

## Formulation guidelines for formulating pearlescent pigments in soap bars

For soap bars, the choice of effect pigments comprises SYNCRYSTAL pearlescent pigments as well as the MIRAGE pigment range. The use of these product lines and their optical properties are described as follows:

**Table 1: Recommended pigmentation for soap bars**

<i>Appearance</i>	<i>Recommended pigments</i>	<i>Effects</i>	<i>Level of use</i>
Translucent soaps	SynCrystal and MIRAGE silver-white pigments	silver-white; homogeneous, bright, sparkling, glamour	0.05 – 1.0 %
Translucent soaps	SynCrystal and MIRAGE interference pigments	Gold, Red, Blue, Green interference: homogeneous, bright, sparkling, glamour	0.05 – 1.0 %
Opaque soaps	SynCrystal and MIRAGE silver-white pigments	silver-white; homogeneous, bright, sparkling, glamour	1.0 – 4.0 %
Opaque soaps	SynCrystal and MIRAGE Interference pigments	Gold, Red, Blue, Green interference: homogeneous, bright, sparkling, glamour	1.0 – 4.0 %
Coloured soaps (translucent or opaque)	MIRAGE Earth Tone pigments	Champagne, Bronze, Copper, Fire-Red; homogeneous, sparkling	0.5 – 3 %

The MIRAGE Bright silver and MIRAGE Bright interference range are recommended for translucent soaps. For sparkling effects the SynCrystal/ MIRAGE Sparkling Silver grades are ideal. For homogeneous effects we recommend the SynCrystal Silver or the SynCrystal Interference range. Luxury effects can be achieved using MIRAGE Glamour Silver and Interference colors.

### General rules:

- Add effect pigments in order just before the last extrusion step
- Mix effect pigments in till there is an even distribution
- Avoid and high shear force, grinding or milling of the pigments
- All SynCrystal pearlescent pigments based on synthetic mica, titanium dioxide and iron oxides and all MIRAGE pearlescent pigments based on borosilicate and titanium dioxide and iron oxides can be used.

## Physical Properties

- SynCrystal Silver and Interference are heat stable up to 600 °C.
- SynCrystal Silver and Interference can be used in the range between pH 2-11.
- MIRAGE Silver and Interference pigments are heat stable up to 500 °C.
- MIRAGE Silver and Interference pigments can be used in the range between pH 2-11.
- MIRAGE Glamour Sapphire should be used in the range between pH 4 -7,5.
- MIRAGE Glamour Sapphire have a lower light stability than any other pearlescent pigments (color fading under light exposure)
- MIRAGE Sparkling Luxury Gold can be used in a range between pH 5-9.
- MIRAGE Sparkling Luxury Gold is heat stable up to 120 °C.

## Creating Effects in colored Soap

**Table 2: Especially recommended pigments**

<b>Color of Soap</b>	<b>Recommended pigments</b>	<b>Effects</b>
White	SynCrystal Silver MIRAGE Bright Silver SynCrystal/ MIRAGE Sparkling Silver MIRAGE Glamour Silver	Homogenous shine effect Bright gloss Sparkling appearance High gloss and luxury appearance
Yellow	SynCrystal Silver MIRAGE Bright Silver SynCrystal/ MIRAGE Sparkling Silver MIRAGE Bright Gold SynCrystal Gold MIRAGE Glamour Silver MIRAGE Glamour Gold	Homogenous shine effect Bright gloss Sparkling appearance Bright gloss High gloss and luxury appearance High gloss and luxury appearance
Orange/Red	SynCrystal Silver MIRAGE Bright Silver SynCrystal/ MIRAGE Sparkling Silver SynCrystal Red MIRAGE Glamour Red MIRAGE Sparkling Fire-Red	Homogenous shine effect Bright gloss Sparkling appearance Bright gloss High gloss and luxury appearance
Violet/Blue	SynCrystal Silver MIRAGE Bright Silver SynCrystal/ MIRAGE Sparkling Silver MIRAGE Bright Blue SynCrystal Red/ Blue MIRAGE Glamour Red/ Blue	Homogenous shine effect Bright gloss Sparkling appearance Bright gloss High gloss and luxury appearance
Green	SynCrystal Silver MIRAGE Bright Silver SynCrystal/ MIRAGE Sparkling Silver MIRAGE BrightGold MIRAGE Glamour Green	Homogenous shine effect Bright gloss Sparkling appearance Bright gloss High gloss and luxury appearance
Brown	MIRAGE Sparkling Champagne MIRAGE Sparkling Bronze / Copper / Fire-Red	Brilliant gloss Sparkling appearance

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