting. As it is a so-called glass frit, colored with cobalt, you cannot expect the same intensity as from modern cobalt blue tones. The durability of smalt pigment in different bonding agents depends on the quality of the glass. Our colored glass flours (purchase number 57300-57500) is inferior cobalt-poor smalt. Further historical glasses are Egyptian blue, Han blue and lead-tin-yellow type II.

Raman spectrum of 10010:
(Source: MR PHSG, 2017)



— Sample Spectrum