

# Analysis of Soft Focus Products

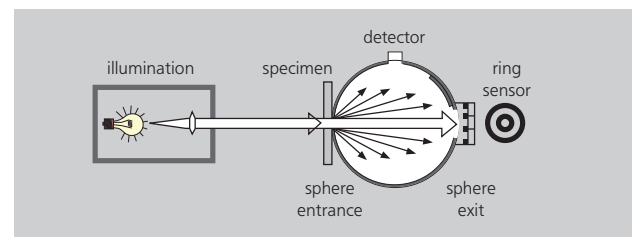
In the cosmetics industry the soft focus effect is used in anti-aging creams and tinted lotions. The idea is to diminish skin imperfections such as fine lines and wrinkles and to create a “flawless”, but at the same time “natural” look. Therefore, the lotion should have a high percentage of both Total Transmittance and Transmission Haze. The BYK-Gardner haze-gard i helps to achieve the goal of developing a highly efficient soft focus product.

There are many different factors like chemical composition, size, shape and porosity of a particle, which are influencing its ability to exhibit a soft focus effect. The more light is scattered, the higher will be the diffused transmittance component. And then the soft focus effect will be most effective. In addition, a high total transmittance will ensure that a more natural look is obtained. An easy and objective method for fast screening of microspheres for this effect is using a haze meter to measure the total transmittance and haze (diffused transmittance component) of particles dispersed in a film and applied on e.g. a glass plate or a transparent film.

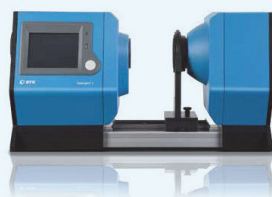
## Measurement of soft focus particles

For total transmission and haze measurements, the soft focus particles are dispersed in a base medium and a uniform drawdown is made either on a glass plate or crystal clear polyester film. An automatic film applicator is recommended as the draw down speed and pressure on the applicator tool will always be the same.

For measurement the drawdown film is placed in front of the sphere component of the BYK-Gardner haze-gard i. As the light beam strikes the specimen, part of the light will be transmitted and enters an integrating sphere. The sphere's interior is coated uniformly with a matte white material to allow diffusion. A detector in the sphere measures total transmittance and transmission haze.



## BYK-Gardner Solution



Transparency  
haze-gard i



haze-gard i Feature  
Film holder



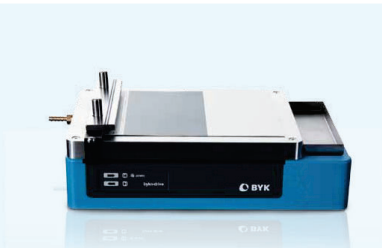
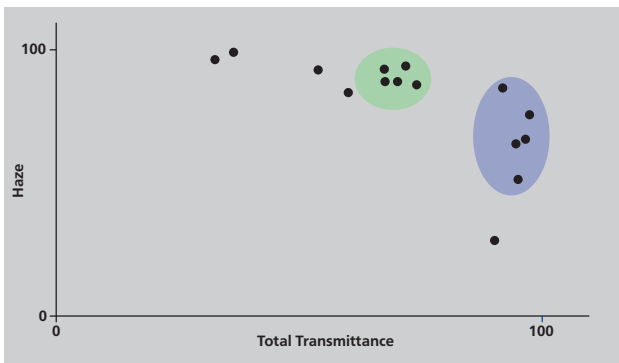
**Evaluation of potential soft focus particles**

Using BYK-Gardner haze-gard i in conjunction with the smart-lab haze software a variety of different particles can be quickly compared in regards to their potential usage in soft focus products. The measurement of total transmittance and haze are both obtained by just pressing one button on the haze-gard i.

**Data interpretation**

The graph below shows haze versus total transmittance of different pigment types and particle sizes. The particles belonging to the “blue and green group” exhibit high enough haze and total transmittance to be considered as potential soft focus particles. Particles in the “blue group” are extremely translucent. Light is able to pass through these particles and reflect from the skin maintaining the natural skin tone. Hence particles in the “blue group” are ideally used in skin care products, which diminish wrinkles and small imperfections resulting in a very natural look.

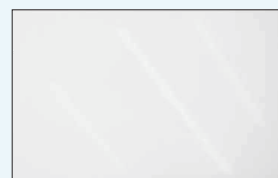
Particles in the “green group” show very high haze. Light passing through is scattered in many directions by those particles, which leads to reflection occurring from many points of the skin. The result is a softening of the fine features of the skin. As the “green group” particles, however, are not as highly translucent, they are better suited for use in foundation make-up giving an optimum natural looking coverage.



**Automatic Film Applicator**  
byko-drive



**Applicators**  
Wire-wound rods



**Transparent Drawdown Test Charts**  
byko-charts polyester film