

THERMOCHROMIC PIGMENTS

Powder LF Grade-S

Summary:

Thermochromic Pigments LF Grade-S is the temperature sensitive colorant that changes its colour reversibly according to the temperature. The product does not contain Bisphenol-A and REACH SVHC, and its formaldehyde content is less than 0.1%, so called Low-Formaldehyde type.

This powder can be compounded into solvent-based clear ink for Printing processes, and it also can be used as a dry- colour for plastic moulding resins.

Nature:

Appearance : Coloured powder

Component : Micro-encapsulated temperature sensitive colour-change colorant

Density : 1.05±0.05 g/cm³

Apparent Density : 0.3±0.05 g/cm³

Hue:

Fast Yellow, Gold Orange, Vermilion, Pink 2, Turquoise Blue, Brilliant Green, Green 2, Brown, Fast Black - 9 Colours

Colour-Change Temperature Type:

Type #17, Type #27, Type #37 are standards.

*Type #17, Type #27, Type #35 are standards only for Fast Yellow.

*Other temperature types will be considered upon request.

N.B.

Keep LF Grade-S tightly sealed and store it in cool and dark place under 30°C. Use it within 6 months. Fading may occur after 6 months. Brilliant Green shade may turn into gray over time.

In a case when LF Grade-S absorbs moisture, it'll have inferior disperse property with oil-based ink. Use it after drying at 80°C for 3 hours.

Technical Information sheet

Avoid from using it with organic solvent of high polarity such as Methanol and Acetone DMF, or mixed solvent of water and organic solvent because it will have an effect on ThermoPigments colour-changing property and makes its pot life shorter.

LF Grade-S is an agglutinate of primary particles. Mixer agitation can't unravel it to primary particles, which can cause differences in colour-develop concentration of printing ink and printed products. Stable colour-develop concentration of printing ink and printed products can be obtained through triple-roll for 2 – 3 times to unravel it to primary particles.

Use LF Grade-S at as high concentration as possible because it has inferior colouring property compared with general pigments. Hue and colour-change will be vivid by overprinting with applying more amount.

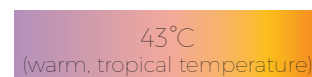
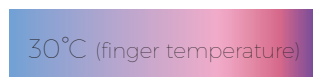
Please take it into consideration when commercializing that ThermoPigment has an inferior light-resistance. ThermoPigment fades by retort treatment. Therefore, avoid from using it for containers which will have retort treatment.

ThermoPigment has the variation in its colour concentration ±10%.

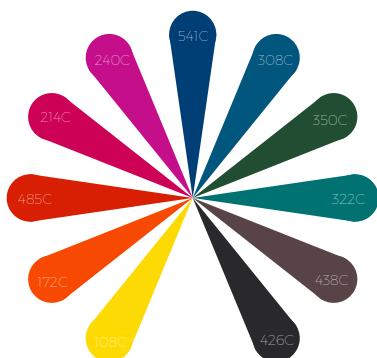
ThermoPigment MS Powder LF Grade-S contains minimal amount of formaldehyde, less than 0.1% which complies with EU regulations, and it meets with SNUR. Please read SDS carefully prior to use.

Thermochromic Products

Temperature Type	Colour Appears Below C°	Colour Disappears Above C°
5	1.0	12.0
10	8.0	16.0
15	11.0	19.0
17	14.0	23.0
20	16.0	26.0
25	22.0	31.0
27	24.0	33.0
35	27.0	36.0
37	32.0	41.0



Colour Chart



Chromicolor Colour	Pantone	With Heat
Fast Yellow (A)	108C	colourless
Gold Orange (B)	172C	colourless
Vermilion (C)	485C	colourless
Pink 2 (E2)	214C	colourless
Magenta (F)	240C	colourless
Fast Blue (G)	541C	colourless
Turquoise Blue (H)	308C	colourless
Brilliant Green (I)	322C	colourless
Green 2 (K2)	350C	colourless
Brown (L)	438C	colourless
Fast Black 2 (J2)	426C	colourless