



Ethox

CHEMICALS, LLC

ESPERSE® DISPERSANTS FOR QUINACRIDONE (PIGMENT RED 122) DISPERSIONS

Quinacridone and other types of red pigments are commonly used in the coatings industry as well as in the graphic arts industry for inkjet and high lightfastness applications. Esperse® additives make this difficult-to-disperse pigment easier to process in aqueous media. Additionally, Esperse® makes increased pigment loadings possible, while reducing pseudoplasticity in the resulting product.

Advantages of Esperse® in high performance red pigment dispersions:

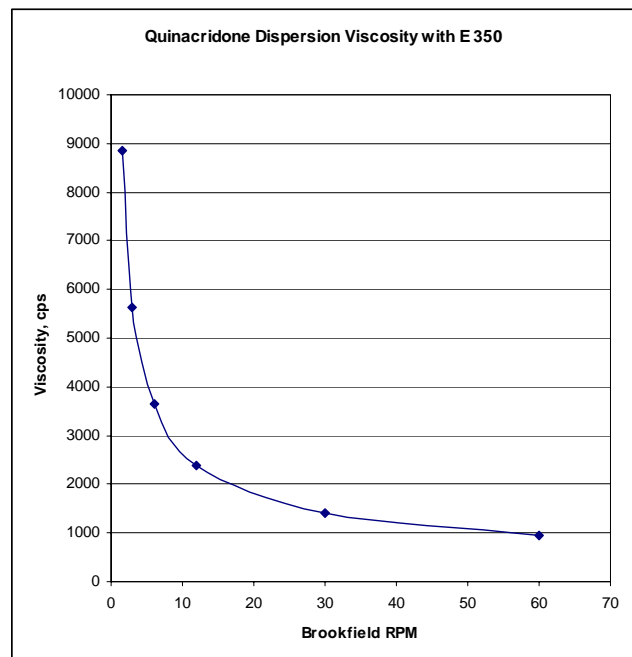
- Increased pigment loading
- Decreased dispersion viscosity
- Resin-containing and resin-free formulations can both be prepared with Esperse® 100, Esperse® 506, or a blend of the two

Dispersions containing resin:

Classically, quinacridone dispersions containing acrylic resins often give poor rheology and low pigment loadings. Many quinacridone pigments yield excessively high pseudoplastic behavior with other resin/dispersant combinations; low RPM viscosities in these cases often top 25,000 cps. Here, 37.5% pigment dispersion with HPD 296 (Johnson Polymer) as the dispersing resin and Esperse® 350 as an adjunct dispersant is shown. RD 1228 (Magruder Color Company) was chosen as the Red 122 pigment.

ETH 72506-1	
RD 1228	150.00
Esperse 350, 50% gel cut	12.00
HPD 296	88.95
Byk 022	4.00
Water	<u>145.05</u>
TOTAL	400.00
Pigment loading	37.5
P/B	4.75
HPD 296 solids	35.5
Surfactant, %	1.50

Byk 022: Byk Chemie
HPD 296: Johnson Polymer
RD 1228: Magruder Color Company

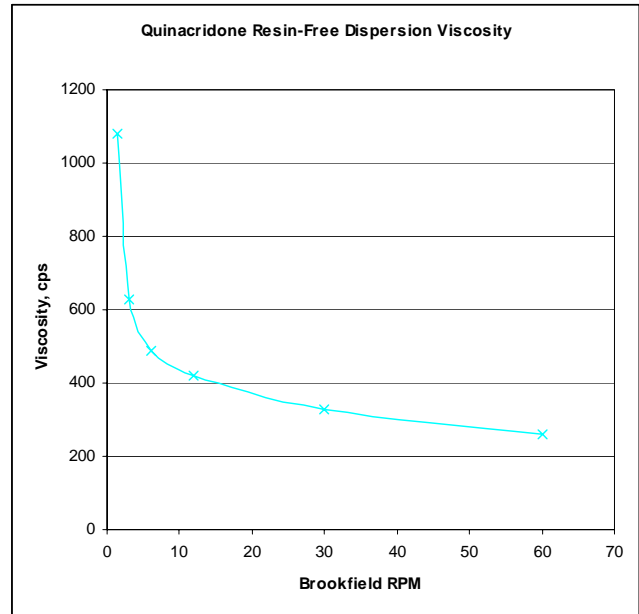


Dispersions without resin:

In the coatings industry, dispersions without an additional binder are more commonly used. Here, a 40% pigment dispersion with Esperse® 100 as the dispersant is shown. Cromophtal Pink PT (Ciba) was chosen as the Red 122 pigment.

	ETH 42006-8
Cromophtal Pink PT	140
Esperse 506	0
Byk 022	3.5
Esperse 100	17.25
Water	<u>161.25</u>
	322
	40% pigment
	4.9% additive

Byk 022: Byk Chemie
Cromophtal Pink PT: Ciba



Since the resulting dispersion viscosities were very low, potentially, higher levels of pigment may be used.